SPICES

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Today one can walk into just about any grocery store in this country and be able to purchase any of innumerable different spices for a relatively small amount of money, even in these times of inflation. But has it always been that way? The answer is an emphatic NO! For many hundreds of years, spices were literally worth their weight in gold and in many countries were actually used as currency rather than metallic coins. The value of spices can be witnessed by citing just a few historical events.

In the year 992 BC, the Queen of Sheba visited King Solomon, bringing as her principle gift a large quantity of various spices.

In 80 BC, Alexandria, Egypt, became one of the greatest ports on the Mediterranean because of spice trading.

The Roman emperor Nero’s wife, Poppaea, died in 65 AD. The greatest tribute that Nero could pay to her memory was to burn a year’s supply of cinnamon.

Near the end of the Roman Empire in 408 AD, Alaric the Visigoth and his armies surrounded the walls of Rome and demanded gold, silver, silk, and 3000 pounds of pepper as ransom for the city. (The ransom was paid, but two years later the Goths finally captured Rome, and the Roman Empire came to an end.)

During the latter part of the Middle Ages in Europe, peppercorns were used to pay taxes in England, a pound of nutmeg could buy seven healthy oxen in Germany, a pound of mace could buy three sheep, a pound of ginger one sheep, and cloves were selling for $20 a pound.

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The cover illustration shows a mixture of different spices: star anise, cloves, nutmeg, bay leaf, vanilla pods, and allspice. Can you identify them?
These are but a few examples of the exorbitant value placed upon spices. The obvious question is why. Well, people in the past used spices precisely for the same reason that we use them today—to flavor food. Except in those days the need for additional flavorings was much more pronounced than today. People had no refrigeration (or even ice in the summer) with the result that food spoilage was extremely common. A slightly tainted piece of meat or vegetable could be made palatable by adding nutmeg, cloves, or some other spices.

However, this still does not explain fully why spices were so expensive. To do this requires a certain amount of historical and geographical perspective. No one knows for sure when the gastronomic delights of spices were first discovered. Perhaps ancient man wrapped a piece of meat in leaves before placing it in the fire to keep the meat free of grit and ashes. When cooked and unwrapped, the meat had a new, delightful flavor imparted by the leaves. And, Lo, the art of seasoning had been discovered.

Once discovered, we can surmise that the use of spices spread rapidly to other parts of the world. The Assyrians made use of them, the Egyptians made use of them (we have written records of this for both) and finally the Europeans made use of them.

And here is where geography steps into the picture. Where did these spice plants come from? The Arabians knew but the Europeans didn't. We now know that the vast majority of spices are native to southeastern Asia: places like India, Malaysia, and the Molucca (or Spice) Islands, and during the Middle Ages the only way spices could reach Europe was by funneling them through Arabia. Contact with southeast Asian areas by Arabians was either by overland caravans or by ships that sailed from India and docked in Arabia. In either case the Arabs had a vise-like grip on the spice trade and exploited it for hundreds of years. The Arabs were also shrewd enough to keep the places of origin of these spices as very closely guarded secrets. They even invented fanciful tales of dragons and monsters that protected these growing areas in order to discourage exploration for them.

Eventually Venice got into the act, too, acting as a sort of middle man between Arabia and the rest of Europe. As a result, Venice prospered for a period of about 300 years. Ironically, however, it was a
Venetian that led to the downfall of Venice and the collapse of the Arabian Empire. That person was, of course, Marco Polo. In 1271 he began a 24-year journey that took him all over Asia. When he returned to Venice, he brought with him tales of exotic islands where spice plants grew in abundance, descriptions of new spices which Europeans had never even heard of, mouth-watering stories of countless meals flavored with aromatic spices, and, of course, a complete refutation of the mythical Arabian dragons and monsters that supposedly protected these lands.

The cat was now out of the bag, so to speak. Very quickly European countries realized that if they could find a way by ship to get to these lands of spices, they would have reached that end-of-the-rainbow pot of gold. Thus, the age of exploration was ushered in. Portugal, Spain, England, and Holland were in the race almost from the beginning. John Cabot, Ferdinand Magellan, Vasco da Gama, Sir Frances Drake, and even Christopher Columbus are some of the early explorers that immediately come to mind. (Columbus, of course, was not seeking the new world but merely a way to get to the East Indies. He never found it, but he did find a spice plant in the Caribbean that was new to Europeans, namely allspice). The victor in the race was the Portuguese explorer Vasco da Gama, who succeeded in sailing around the southern tip of Africa and eventually reaching India. With a passageway established, the Portuguese quickly subdued the spiceland areas of southeastern Asia and assumed a monopoly on the spice trade. This hegemony lasted for about 100 years until about the year 1640, when the Dutch succeeded in wresting control of these lands from the Portuguese. This control of the spice trade brought considerable wealth to Holland and resulted in a flourishing of the arts in that country. (Probably the most famous of the Dutch artists, Rembrandt, was completely supported financially by the Dutch government during this time.)

However, the English were not exactly sitting idle during all this. As early as 1600, the British East India Company was founded, and in 1609 a single shipment of 116,000 pounds of cloves was sent to England. The English continued to slowly erode away the edges of the Dutch Empire, and, to add to the tribulations of the Dutch, spice
seeds and small plants were smuggled out and established in other tropical areas. Although Dutch and British control of much of southeastern Asia continued until (and even beyond) World War II, the monopolistic backbone of the spice trade had been broken, prices tumbled, and the "common man" could avail himself finally of these former luxuries.

The Nature of Spices

Spices are all basically plant parts or plant derivatives. Their flavor and aroma are due to the presence of chemical compounds called essential oils. Essential oils are characterized by being aromatic and volatile, that is, they evaporate rather quickly. This is in contrast to another similar group of compounds called vegetable oils, which are neither aromatic nor volatile. Vegetable oils are commonly used for cooking purposes, margarines, and lubrication. Because of the volatile nature of essential oils, the shelf life of spices is usually limited. As a general rule of thumb, it's a good idea to replace spices every 6-12 months to insure maximum flavor. (Whole nutmeg is an exemption. The oil of this seed lasts for several years.) Although spice plants are widely distributed in many flowering plant families, the ginger, mint, and parsley (carrot) families are well-represented with several species.

Some Common Spices

CINNAMON - This is one of the oldest known spices in terms of usage by man. Egyptians imported cinnamon 2000 years before the birth of Christ. The spice comes from the bark of a southeastern Asian tree simply called the Cinnamon tree. The bark is peeled in long strips, allowed to dry and during the drying process typically rolls up into a "quill" (Figure 1). These quills are used in pickling syrups and as swizzle sticks in hot chocolate and other beverages, while the ground cinnamon is widely used as a baking spice.
Figure 1. Cinnamon quills.

Figure 2. Cloves.
CLOVE - Cloves (Figure 2) are the dried, unopened flower buds of the clove tree, a plant native to the Molucca (Spice) Islands south of the Philippines. During the Middle Ages, cloves were widely used as breath fresheners and to avoid smelling the body odors of the "unwashed masses." Today we use cloves to flavor meats, especially ham, and baked goods. However, about two-thirds of the world's clove production is used as a mixture with tobacco for smoking in Indonesia.

PEPPER - Pepper is the dried seed of a vine native to southeast Asia. (The fruit is called a peppercorn.) One of the most important spices of all time, pepper was the prime objective of most of the aforementioned explorers, including Columbus. Although there are several different varieties of pepper, we usually see only two in the grocery store, black and white (Figure 3). White pepper has the outer seed coat removed and hence is less potent than black pepper.

Figure 3. White and black pepper.
NUTMEG AND MACE - These two spices have to be considered together since they are parts of the same plant. As a matter of fact, this is the only plant that yields more than one spice. The plant is a small tree native to the Molucca, or Spice, Islands, and the two spices are obtained from the fruit. Nutmeg (Figure 4) is the seed, and mace is the fleshy covering (aril) of the seed. The flavor and aroma of the two spices are quite similar and hence they have similar uses, especially as food and beverage flavorings.

Figure 4. Nutmeg.

VANILLA - This is the only member of the orchid family that yields a flavoring agent. The vanilla orchid is a climbing vine native to southern Mexico, and it is the fruit or “pod” (Figure 5) that is utilized. After harvesting, the pods are dried in the sun and then allowed to ferment. This fermentation process may take up to several months and is essential in order to bring out the full flavor and heavenly aroma. Vanilla is widely used as a flavoring in various foods and baked goods. Synthetic vanillas have been developed, but they do not match the quality of the real thing.
Figure 5.  Vanilla pods.

Figure 6.  Ginger.
GINGER - Ginger (Figure 6) is derived from the underground stem (rhizome) of a small plant native to tropical Asia. Whole pieces of ginger are usually available in the supermarket and, when ground, make a delicious flavoring for foods and beverages, such as ginger ale.

ANISE - The seed of the member of the parsley family native to the Mediterranean area yields this delightful food flavoring. It is also used to flavor medicinals, tooth pastes, perfumes, and beverages.

STAR ANISE - Although very similar to the regular anise in flavor and aroma, the star anise (Figure 7) is not at all closely related to it. Star anise is an aggregate of fruitlets of a plant belonging to the magnolia family; the plant is native to southeastern Asia. Star anise is widely used in making candy and cough drops.

CUMIN - Cumin seed is derived from a member of the parsley family and is native to the Mediterranean area. Cumin has been used for centuries (it is even mentioned in the Bible) and supposedly has numerous magical and beneficial attributes. Today it is widely used in chili and curry powders, sauerkraut, and certain cheeses.

ALLSPICE - Allspice (Figure 8) is one of the few spices native to the New World and, as mentioned before, it was discovered by Columbus in the Caribbean. The name allspice is a bit confusing since many people think of it as a mixture of several kinds of spices such as one might find in a pickling spice mixture. Actually it’s the seed of a single plant which combines the aroma of cloves, cinnamon, and nutmeg - hence the name allspice. Allspice is delicious as a flavoring for many different kinds of vegetables and baked goods.

OREGANO - In this day and age of the pizza, one cannot fail to mention one of its most important ingredients, namely oregano. Before World War II hardly anyone in this country knew what oregano was. Or for that matter, what a pizza was. But all that has changed. Today vast quantities of oregano are imported to satisfy our newly acquired taste for Italian foods. Oregano is a member of the mint family and is native to the Mediterranean area.
Figure 7. Star anise.

Figure 8. Allspice.
BAY - The leaves of the sweet-bay or laurel (Figure 9) have been used for centuries as a symbol of victory, honor, scholarship, etc. But they also add a delightful flavor and aroma to stews, soups, sauces, meats, etc. The bay or laurel tree is native to the Mediterranean area.

Figure 9. Bay leaves.

THYME - Thyme (pronounced time) is another member of the mint family native to the Mediterranean area. We use it as flavoring in many foods, especially Creole seafood dishes.

CARAWAY - Seeds of this member of the parsley family are widely used in the making of bread, biscuits, cakes, sausages, cheese, and sauerkraut. In Europe, it is even used as a flavoring in an alcoholic cordial called kummel. The plant is native to Europe and is widely cultivated there as well as in North America.

TURMERIC - Turmeric is obtained from the dried and pulverized rhizomes of a member of the ginger family. The resulting powder is a brilliant yellow in color and hence is widely used as a coloring agent, especially in rice dishes in India and China. It is also used as a flavoring agent and is a basic ingredient of curry powders. The plant is native to southeastern Asia.
CORIANDER - This spice is obtained from whole or pulverized seeds of a member of the parsley family native to Europe. The use of coriander as a condiment extends back at least 3000 years to the days of the Persian Empire. Coriander was also known to the Hebrews, for in the Old Testament, in the book of Exodus, manna is described as being "like coriander seed, white." The seeds have a mild and delicate flavor and are widely used in frankfurters (hot dogs), certain kinds of candy, baked goods, and as a basic ingredient in curry powders and pickling spices.

FENNEL - We all know what the term "marathon" means, but few realize that it is the Greek word for fennel. The battle of Marathon was fought on a field of fennel plants. The use of fennel seeds extends back many centuries. Wise men considered fennel as one of the nine sacred herbs that had magical medicinal qualities. Today we use fennel seed as a spice in various foods including bread, apple pie, Italian sausage, seafood, pork, and poultry. Although native to Europe, we import most of our fennel from India and Argentina.

MUSTARD - Two different species of mustard are used commercially, white and yellow. Both are native to Europe and southeastern Asia. As you might guess, the use of mustard extends back to prehistoric times. The name "mustard" is derived from "must-seeds." In Roman-occupied England these spice seeds were processed by soaking them in grape juice or "must." Powdered dry mustard has no particular or potent aroma. However, when mixed with water, grape juice, or other liquid, certain enzymes are activated which release the pungent flavor and aroma. Mustard, of course, has many uses. What would a hot dog be without mustard? The list of mustard uses as a condiment is almost endless. And I painfully remember all too well the infamous mustard plaster being slapped on
my chest when I had a cough or bronchial infection as a boy. Incidentally, mustard is not an ingredient of mustard gas. The gas just smells like mustard.

**GARLIC** - Garlic is a close relative to the onion. Both belong to the lily family, and it is the underground bulb that is utilized in both plants. Garlic is probably native to southern Europe and has been utilized as a condiment since the beginning of recorded history. Garlic is cultivated in the United States, with California being the top producer. It is available in many forms - fresh cloves or bulbs, garlic powder, garlic salt, minced garlic, and granulated garlic. It is, of course, immensely popular in Italian cooking. Unfortunately, the after-aroma is long-lasting and most unpleasant to non-aficionados. I well remember being almost suffocated when riding to work in the morning on crowded buses or street cars in Milwaukee. But it sure does taste good!

**HERBS** - The distinction between an herb and a spice is a tenuous one at best. In general, herbs refer to the foliage or leaves whereas spices refer to other plant parts. Both have essential oils, and both are used as flavorings or condiments. Familiar herbs include basil, lavender, marjoram, savory, parsley, chives, rosemary, sage, and many others. Many people prefer to grow their own herbs, even in a small windowsill garden. And you can't get them any fresher and more aromatic than that!

These are some of the many different spices that we use in our everyday living. If I have omitted one or more of your favorites, I apologize.
If you happen to be an educator, may I suggest an extremely fine educational kit about spices that is put out by McCormick & Company. It costs a few bucks but is well worth it. For more information write to:

McCormick & Co., Inc.
Grocery Products Division
414 Light Street
Baltimore, MD 21202

Selected References

