

## Global Flavor Notes

# The Many Faces of Pasta

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Long ago, a wealthy nobleman from Palermo was served a dish so delicious that he yelled in delight, "Cari! Ma Cari! Macaroni!", which translates to mean: "The dears! But the dears! The special darlings!" Some believe that this is how macaroni may have been christened. Then again, *maccari* in Italian also means to pound, which is required when preparing pasta dough. However, the former story is more interesting.

The passion that this Palermo man had for pasta is shared not only by other Italians, but also by many others around the globe. Moreover, poets such as Horace wrote about it, musicians sang to its sumptuousness, museums were raised in its honor (Museo Storico Degli Spaghetti) and even some private social clubs of the eighteenth century were named "Macaroni Clubs."

Another amusing story is that of Marco Polo's discovery of pasta in China in 1295. It is said that upon returning to his ship from a Chinese island, Polo introduced his sailors to a wonderful "string-shaped" flour-and-water dough.

Everyone agreed that it was indeed a stroke of luck to have made such a precious discovery and that it would be fitting to name these treasures after the luckiest sailor, who incidentally happened to be named Spaghetti!

Noodles in Japan and China hold symbolic value. They represent long life and good luck. For this reason, noodle dishes are often served on special occasions, such as birthdays and New Year's. It is considered bad luck to cut noodles in China, since long egg noodles symbolize longevity to the Chinese. Traditionally, the appropriately named "long-life noodles" are served on birthdays as a wish for long life.

Ancient Greeks and Romans, besides believing in the wonderful virtues of pasta, made it fun food, ideal for their celebrations.

In modern times, pasta has quickly gained popularity. The old myth that condemns it as a fattening food is rapidly "thinning away," as people are becoming aware of its important nutritive values.

### History

As with all success stories, pasta is no orphan and makes many parental claims. Origins of pasta are a source of great debate. The claim that Marco Polo discovered it in China is easily contradicted by well documented historical records that indicate the presence of pasta in the Mediterranean area well before Polo's travels. However, one thing is certain. The mystery of the true origin of pasta has inspired many wonderful folktales.

The development of pasta can probably be linked to the cultivation of wheat throughout history. The earliest known reference to wheat was made in China in 2307 B.C. Since pasta is simply a mixture of water and flour, it is not presumptuous to assume that it was discovered soon after the first loaf of bread was baked. One theory suggests that pasta may very well have spontaneously appeared in several places throughout the world at the same time. In China a noodle known as *mein*, which is a primitive form of lasagna (known as *laganon* or *laganum*), can be traced back to ancient Rome and Greece. Couscous was the Arab version of pasta. Pasta's universality is evident when we consider that many countries, since the time of antiquity, have adopted it in some form into their cuisine. But, perhaps the Italians have raised it to the heights of honor.

The history of pasta echoes the competitive spirit between nations. Some authors suggest that the significance of having discovered pasta itself pales in comparison to the significance of having discovered its usefulness as what may very well have been the first convenience food. Many explorers and travelers of the Middle Ages must have treasured such a discovery. Pasta was lightweight and easy to transport either by sea or land. This nonperishable food also had the advantage of being easily reconstituted by simply boiling in water. Since a variety of meats and sauces can delightfully complement it, even the pickiest eater's appetite could be satisfied.

The first historical records of commercial pasta go back

to Italian shops around the year 1400. Semolina dough was trod upon by barefooted men for as much as a day to make it malleable. A screw press, powered by two men or a horse, was then used to extrude the vermicelli under pressure through dies. At the time, pasta was such a luxuriously expensive item that shops employed night guards to protect it. By 1785, it was recorded that Naples had 280 pasta shops. Pasta hung out to dry on balconies, on rooftops and in the streets. Italy's first commercial factory opened in 1824 at the Imperial on the Italian Riviera.

## Pasta Categories

**Flour and egg or water:** Pasta is best divided into two categories: one pasta of flour and water and the other pasta of flour and egg.

Flour and water pasta uses flour from durum (hard wheat). Called *semolina* in Italian, this flour has a high gluten content and is commonly available in supermarkets. It requires industrial strength machines to knead the hard dough. This type of pasta blends well with spicy, zesty sauces.

Flour and egg pasta commonly is referred to as home-made pasta, and inappropriately referred to as fresh pasta in supermarkets. Ideally, egg pasta should be made with plain or all-purpose flour. Butter- and cream-based sauces, as well as milder sauces, are best suited to the delicate texture of the pasta. This type of pasta absorbs sauces better than flour and water pasta.

Oriental noodles are sometimes made from flour, water and egg solids, which can be fresh, powdered or frozen. The most popular oriental noodles are egg noodles: **mein**, **min** and **mee**. However, oriental noodles can also be made from rice:

- **Fun**, **kway** and **teow** are rice noodles
- **Mi fun**, **py mei fun**, **beehoon**, **meechoon** and **se me** are forms of rice vermicelli
- **Fun see**, **sohoon**, **bi fun**, **harusame**, **fensu**, **saifun** and **woon sen** are known as cellophane noodles, or bean thread noodles, and are thin and transparent

In Japan, buckwheat flour is used to make **soba**. **Ramen**, **udon** and other noodles are made from wheat flour.

**Colored pasta:** Colored pasta, not necessarily flavored, is becoming increasingly popular in America, but in Italy the appearance of food is not significant if it doesn't contribute to the taste. Only spinach and tomato pastas fulfill this requirement in Italian cuisine. Other vegetables usually added to pasta dough contribute only to coloring. Certain herbs add taste to pasta, but it is the addition of spices that adds flavor.

**Cold pasta:** Cold pastas (not salads) were served in Japan and China long before pasta salads became "hot" in America. Cold pastas quickly have become the favorite

choice for picnics, buffets and lunches. If pasta salads have earned a bad reputation, it is because of poor preparation and presentation. The key to success when making cold pasta lies in using fresh ingredients of high quality, served at room temperature.

**Pasta desserts:** If one can use rice as a dessert in rice pudding, why not try a delicious, baked pasta pudding? Noodle kugel is well known in Jewish and Eastern European culinary traditions. In Asia, noodles are mainly used as sweets. Couscous with dried fruit is a traditional North African dish, served as a winter dessert or as a breakfast treat. Chefs have used manicotti and cannelloni tubes to make quick crepes.

## Industrial Process

The simplicity of pasta production makes one wonder how it could have escaped industrialists for so long, keeping it expensive for centuries. The industrial process involves three stages.

**Mixing:** Semolina, other grains or starchy vegetables are made into dough with water. If any other ingredients, such as eggs, vegetables, flavors and colors, are in the plans, they are added at this stage.

**Extruding:** After the dough has been kneaded for correct consistency, it is extruded through the desired die to produce a specific pasta's size and shape. Rotating blades beneath the die are used, when necessary, to cut the pasta to the desired length.

**Drying:** The pasta is then sent through large dryers that circulate hot, moist air to slowly dry the pasta. Depending on its shape and thickness, pasta's drying time will vary. The average time for drying is about five to six hours.

## Nutritive Value

Pasta, once avoided by dieters as fattening, is actually a good source of energy for those who want to lose weight. Pasta itself is not high in calories: 100 grams of cooked pasta delivers about 114 calories (Table I). It is the addition of certain sauces and fats that has given pasta its bad reputation.

The nutritional value of pasta is also often underestimated. It contains about 10-30% of the daily requirement of vitamins and minerals. It is high in complex carbohydrates, which makes it a good filler. It is easy to digest, and it provides the body with energy. Pasta also contains vitamins, especially vitamin E.

Pasta is high in complex carbohydrates, a preferred food for dieters. Also known as polysaccharides, complex carbohydrates are made mostly of long strands of simple sugars. A single complex carbohydrate molecule may contain from 300 to 1,000 or more sugar units. Pasta made from cereal grains, such as wheat, rice, potatoes or other tubers, is rich in complex carbohydrates. Although it is a good source of protein, pasta cannot be considered a complete protein

Table I. Food value and amino acid profile of macaroni

**Pasta nutritive values (gram per 100 grams of cooked pasta, except for CHOL)**

	KCAL	H <sub>2</sub> O	FAT	PUFA	CHOL	PRO	CHO	SFA	DFIB
Macaroni enriched	114	71	0.5		0	3.7	24		0.4
Noodles enriched	125	70	1.5		31	4.1	23	0.12	
KCAL	calorie(s)		CHO	carbohydrate					
PUFA	polyunsaturated fatty acids		SFA	saturated fatty acids					
DFIB	dietary fiber		CHOL	cholesterol					
PRO	protein								

**Comparison of amino acids profile - pasta, beef, and eggs (amino acids Mg/100 grams of food)**

	TRY	THR	ISO	LEU	LYS	MET	CYS	PHE	TYR	VAL	ARG	HIS
Macaroni enriched, cooked	41	133	170	220	109	51	64	177	113		194	80
Beef brisket lean & braised	258	1,004	1,034	1,817	1,913	589	258	898	773	118	1,453	787
Eggs whole	194	96	760	1,066	820	392	290	686	506	874	776	294
Eggs white	153	447	612	873	618	390	249	630	402	753	585	228
TRY	tryptophan		CYS	cystine								
THR	threonine		PHE	phenylalanine								
ISO	isoleucine		TYR	tryptophan								
LEU	leucine		VAL	valine								
LYS	lysine		ARG	arginine								
MET	methionine		HIS	histidine								

Source: Food Values, Jean A.F. Pennington. Harper perennial

since it contains insufficient amounts of lysine and tryptophane. However, these two essential amino acids can be incorporated into a serving of pasta simply by adding a small amount of butter, cheese, broth or sauce before serving. Enriched pasta will also contain additional iron, niacin, thiamin and riboflavin. Noodles, which contain eggs, have a higher percentage of protein than macaroni or spaghetti.

### Cooking Rules

Methods of cooking pasta differ from country to country. Some European regions insist on overcooking pasta. This practice, which was thought to make pasta more digestible, is frowned upon by dietitians. In fact, healthcare professionals recommend eating pasta "al dente," which means firm to bite. Usually manufacturers have a recommended cooking time on their packaging, but this may be inaccurate. It is best to taste test to determine if cooking is complete. Ideally, the core should be firm, but not raw. Mushy pasta should be avoided.

Bring water with a little salt to a boil, then drop in the pasta. It seems simple, yet how one adds the pasta to the water will determine its texture. A common mistake people make is to cook pasta in insufficient water that has not

reached a full boil. Normally, for each kilogram of pasta, one should provide seven to eight liters of water. To this, add a tablespoon of salt. Wait for the water to boil vigorously, then add the pasta slowly, keeping the water boiling throughout the process. This will prevent the pasta from getting sticky.

Once the pasta is cooked, excess water should be allowed to drain in a colander, although some experts recommend against using a colander. They believe the pasta should be lifted out of the water with a skimmer or wooden fork. Before serving, a little oil or butter may be mixed in with the pasta. It is best to serve pasta shortly after it is cooked.

Now let's take a tour and see how those wonderful noodles are flavored and served around the world.

### South America

Thanks to European settlers, wheat and rice were brought to South America. In Argentina and other countries where beef is abundant, it is included in many pasta dishes. The sauces, however, are much richer than those prepared by Europeans. Many South Americans also enjoy meatless dishes, such as an egg noodle dish with walnuts and sour cream usually served as an appetizer in Argentina.

**Table II. Estimated 1995 per capita consumption (kg) of pasta in the Americas**

Venezuela	13.0
Uruguay	11.0
Chile	10.0
United States	8.6
Argentina	6.8
Canada	6.3
Brazil	4.0
Colombia	2.5
Mexico	1.8

### Puerto Rico

More pasta dishes have been created in Puerto Rico than in any other Caribbean island. Two classic Puerto Rican specialties are macaroni and chicken, and macaroni and sausage. Each recipe calls for pork, sausage, tomato sauce and capers. The addition of various herbs and spices gives each dish a distinctive flavor. **Macarrones con pollo** (chicken) is flavored with garlic, green pepper, chili and a bay leaf, while the macaroni and sausage recipe is flavored with garlic and Parmesan cheese.

### Mexico

Mexicans also love pasta and the people of the Yucatán

**Table III. Estimated 1995 per capita consumption (kg) of pasta in the Far East**

Australia	2.5
Japan	1.8
Singapore	0.6
Philippines	0.5

peninsula enjoy **queso relleno**, a popular stuffed cheese recipe taken from Curacao. A whole Edam cheese is filled with a combination of meat and macaroni or macaroni with sausage. The stuffed cheese is then steamed.

### United States

Thomas Jefferson is credited with bringing the first "macaroni" machine to America when he returned home in 1789 after serving as ambassador to France. It wasn't until the 1950s that pasta gained popularity in North America. In the early twentieth century, pasta was served in fairly simple ways. It was either tossed with butter, baked with tomatoes, used in noodle soups or, of course, served with cheese. This all-American classic pasta favorite was as popular then as it is now.

When people discovered pasta's convenience and versatility, old favorites and newly discovered dishes, such as spaghetti primavera and cold noodle vinaigrette, were quickly incorporated into daily diets.

New England's proximity to the sea is evident in an array of seafood and fish pasta dishes. Macaroni baked with cod, salmon and even lobster offer a tantalizing gastronomic experience. With equally appetizing sauces, seafood lovers will think they are in paradise. The choices of oyster, clam, scallop and other sauces are endless. Spicing in these dishes is subtle.

**American chop suey**, as it is called in New England, is proof that meat pasta dishes are also favorites there. Egg noodles are blended with a delectable ground beef and tomato-based sauce, prepared with Dijon mustard, wine vinegar, and dry wine. Green peppers and oregano add a delightful flavor to the entire mixture.

A traditional chicken "**pot-pie**" is prepared in Pennsylvania by placing the ingredients in individual, boiled "noodle crusts." This recipe is flavored with saffron and fresh parsley.

The neighboring Caribbean has influenced southeastern American cooking, making dishes like **macaroni and black beans** a food staple.

Louisiana's Creole and Cajun cooks prepare hot and spicy sauces, making spaghetti a favorite dinner choice. Other New Orleans spaghetti toppings include oysters and green pepper, crab meat and crayfish, and meatballs.

A blend of southern, western and Mexican cuisine characterizes "Tex-Mex" cooking. **Tex-Mex chili spaghetti** is prepared with ground beef or sirloin and hot chili pepper. This dish is also flavored with cumin, oregano and pimento.

Cincinnati has its own version of Tex-Mex chili. It's called **five-way chili**. The spices in this recipe reflect a Middle East influence utilizing turmeric, cayenne, paprika and cloves.

Midwestern dishes often have a Scandinavian, Czechoslovakian or German flair. **Noodle rings**, a German dish, is prepared with egg noodles, cheddar cheese, Gruyere, cream and Worcestershire sauce. It is slightly flavored with nutmeg.

Many Chinese dishes have been introduced to the West coast by East Asian immigrants. This has had the effect of greatly increasing the popularity of noodles. Many traditional recipes reflect the creative Californian cooking style. It is only in America that crisp fried chow mein noodles are used in local recipes. Rules are broken here, making it possible to prepare pesto sauce with Monterey Jack cheese.

## China

Although noodles are an important part of Chinese cooking, their popularity can never replace that of rice. Noodles are, however, found and served in a multitude of ways throughout China. They can be boiled, stir-fried or deep fried. They are used in soups, salads, as part of the main course, as a snack or even in desserts. Noodle preparation and their uses in recipes vary from one region of

China to another. The variations reflect the availability of ingredients in each region.

Northern China grows very little rice; wheat grows more abundantly. Bread and wheat noodles are served daily as part of the meals. Traditionally, meals in northern China are the more elaborate creations of the Peking school of cooking. The North is famous for dishes such as Mongolian firepots, which are placed in the center of the table and hold simmering broth used for dipping lamb, vegetables and cellophane noodles. Marinated pork, crispy vegetables and sesame-flavored noodles are combined to form a tantalizing dish, enhanced by a flavorful raw scallion and vinegar dressing.

The abundance of ingredients available from land, sea and rivers is apparent in the cuisine of southeast China. This region is considered home of the **dim sum**, which most Americans think of as dumplings traditionally enjoyed as snack foods. Dim sum is more than just dumplings—it is a whole range of foods. It is not unusual for the dough to be flavored with seafood, which is readily available in this part of the country. Wrappers are made with a variety of doughs: egg, fresh rice or unusual combinations such as wheat starch and tapioca flour. In Hong Kong the dough is made stiffer and chewier by adding potassium carbonate.

**Wontons** are popular in Canton, despite the fact that they typically contain no seafood. They are usually filled with a pork mixture. They can either be boiled in chicken broth containing vegetables, which would be consumed as a full meal, or they can be deep-fried and served as hors d'oeuvres. Chinese mustard, plum sauce and hoisen sauce, placed in three separate bowls, are perfect dipping sauces.

**Dumplings** are found all over China. In the north, the most popular variety is **jao tzu dumplings**, which are dipped in a mixture of hot chili oil, raw garlic and scallion paste. On the eastern coast of China, dumplings are often dipped in a fruit sauce and hot mustard combination. **Swallow skins** is the name given to eastern dumplings because of their delicate texture. The dumplings are either steamed and served with a sesame sauce, or cooked in soups.

**Chow mein** and **low mein** are Cantonese dishes made popular in America by the first Chinese immigrants. "Chow mein" simply means fried mein (egg) noodles and is considered peasant food in Peking. This stir-fry can be served with or without seafood. The egg noodles (dan mein) are boiled first, then fried in a little peanut oil. This delightfully simple and delicious dish is complete once the noodles are combined with meat (usually roast pork) and cabbage that have been cooked in beef broth, soy sauce and sesame oil.

**Chow mi fen** is fried rice vermicelli. It is used in southeast China in a seafood recipe called **hsia jen chow mi fen** (rice vermicelli with prawns and Chinese cabbage). The use of seafood suggests that this recipe originated in either Canton or Shanghai. Noodles are added to Chinese cabbage that is cooked with shrimp in rice wine, soy sauce and chicken stock. Five-spice powder and scallions subtly flavor this dish.

**Ants on the tree** (**ma yi shang shu**) is a famous Szechwan dish. Usually it is made with pork, but ground meat and poultry are acceptable substitutes. In this dish, the noodles pick up the flavors of any ingredients that are added to the meat. Coriander, soy sauce, dry sherry, scallions and hot sauce offer an exquisite blend of tastes.

**Buddha's delight**, a totally vegetarian dish, is eaten all over China, especially during religious holidays. This succulent stir fry is made with cooked cellophane noodles, ginger, green peppers, carrots, Chinese cabbage, bamboo shoots, spinach, three types of mushrooms and bean curd. The bean curd supplies this recipe with protein, making it a healthy choice as part of a delicious meal. Buddhists enjoy eating it with rice on New Year's Day.

## Japan

The Chinese first introduced noodles to the Japanese, who adapted them to suit their lighter cooking style—one that uses water as the main cooking medium. Japanese foods, including noodle dishes, are categorized according to cooking techniques. Certain noodles are used for these categories. For instance, dishes cooked at the table are **nabe** dishes and use **shirataki noodles**. **Udon noodles** are used in **nimono** dishes, which are simmered. **Harusame noodles** are used in two salads: **aemono** and **sunomono**.

**Menrui** is the Japanese word for noodle, but noodles are casually referred to as **soba** even though this is more properly the name reserved for noodles made from buckwheat flour. Buckwheat flour produces a dough that does not stretch. It is available in various sizes and lengths, and can also be flavored and colored using ingredients such as plums, taro fish, shellfish and egg yolk. Buckwheat soba are most popular in eastern Japan, where they originated.

**Mori/zaru/seiro soba** (soba noodles in a basket) is, according to soba connoisseurs, the only way to savor buckwheat noodles. This recipe is simple, yet it is the true test of the soba master's skills. The plain noodle is the main flavoring of this dish. **Kitsune soba** is a delicious dish made from deep-fried tofu squares, which are then simmered in a broth containing soba noodles. It is flavored with soy sauce, mirin, leeks and scallions.

In western Japan, white wheat noodles called **udon** are preferred. Spinach, egg yolks, carrots and taro are used to color and slightly flavor the udon noodles. They are available in various lengths and shapes, and vary from thick to very thin. **Doosan uda**, which are thick and flat, are followed by the increasingly thinner **udon**, **somen** and finally **hiyamugi noodles**, the thinnest of the wheat noodles.

**Udon noodles** can be eaten hot or cold. They are commonly used in a savory custard recipe (**odamaki mushi**) that has the unique characteristic of being one of the few Japanese foods eaten with a spoon. It is a practical dish that can be made with almost any leftovers. The bottom of each custard cup is covered with udon noodles to which a mixture of chicken, mushrooms, spinach, fish sausage (this is an acquired taste) and ham are added. Finally, sake, chicken broth or soy sauce, and eggs are mixed together and poured over the individual casseroles before they are baked. This wonderful dish may be served either as an appetizer or a complete lunch.

**Shirataki noodles** are made with the starch of tuberous roots. This noodle is unique to Japan, and is used to make **sukiyaki** (simmered beef). Unlike with soba noodles in a basket, the noodles used in **sukiyaki** are not the predominant taste in the recipe. Browned beef strips cooked with onions and scallions are simmered in a delectable soy sauce, sugar and sake mixture, to which fresh vegetables such as mushrooms and spinach are added. The noodles, along with bean curd, are added just moments before serving. Unfortunately it is considered bad manners to pour this sumptuous concoction over rice.

### **Korea**

Korean cuisine has undoubtedly been influenced by both Chinese and Japanese cooking. However, uniquely Korean touches are evident in many dishes. For example, delicious honey-sweetened rice vermicelli is mixed with nuts and grilled meat to create a tantalizing combination.

**Sin sul lo** (Korean hot pot) is adapted from the Chinese Mongolian hot pot. Traditional ingredients used for this recipe include meatballs and shrimp. Vegetables and bean threads are served with a simple, yet succulent beef or chicken broth flavored with soy sauce, sherry or rice wine.

### **India**

India has its own repertoire of enticing noodle dishes. A wonderful substitute for potato chips is fried chick-pea noodles. They are spiced with a variety of ingredients including cardamom and anise. The basic dough is prepared from a mixture of chick-pea flour seasoned with salt, cayenne pepper, cumin, coriander, black pepper, cloves, nutmeg and turmeric.

The dough is pushed through a sieve to produce one-inch noodles that are then fried in vegetable oil. These noodles can be used in a healthy snack mix called **chiura**, which is made by tossing golden brown cooked lentils seasoned with turmeric and cayenne, with cashews, salt and pepper.

### **Indonesia**

Most southeast Asian dishes use available local ingredients such as coconut, fresh coriander, fish sauce, fried shrimp paste, chili pepper, rice and rice noodles. Some native dishes unique to the area contain coconut milk.

**Table IV. Estimated 1995 per capita consumption (kg) of pasta in Europe, the Middle East and Africa**

Italy	28.0
Tunisia	11.7
Switzerland	9.0
Greece	8.1
Portugal	7.5
South Africa	7.1
Russia	6.8
France	6.5
Turkey	5.0
Germany	4.8

**Laksa** is an Indonesian shrimp and rice vermicelli dish cooked in coconut milk. Ground laos root is an important ingredient in this dish, although substitutes can be used in its place. To prepare laksa, onions, garlic, cayenne, turmeric and laos are added to a shrimp paste and then fried. Shrimp and lemon rind are stir-fried with the mixture and then simmered in coconut milk. This is served over rice vermicelli noodles and garnished with bean sprouts, scalions and mint.

Oriental egg noodles are used in a colorful Indonesian salad called **gado-gado**. It is not only delicious, but also fun to prepare. The presentation of the salad can be simple if one decides to serve the ingredients in small heaps. However, the creative chef can demonstrate artistic talent by arranging the colorful vegetables in separate layers. Carrots, shredded cabbage, cut green beans, bean sprouts, tomato wedges and thinly sliced cucumbers are seasoned with a peanut dressing. This dressing is a divine, mouth-watering mixture of fried onions, sugar, salt, lemon juice, water, peanut oil and peanut butter, to which ginger root, garlic, bay leaves and Tabasco sauce have been added for extra zip.

### Thailand

**Mee krob** is a sweet and sour Thai snack adapted from the Chinese. These caramelized noodles can be served alone or as part of a full meal if added to meat and vegetables.

**Pad wun sen**, like most Thai noodle dishes, is also a snack. Stir-fried bean threads are served with pork and shrimp. This dish is flavored with fish sauce, sugar, vinegar, cloves and coriander.

### Vietnam

The national breakfast dish of North Vietnam is a beef noodle soup called **pho bo**. This rice-noodle soup is complemented with bean sprouts and flavored with scallions, onions, shallots, mint and coriander. Black pepper and chili peppers are added, along with lemon wedges, to spice up this dish.

**Ca hap**, steamed fish, exemplifies typical oil-free Viet-

namese cooking. The fish is marinated in soy sauce, then steamed and served with bean-thread noodles, that are flavored with sweet soy and fish sauces. The noodle mixture is arranged on top and around the fish and is then steamed.

Imperial spring rolls, **cha gio**, are served in Vietnam either as a snack or an appetizer. These rolls are made by deep-frying rice paper filled with an exquisite bean thread, mushroom, pork, crab and carrot mixture flavored with garlic, fish sauce and sugar. Brides are often judged by the perfection of their **cha gios**.

### Burma

**Mohinga** is a fish soup prepared with rice vermicelli. It is extremely popular in Burma. It has the delightfully different taste of toasted peanuts with hard boiled eggs. Mohinga is flavored with onions, garlic and shrimp paste and is spiced with lemon grass, cayenne pepper, ginger and turmeric.

In Burma, a mild chicken curry, **panthay kaukswe**, can be served in a traditional meal with rice, pickled vegetables and fish sauce on the side. Onions, garlic, turmeric and chili pepper spice up the chicken, which is then cooked in coconut milk, flavored with coriander. The mixture is thickened with a flour paste before egg noodles are stirred in.



## Italy

If pasta claims many legitimate global parents, its most faithful are the Italians. They have created so many shapes and methods of preparation that the possible permutations and combinations could number more than one variety per day, for each day of the year, without a single repetition (Figure 1).

Although pasta is eaten in all Italian regions, there are slight variations in preparation in different areas. The ingredients used to prepare a sauce reflect the prosperity of a region and availability of produce. The country can best be divided in four areas: northern, north-central, central and southern. Each area has its own specialty.

It is difficult to imagine that, at one time, rice was more popular than pasta in northern Italy, considering the array of delicious specialty dishes that have originated from this region. The wealth of northern Italy is reflected in sauce preparation. Sauces include meat and dairy products, and from Genoa comes pesto sauce, which is made with an exquisite blend of basil and garlic, usually served with long, flat, eggless noodles. Stuffed pasta, such as **ravioli**, is popular throughout the North. Each region has its own version. For instance, Genoese ravioli is stuffed with calves' brains. Jagged-edge **pansati** triangular ravioli from Liguria is accompanied by a delicious walnut sauce. There is also a crescent-shaped ravioli called **casonsei** from Lombardy.

A distinctive Italian pasta dessert is **tortelli dolci**, or sweet tortelli. The dough is made with flour, sugar, eggs and Marsala, formed into round tortelli and stuffed with a heavenly mixture of sugar and sweetened ricotta cheese flavored with cinnamon and nut liqueur (Pistachia or Nocella). The sealed dough is then fried and sprinkled with confectioner's sugar.

Southern Italian pasta dishes are the most familiar to Americans. These recipes echo the region's characteristics. Naples, for example, is renowned for the high quality of the pasta tubes and rods produced in its factories. The distinctive taste of the factory-made semolina pasta is well complemented by the strong-tasting sauces of the region. Locally produced ingredients such as olives, olive oil, garlic, sardines, anchovies, goat cheese, vegetables (including red and green peppers, bright purple eggplant and zucchini), citrus fruits, fresh herbs (including oregano, basil, thyme and parsley) and spices (such as coriander, saffron and ginger) combine in infinite variations to create wonderfully appetizing meals with bold and zesty sauces.

From Basilicata, **peperonati**, a delicious and colorful dish consisting of linguine with red pepper sauce, is prepared with the flesh of roasted peppers. The pepper flesh is added to a mixture of garlic, sautéed in oil with wine, sugar, salt and pepper, and allowed to simmer. The pasta is then added and cooked until it absorbs all the liquid.

Next time you have a craving for lasagna, why not try a more delicate version? **Lasagna al forno** is constructed by layering plain and spinach lasagna noodles with sausage cooked in a light tomato sauce flavored with marjoram and

basil, and a white sauce with a hint of nutmeg, mozzarella, Parmesan and prosciutto.

North-central regions of Italy specialize in rich pasta dough made with only egg and flour with no addition of water or oil. Sauces used in this region are more elaborate than those of southern Italy. Bolognese sauce (from Bologna) is one of Italy's most famous meat sauces, delicately lightened with cream and served with **tagliatelle**. **Tortellini** is also from Bologna and is similar to **cappelletti**, from Florentine. Both of these are stuffed with a ground veal mixture and can be served either with butter sauce or in broth. It is their shapes that differentiate them. Tortellini is a circle; cappelletti is square.

Pasta and chick-peas, **pasta e ceci**, is a popular Tuscan dish eaten throughout Italy. A delicious soup is first prepared with chick-peas, onions and garlic, then seasoned with rosemary, salt and pepper. Macaroni is added to the broth and cooked al dente. Just before serving, olive oil and Parmesan cheese are added to each bowl.

Deep-fried **fettuccine balls**, a wonderful recipe from Florence, can be served as a side dish or eaten with Bolognese sauce for a main dish. To make the balls, pasta is folded into a mixture of flour, butter, milk and cream that has been flavored with nutmeg and Parmesan cheese. The concoction is refrigerated, then the balls are formed and dipped in eggs, followed by bread crumbs. They are then deep-fried.

Pasta dishes from central Italy are often spicy and usually contain crushed red peppers. The dishes in the region are simple. The popular **fettuccine al' Alfredo** consists only of cream, butter and cheese. **Spaghetti all' Arrabbiata** is a popular dish consisting of spaghetti topped with a sauce made of olive oil, garlic, tomatoes, hot red peppers and cheese.

Pasta with bacon and onion sauce (**perciatelli all' Amatriciana**) originated in Amatrice, but is now enjoyed mostly by Romans. Perciatelli or bucatini pasta is mixed with a sauce made from butter, oil, onions, garlic, tomatoes and pancetta (un-smoked bacon), prosciutto or Smithfield ham. The sauce is flavored with red pepper flakes, Parmesan and Romano cheese.

## France

Pasta is rarely associated with French gastronomy. However, it is used in classic, regional, home and nouvelle French cuisine. Fresh egg noodles, macaroni, spaghetti and cannelloni are served both as formal and side dishes. Southern France is famous for its dried noodle dishes. Many Italian dishes have been adopted here with the inclusion of French ingredients. Ravioli, for instance, is filled with lamb brains in Nice, and goat cheese in Savoy. Pesto is referred to as *pistou* by the French and used in vermicelli soups. Fish eggs, crabs and mussels are just a few Mediterranean delicacies that may also be included in noodle soups.

**Provençal macaroni** dishes are set apart from those in

the rest of France because of the local olives, anchovies and mussels that are added to these dishes. Spaghetti with anchovies is a typical Provencal dish with its exquisite blend of olives, tomatoes and anchovies. Leftovers of famous French sauces such as béchamel and Mornay are often mixed with spaghetti and served as side dishes.

Although macaroni pie, **pate de macaroni**, is a rather bland dish, it serves its purpose well as a comfort food on a cold winter's day. Tomato sauce, ham and Gruyère cheese are baked with cooked elbow macaroni in a pie shell to create a simple, yet surprisingly satisfying dish.

Noodles with basil cream sauce, **nouilles à la crème**, is an elegant yet simple dish. It may be prepared with either

fresh or heavy cream. Gruyère cheese, fresh basil, prosciutto and macaroni shells combine to portray French country living at its best.

It is only recently, and largely due to the increasing popularity of fresh pasta used in Nouvelle cuisine, that the French have discovered the advantages and pleasures of eating pasta al dente. One pasta made popular by Nouvelle cuisine chefs is ravioli. Scallops, langoustines, foie gras and duck are flavored with fresh herbs and used as fillings for mouthwatering ravioli. Scallop ravioli, a favorite of one of the authors, is made with a tomato-flavored pasta dough filled with a succulent blend of scallops, crab, scallions and fresh tomato paste. Once the filled ravioli is cooked, it is

garnished with a delightful thyme-butter sauce before serving.

### Eastern Europe

Pasta in central and eastern Europe is made with potato flour, cottage cheese and flour, wheat flour, or buckwheat flour. Béchamel sauces and tomato sauces, served with spaghetti, are staples of European diets. Dumplings are very popular here as they are in many other countries.

Cabbage is used extensively in central and eastern European cuisine. **Krautfleckerin** is a delightful cabbage and noodle dish. This Austrian dish is prepared with egg noodles and onions sautéed with sugar and cabbage (the Polish version replaces the sugar with caraway seeds and sour cream).

Smoked bacon gives **tuross csusza** (noodles with cheese and bacon) a European culinary touch. Hungarians prepare this dish with sour cream, while Ukrainians and Russians prefer using heavy cream. This dish is so nutritious that leftovers are often served for breakfast the following morning.

### Russia

Russians prepare a delicious beef-filled dumpling, adapted from the Serbs, called **pelmeni**. The noodle dough is made with eggs and the filling is simply beef, onions, suet and black pepper. The dumplings are boiled in water then served.

Ukrainians use buckwheat noodle dough to make **vareniki kartofelem**, which are potato-filled dumplings flavored with smoked bacon. The Russians love fruit and often use it in desserts. **Vareniki sladkiye** is a blueberry-filled dumpling sprinkled with confectioner's sugar and served with sour cream.

### Poland

Mushrooms are widely used in Polish and Russian cooking, especially in meatless recipes. **Mushroom noodle soup** is an elegant Polish dish that uses very little broth. Fresh dill complements the flavor of the mushrooms, carrots, leeks, celery and parsnips.

### Germany

**Spaetzle** has the wonderful characteristic of being able to absorb heavy sauces. Although it originated in central Germany, spaetzle is consumed throughout Europe. The imaginative chef can prepare spaetzle in a multitude of ways simply by adding a variety of ingredients to the tiny bits of egg and flour dough. Fresh herbs may be added to them, they may be sprinkled with Parmesan cheese, covered with a delectable onion sauce or served with bread crumbs or croutons. They are also perfect as a base for goulash, sauerbraten or stew, and are so versatile that they may even be added to soups.

Spaetzle with sauerkraut is a German recipe that includes three of the most popular foods of that country:

double-smoked bacon, sauerkraut and spaetzle. The flavors of chopped apple, grated onion and caraway seeds blend with the other ingredients to create a satisfying, savory dish. It is best served with beer, which complements the taste of the sauerkraut.

## Spain

Spanish dishes have a definite Italian, Arab and Jewish influence. Canalones filled with fish, ground beef, chicken livers, chicken, ham or a combination of these are a favorite Spanish dish. The filled pasta is usually baked with either tomato sauce or white sauce.

The Spanish classic paella has a pasta counterpart in **fideos de mariscos**, which is fish and noodle paella. Saffron and olive oil are perhaps the most important ingredients in the recipe. Fish and shellfish comprise the traditional components used to make noodle paella, but a creative chef is limited only by imagination and can easily substitute other ingredients to create a colorful and enticing dish.

It must have been Spain's love of eggs that inspired the creation of a fabulous macaroni omelet: **tortilla con macarrones**. Colored macaroni is used in Barcelona for a more decorative dish, but white macaroni is also acceptable. Although the ingredients in this recipe are simple—Parmesan cheese, eggs, macaroni and olive oil—they combine to produce a wonderfully nutritious pancake-omelette which can be served any time of the day.

## Middle East

In the Middle East, noodles are prepared in three ways: boiled with meat juices and herbs, fried or baked in casseroles. The noodles are not cooked al dente, they are cooked until soft.

**Mougrabiya**, large, toasted couscous and chicken, is served in Lebanon, Greece and Turkey. The dish is prepared by cooking couscous and chicken in separate parts of the couscoussier. The chicken is steamed in the bottom part with bay leaves, caraway seeds, cumin seeds, onions and carrots. The chicken broth is, in turn, used to cook lamb and chick peas. The ingredients are served together and flavored with cinnamon and cloves.

In Greece, the midday meal is usually the heaviest of the day. Supper is often much lighter. Serving **tomata manestra soup** with bread constitutes a well-balanced meal. Orzo noodles, used to prepare this tomato-based orzo soup, can be replaced with any other delicate noodles (such as stars, vermicelli or risoni). This simple and nutritious soup is made with condensed tomato soup, flavored with olive oil, scallions, oregano and marjoram. Basil can also be used in this recipe, but is often omitted by Greek cooks who consider it to be a sacred spice. The presentation of the soup has a uniquely Greek touch. Before serving, about a quarter ounce of feta cheese is added to each bowl. The soup is then poured over the cheese and garnished with mint.

Pasta with brown butter, **makaronia me kavour-dismeno voutero**, is a popular Greek dish that can be made with either macaroni, spaghetti or egg noodles. Typically, an aged cheese such as kefalotiri or Mizithra is used in this recipe. However, it is possible to use Romano, feta or Parmesan cheese as a substitute. During preparation, half of the cheese is mixed with the cooked pasta, while the other half is added to the browned (not burnt) butter, which is poured over the pasta.

Poppy seeds in the Israeli dessert **manna noodle** symbolize food from heaven. For religious reasons, this dessert is made from eggless noodles prepared without any animal products, and it is served in Israel during the holiday called Purim. It is also eaten in Greece during Lent. Any flat eggless pasta such as fettucine may be used in this recipe. Once the pasta is cooked, it is topped with a mixture of poppy seeds, crushed sesame seeds or chopped walnuts, honey and cinnamon.

**Dreyov yeghintz**, or fried noodles and rice, is a sumptuous, simple American creation that has many variations in the Middle East. The Greeks make the dish with scalions and garnish it with tomato and cheese. Vermicelli is browned lightly in butter, then rice is added. The entire mixture is slightly fried, then cooked in a beef or chicken broth, pilaf style.

Lentils are popular throughout the Middle East and are often used in noodle soups. Smaller pasta shapes are ideal for these soups, especially small tubes known as **boccolotti**. When preparing soups during religious holidays, animal fats are replaced with olive oil. These healthy and hearty alternatives can be served as side dishes for dinner or as complete lunches. The addition of garlic and cumin gives these soups a distinctive and delightful taste. It is best to slightly saute the garlic and cumin in oil before adding them to the soup because this process releases the flavors.

## Egypt and Africa

Couscous is the most common noodle used in Africa. It is served in a variety of dishes. Although sweet couscous, **couscous bi sukkar**, is most popular in Egypt, it is made throughout Africa. The couscous is cooked with butter, raisins, sugar and almonds. Flavorings such as rose water, vanilla and pomegranate seeds may also be added. For a different variation, it is also possible to soak the couscous in orange juice before cooking.

During Ramadan, Moroccan Moslems enjoy **harira**, a filling chicken soup. Garlic, onion and spices including saffron, coriander and pepper are sauteed in oil. Chicken is added to this mixture, followed by chick-peas, pearl onions, celery, turmeric, cinnamon and water. Fine egg noodles and a small amount of fermented flour are added to the soup toward the end of the cooking time. Two lightly beaten eggs are poured into the soup and whisked until cooked into firm strands, and, finally, lemon juice is added.

## Future Trends

**As a meal replacement:** Consumer interest in meal replacements will open an important niche in the pasta segment. Pasta snacks in many Far East countries are already consumed as forms of meal replacements. These products are marketed in the U.S. as Ramen noodles. Ready-to-eat pasta can be made in many fun shapes, formulated to contain the necessary basic food components so that they will represent a healthy meal that can be consumed on the go.

**Value added:** Marinated chickens have proved to be a bonanza for the poultry industry. We can envision the same for flavored types of pasta, in addition to the now popular colored varieties. The seeds of this trend are already budding in frozen cheese cannelloni, manicotti, ravioli and tortellini. Dry forms of these types recently appeared in Italy. Monder Aliment introduced dry tortellini in 1993 with three types of savory filling: salmon, mushroom and ham. In Denmark, a range of dry, filled meat and cheese ravioli was introduced recently by the Raviolifico Bertarini company. Will we ever see a dry spaghetti that has sauce, meat and spices already in it, ready for the consumer to reconstitute by cooking in water?

**Varieties and health:** Pasta is a truly transnational food, equally liked by most nations. Maybe its texture and shapes make it so appealing to worldwide consumers. If these two attributes are preserved, pasta can be made from other complex carbohydrates and still be acceptable. Tubers such as Jerusalem artichokes, and breadfruits, with their high oligosaccharides, may be considered.

It could also be a fun carrier for not-so-fun but healthy foods. Good-for-you vegetables are often an ordeal to feed children in developed countries. Pasta formulated to contain a meaningful amount of zucchini, spinach or carrots in the dough could be a treasure to concerned mothers.

Multigrain breads and snacks have shown a significant consumer appeal. Will pasta be made of potato, wheat and rice mixtures?

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