

But Why: A Podcast for Curious Kids

How Are Noodles Made?

September 13, 2019

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[Martin Yan] 16,000 strands of noodle totally done by hand! You'll never see anything like that! This is a human pasta machine! Look at that. Look at these. Ah, look at that! This is handmade noodle- the best!

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[Jane] This is *But Why? A Podcast for Curious Kids* from Vermont Public Radio.

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[Jane] I'm Jane Lindholm, the host and creator of this show. And we are hitting a very special milestone today.

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[Jane] This is our 100th episode! 100 episodes of remarkable questions from you, our amazing listeners all over the world. And one hundred episodes of interesting, sometimes surprising answers. Everything from how babies are made, to why flamingos stand on one leg, to what the end of the world might feel like, to whether or not there are underground cities, to why it itches when you get a mosquito bite, what makes tape sticky and why Americans call soccer "soccer" when most of the rest of the world calls it football? I could go on, but that would take up the whole episode. We've gotten more than 5,000 questions from you since Melody Bodette and I started this show three and a half years ago. And we have heard from kids in all 50 U.S. states, eight Canadian provinces and 59 different countries! So really, this is not our 100th episode: it's your 100th episode! You are the engine that powers *But Why?* with your curiosity and you're listening. Thank you! Today, we're going to turn our curiosity to noodles. Yep, noodles.

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[Hugo] Hi, my name is Hugo. I'm four years old and I live in Burlington, Vermont. And my question is, how are noodles made?

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[Martin] I want to show you how to make hand pulled noodle: fresh pasta.

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[Jane] That's Martin Yan. He's a famous chef who grew up in China and now lives in San Francisco when he's not traveling all over the world, giving cooking demonstrations and judging competitions. He also hosts a show on public television called *Yan Can Cook*. And, among the many restaurants he owns is one called NY China in San Francisco's Chinatown. So that's where we went to get an answer to Hugo's question.

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[Hugo] How are noodles made?

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[Jane] Martin Yan works with an executive chef named Tony Wu. And one of chef Tony Wu's specialties is that he can make noodles by hand without any machine that are nearly as thin as your individual strands of hair. OK, maybe not quite that thin, but very, very thin

strands of pasta. This is really difficult to do and it takes both talent and years of practice. But here's how Martin Yan describes his noodle pulling executive chef.

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[Martin] This is a noodle machine: Human Noodle Machine. Human Noodle Machine is my dear friend chef Tony Wu. He has been making fresh pasta when he was a young kid in China, and now he's a total master. In less than two minutes he can turn one piece of dough into 16,000 strands of noodle; that's how much he can do.

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[Jane] So, when you say, "he can turn one piece of dough into 16,000 noodles," you're not kidding, it really is 16,000.

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[Martin] Not only that: he does it blindfolded. You have never seen it before.

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[Jane] Now, I know you can't actually see what's happening here, but Martin Yan is going to describe it for us while Chef Tony takes one lump of dough and turns it into 16,000 strands of noodles. Why does he do it blindfolded? Well, actually, I don't really know. I think it's just for fun and to show-off how good he is at making noodles; that he doesn't even need to look at what he's doing.

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[Jane] So, explain what he's doing. You may have been able to hear something that sounded like somebody was slamming something on a table. So, what's happening?

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[Martin] We're banging this wonderful noodle dough on the table because you want to beat the gluten, so when you pull the noodles they won't break.

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[Jane] You might remember from our bread baking episode that gluten is a set of proteins: structures that occur naturally in wheat that give bread and pasta their stretchiness. So, by beating the gluten, you get it to line up, so that the dough will stretch when Chef Tony pulls it instead of snapping in two.

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[Martin] That's why we bend the noodle and twist the noodle. And bang, banging the noodle, makes a lot of interesting noise.

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[Jane] So it almost looks like he's kind of turning a piece of dough into a jump rope.

[00:04:58] You can actually jump! Of course, you know, we don't want to encourage people to jump rope, just in case it falls down on the floor. Then you cannot beat the noodle- it's wasted. You don't want to waste it. But, basically Chef Tony is gonna show us how to make noodle without machine because he is a...

[Jane] ...you know what's coming...

[Martin] ...Human Pasta Machine.

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[Jane] But wait. Before Chef Tony turns one lump of dough into many individual strands, let's back up a little bit. Do you know what a noodle is made of? We called up a woman who spent a couple of years just researching noodles and the history of noodles from China to Italy and everywhere in-between.

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[Jane cont.] Her name is Jen Lin-Liu. And she wrote a book called *On the Noodle Road: From Beijing to Rome with Love and Pasta*. I called her up on Skype in Beijing, China where she runs a cooking school called Black Sesame Kitchen.

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[Jen] Noodles or pasta are basically made with flour and water. In Italy, sometimes they use eggs to substitute for the water, but generally, it's just flour and water.

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[Jane] Sometimes do you use ingredients other than flour; rice, for example?

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[Jen] You know, in Chinese culture, those are not considered noodles. They're actually considered a different kind of food. So basically, the Chinese word for noodles or pasta is "mian." And mian needs to have flour in it.

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[Jane] So what is the definition of "noodle" then?

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[Jen] Well, in Chinese culture and also Italian culture, noodles are basically sheets of dough made from flour and water, or eggs in the case of Italy, that are pressed into various shapes.

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[Jen cont.] So, noodles you would commonly think of as long and stringy, but actually they can take many, many different forms in both Chinese and Italian culture.

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[Jane] But when did they get invented? We always get questions from you about "when things were invented?" and "who did it?" And that's one of the things that Jen Lin-Liu wanted to find out, too, when she was researching her book. But discovering the truth wasn't easy.

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[Jen] Well, it was really hard for me to pin down exactly when they were invented. But, I did find some sources in Chinese history books that did place the first mention of noodles somewhere around the third century B.C., which means, I guess, about two thousand three hundred years ago.

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[Jane] Did Noodles then look the same as noodles now? I mean, are the early noodles what we would be familiar with today?

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[Jen] Well, since we don't have any pictures, we don't really know what they look like, but from the descriptions they do seem like they're fairly similar.

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[Jane] How did they then get to Italy where people also associate a big culture of noodles?

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[Jen] It looks like probably what happened was they were invented in China and they were also invented somewhere in the Middle East a little bit later, probably a few hundred years later. And that there were two parallel cultures of noodles that developed separately. And then because of the interactions between cultures later on they started merging and so they were probably eating noodles both in Italy and China at separate times, and that they didn't really have much to do with each other in the beginning.

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[Jane] So you think they arrived in Italy through the Middle East rather than through China?

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[Jen] That's right. It seems like the Italians learned about the culture of noodles through the Middle East rather than China.

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[Jane] There's a story that sometimes gets told that an Italian explorer and trader named Marco Polo discovered noodles in China when he was traveling there in the 12 hundreds. And then he was the one who brought them back to Italy and that's how Italians started making pasta. But, from her research, Jen Lin-Liu thinks there's no possible way Marco Polo was the one to bring noodles or pasta from Asia back to Europe. The evidence suggests that Europeans were already eating noodles by that time and they probably got their noodle culture from the Middle East instead of China. And in some ways, it doesn't really matter where noodles came from because each culture has adopted its own recipes and methods and its own culture around food and noodles.

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[Jen] I mean, I took a trip all the way from Beijing to Rome on The Silk Road, basically to follow the noodle; to see how it changed along the way. And all the way from China through Central Asia- I went through Iran, I went through Turkey, through the Mediterranean into Italy- there were noodles all along that path. And I just found it absolutely fascinating that every culture had a different kind of sauce for their noodles or some kind of soup that they used. Noodles seemed to be sort of a comfort food for so many cultures.

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[Jane] Were there any traditions of how you're supposed to eat noodles in any of the countries that you researched and traveled through?

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[Jen] Yeah, I mean, in many cultures along the way, including China, they do a dish that's sort of an offshoot of noodles: dumplings. Chinese dumplings, of course, are often made at Chinese New Year. We found this, a similar thing with similar doubling, in Turkey called

Montee. And they are made usually on a weekend afternoon with the female members of the family. And there's also, you know, the more talented you are in a Turkish family, the smaller you can, you know, you can rap really tiny, tiny Montee Dumplings. And then, of course, in Italy, there's a big tortellini culture, and that is often a dish that old nonnas-grandmas- in Italian culture will make for their families.

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[Jane] Back in Chinatown in San Francisco Martin Yan says noodles can be both functional and important for cultural heritage.

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[Martin] In Western cuisine there's not as much symbolic meanings about noodles. So noodles are very, very functional because you can put any kind of topping on top. And people around the world are using noodle to make noodle soup, to stir fry noodle, pan fry noodle, noodle pancake- all kind of ways to make noodles. So noodle is also the symbol because noodle is long, so noodle is also a symbol of long lasting relationship, longevity, long life: this long noodle.

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[Martin cont.] When we eat noodle, you think about history. You think about tradition. You think about cultural differences. So there's a lot of things that you can learn by eating, because food is history. Food is heritage. Food is tradition.

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[Jane] Writer Jen Lin-Lu in Beijing says her connection to noodles feels very personal.

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[Jen] As a Chinese American, as somebody with Chinese heritage who was born and raised in the United States, I can really relate to the noodle because, you know, it's something that's both Asian and Western and it's got, you know, sort of a different personality to it.

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[Jen cont.] So I found that I could really kind of connect with the noodle because it really did represent east and west.

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[Jane] Are you someone with family backgrounds in more than one culture? Is there a food like noodles that feels like it connects you to the different parts of who you are? Coming up, we discover how Chef Tony, The Human Noodle Machine, can pull off making 16,000 strands of noodles in just two minutes, blindfolded.

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[Jane] You're listening to *But Why?* and today we're taking a deep dive into noodles; the history of noodles going way back more than 3,000 years to China and the Middle East and forward to Italy, The United States and more. Lots of cultures have noodle traditions and distinct noodle dishes from ramen in Japan to kugel in European, Israeli and American Jewish communities, laksa in Malaysia, spaetzle in Germany and Austria, Persian reshteh, even macaroni casserole in the United States. Maybe your family has a special noodle dish that is meaningful just to you. This might sound gross today, but when I was a kid back in the 1980s, the special birthday meal that I got to have just once a year was

macaroni and cheese from a box- you know, the really yellowy-orange kind- with cut up hot dogs in it. Today we're talking with two chefs who make dishes that are much tastier and more sophisticated than that: Jen Lin-Liu who lives in Beijing and wrote a book about the history of the noodle from China to Italy and beyond and Martin Yan who's helping describe what his executive chef, Tony Wu, does at their NY China restaurant in San Francisco.

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[Martin] I think Chef Tony is ready to make one strand of noodle into 16,000 strands of noodle. And let us check it out with Chef Tony.

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[Jane] Again, I know you can't see what's happening, so let me describe it to you: Chef Tony has taken a lump of raw dough, just flour and water, and he's twisted and turned it, stretching it out like a jump rope and then twisting it back together again multiple times so that the dough is nice and stretchy and looks like one very long, thick, twisted noodle. Now, in front of a long counter that's got a good thick layer of flour spread across the top of it he takes this long dough piece in two hands and stretches out his arms. He swings the dough up and down so it bends and stretches out. It really does kind of look like a jump rope.

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[Martin] Now, look at that: you have one strand of noodle and Chef Tony will twist it. Now- one strand of noodle- he folds it. He stretches it and he folds it...

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[Jane] This time instead of twisting it back together he coats it in flour so the noodles won't stick to themselves. And then he puts the two ends together in one hand and grabs the middle, stretching it out again.

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[Martin] ...by senses, by feeling: then you have two! and then you feel it and you fold it again: you have four strands of noodle. And then you fold it again: you have eight strands of noodle. And then you'll fold it again: you'll have 16 strands of noodle...

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[Jane] So each time Chef Tony stretches out the dough he puts the two ends in one hand and grabs the bottom of this loop of noodle, stretching all of these noodle pieces out again and making sure they don't stick together by kind of dipping them in the flour. And yes, he's blindfolded, which just adds to the excitement. He does this again and again, each time doubling the number of noodle strands in his hand.

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[Martin] ... and then you fold it again. You see, he's doing it by senses, by feeling, touching it, and then: 4,000 strands of noodle! And then you fold it again: 8,000 strands of noodle! And then fold it again: you have 16,000 strands of noodle! Totally done by hand! Look at that: world record! You'll never see anything like that. This is a human pasta machine, Chef Tony Wu of NY China in San Francisco.

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[Martin cont.] Look at that. Look at these. Ah, look at that!

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[Martin cont.] This is handmade noodle. It is so small like hair. This is hard to master- the best.

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[Jane] That was exciting! If you want to actually see what that looked like go to *butwhykids.org* or to our But Why Kids Facebook page where we have the video of Chef Tony pulling the noodles. Making 16,000 very thin noodle strands by hand in two minutes obviously takes a lot of skill. Food writer and cooking school owner Jen Lin-Lu says even though pasta has just two or three ingredients making good pasta takes practice; whether you're doing it by hand or shaping your noodles with a machine.

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[Jen] Oh, absolutely. You really have to do it on a regular basis to be good at noodles. There is a kind of noodle in China called the Knife Grated Flying Noodle where you have a mound of dough in your hand and a razor blade looking kind of knife that you use to slice the noodles like long strands directly into a hot boiling wok of water. There's also a kind of noodle called Hand Pulled Noodles.

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[Jane] That's what Tony Wu just did.

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[Jen] That takes a lot of artistry. It looks like, you know, a man almost like, you know, pulling apart, you know, using his hands like an accordion to stretch long strands of noodles. And then they kind of break them off with their wrist and then throw them into, again, another hot wok of boiling water. There's a lot of artistry and talent that goes into making noodles.

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[Jane] Some of the filled pasta like ravioli and tortellini and shu mei also take a ton of practice to get right. So making noodles isn't as easy as throwing flour and water together and calling them done. But making noodles can be really fun and it can be a way to bring your family together around a shared activity and something that you love to eat in a more interesting way to create your own dinner. And, once you've got the noodles down, Martin Yan says the possibilities are endless.

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[Martin] You can make noodle soup, you can stir fry noodle, you can deep fry the noodle. You can make...just like anything out of.. just like, you can make chow mein, you can make wonton noodle, you can make all kinds, you can make wonton, two ton or three tons- you know, the Chinese famous recipe is wonton noodle, so all you children, you can make many tons.

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[Jane] You know what? That was a noodle joke and a math joke combined: Wonton is spelled W-O-N-T-O-N, but it sounds like "one ton" like a "ton" of noodles, a "ton" of bricks. Get it- wonton, one ton... two ton, three ton? I don't know. Maybe only Martin Yan can make a noodle joke. At any rate, I hope you have fun eating and maybe making your own noodles. Let us know how it goes. Don't forget to check out the noodle pulling video on our Facebook page or at *butwhykids.org*. And don't forget to send us your question if you have one you think we should answer. Have an adult help you record your question on a

smartphone and send it to questions@butwhykids.org. And, I really encourage you to go through our 100 episodes to see if there are any you've missed that might help satisfy your curiosity. We're so grateful to have you along with us on this journey. Your questions are terrific, your love of learning and the world around you inspires even adults to be more curious, and your enthusiasm and creativity are going to serve you really well as you grow up.

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[Jane cont.] Thanks to Jen Lin-Liu on Skype. Her book is called *On the Noodle Road: From Beijing to Rome with Love and Pasta* and she runs Black Sesame Kitchen in Beijing, China. And thanks to Martin Yan the host of *Yan Can Cook* on PBS among the many other shows and events he hosts. And to Tony Wu, executive chef, and the staff at NY China in San Francisco. And thanks to Hugo for your question that took us all the way down this long and twisty noodle path.

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[Jane cont.] Our theme music was composed by Luke Reynolds. We'll be back in two weeks with an all new episode. Until then, stay curious.