THE SPICE TRADE

A paper by

B. G. STONE

of I. A. Rucker and Bencraft, read to the Commonwealth Section of the Society on Thursday 27th February 1964, *with the Lord Sainsbury, Chairman, J. Sainsbury Ltd., and a Vice-President of the Society, in the Chair*

THE CHAIRMAN: It gives me great pleasure to take the Chair at this lecture. The spice trade is not only very important and very interesting but it also has a romantic and historical association with some of the great early explorers. I also have a personal interest in that only this year I visited one of the spice islands, namely Grenada. Whilst on this beautiful island I took the opportunity to visit one of the mace and nutmeg receiving centres of the Grenada Co-operative Nutmeg Association and saw the mace and nutmegs being graded.

It only remains for me to say how fortunate we are to have Mr. Stone, a great expert in the trade, to give us his paper this afternoon. I have pleasure in formally introducing him.

The following paper was then read.

THE PAPER

The term Spices can be loosely applied to three groups of produce: herbs, such as sage, rosemary, thyme; aromatic seeds like aniseed, fennel, caraway, and spices such as pepper, ginger, nutmegs.

Spices are mentioned in the Old and the New Testament on many occasions. Joseph was sold by his brethren to a camel train which was carrying spices to Egypt. But these spices were what we know to-day as aromatic seeds and herbs. Fennel seed, aniseed, coriander seed, sage and thyme, all sweet-smelling produce, were grown in Persia, Mesopotamia and Syria and carried through Palestine to Egypt by Arab camel caravans. It had been discovered that the leaves of herbs when dried in the sun retained their flavour and aroma. After being ground (probably between two flat stones) they were mixed with oils or ointments and used for religious ceremonies, burials, for dressing wounds, and for perfuming the body, in addition to flavouring food. Because of the preserving qualities of these aromatic seeds and herbs, the Egyptians used them mixed with cinnamon during the process of embalming. The trading movements in aromatics in these early times can be easily appreciated, but the frequent mention of cassia and cinnamon by historians of the period is more difficult to understand.

Cassia came from South China, and whether it was brought overland or by sea it had to come a very long way. It is generally thought that it was brought along the coast by traders in easy stages.

Cinnamon came from South India and Ceylon, and the trade was entirely in the hands of the Arabian merchants. Tales of its collection from districts in Arabia abounding in fierce reptiles and birds were put about by the Arabs in an endeavour to monopolize the trade and justify the high prices they asked. At the entrance to the Persian Gulf is the Island of Hormuz, which was used as an entrepôt port by the Arabs. As time passed a trade developed in new spices—pepper, cardamoms and ginger were arriving from India. From Hormuz cargoes were taken overland to Tyre, to Trebizond for Constantinople and also up the Red Sea for Alexandria.

About 1000 B.C. the Phoenician merchants were firmly established in Tyre trading with Alexandria, Greece, Venice and Genoa. Spices brought by the Arabs from India were bartered for seeds and herbs, and it was at about this time that spices first found their way through Genoa and Venice to Central and Northern Europe.

So highly were laurel and parsley valued by the Greeks and the Romans that they were used to decorate their heroes. From early writings it is certain that 500 years before the birth of Christ great faith was placed in the medicinal value and healing properties of all the herbs and seeds then known. I am afraid most of these claims were grossly exaggerated.

About 50 B.C. the Romans conquered Egypt, and Alexandria became an even more important trading centre. Spices were now becoming urgently wanted by Central and Northern Europe, and as the trade increased so the Romans imposed duties on spices exported from Alexandria. When Constantinople became the capital of the Roman Empire in A.D. 400 its business expanded rapidly. At the end of the tenth century Constantinople and Alexandria were the leading cities distributing spices brought from India and the East, but the balance of trade was about to change. The way in which the monsoons carried the little sailing vessels of the Arabs across the Indian Ocean and back again was now known to the Egyptians, and the Phoenician merchants were competing fiercely with Constantinople and Alexandria.

The demand for spice was insatiable, and prices and profits rose accordingly. By the twelfth century pepper had found its way to England, and the Pepperers' Guild, forerunner of the Grocers' Company of to-day, was founded.

By A.D. 1200 Venice had become the centre of the spice business in the Mediterranean, but at the end of the thirteenth century came the first of several important voyages which not only changed completely the distribution of spices but made world history. To appreciate fully the fearlessness and the determination of the men concerned and the reason for their journeys one must realize that the ships of their time were sailing vessels of about 100 tons, but the profits on the spices amounted to 500 or 600 per cent.

In 1270 Marco Polo left Venice on a peaceful visit to the Court of Kubla Khan by way of Asia Minor, Persia, Turkestan, across the Gobi Desert and then North towards Peking. In China he was astounded at the large stocks of pepper, cloves and nutmegs which had been imported from the East Indies. After seventeen years he returned by sea by way of the East Indies and Ceylon to the Persian port of Hormuz. Hormuz was still a very important transit port, and here too Marco Polo

was amazed at what he heard and saw. His next adventure was fighting for the Venetians against the Genoese. He was taken prisoner and while in custody he wrote his memoirs, copies of which found their way to explorers in other countries.

For a number of years the Portuguese had realized how much could be gained if a way to India could be found round the Cape of Good Hope. Middlemen's profits would be cut out and a continual supply of spice assured. Constant probing along the Coast of Africa by Prince Henry the Navigator and Diaz, who actually rounded the Cape of Good Hope, provided important information for Vasco da Gama, who in 1497 sailed round the Cape, along the East Coast of Africa and then to Calicut, returning to Lisbon with a cargo of spices. A new era had begun.

From 1500 to 1600, Portugal enjoyed the prosperity of the spice trade previously held by Venice, and further exploration had made contact with China, Japan and the East Indies. At about the same time Columbus with the blessing of the King of Spain was sailing westwards, trying to find a back way to the Spice Islands. The story of his efforts is well known, and although he failed in his mission he discovered the New World and what are now known as the West Indies.

With the knowledge obtained from the efforts of Marco Polo, Vasco da Gama and Columbus, Magellan set out from Spain and succeeded in doing what Columbus had hoped to do. His ship circumnavigated the world, and although he himself was killed in the East Indies a cargo of spices was brought safely home. Any hopes Spain may have had of becoming a power in the spice trade were destroyed with the Armada in 1588. In 1577 Francis Drake set out in the *Golden Hind*. He followed Magellan's route and succeeded in reaching the East Indies. He filled the holds of his ships with spices and returned round the Cape of Good Hope, arriving in England three years later. There now followed a series of voyages by other English ships, but the cargoes of spice they brought home were not always obtained by peaceful trading with the producers. At the end of the reign of Queen Elizabeth I the East India Company was formed.

At the beginning of the seventeenth century came the Dutch. Van Houtman and Van Neck both reached the Spice Islands via the Cape, and trading posts were established. The Dutch too formed an 'East India Trading Company' and the British and the Dutch both opposed the Portuguese and then each other. The Portuguese were eventually ousted, and then the Dutch obtained control of Ceylon and the East Indies with the exception of Borneo. 'In methods of commerce the fault of the Dutch, Is in giving too little and asking too much.' Whether this well-known jingle originated at this time I do not know, but it might well have done so. Having formally established military and trading posts in Java and the Celebes they proceeded to destroy not only large proportions of the existing stocks of nutmegs, mace, pepper and cloves but also the trees and the vines. The purpose of this short-sighted policy was to force up prices and maintain a monopoly. A similar procedure was carried out with cinnamon in Ceylon, and needless to say such operations were not popular with the natives.

The British through the East India Company now concentrated in India, and by 1800 the Dutch were finally ousted from that continent and Ceylon. In the meantime the French and the British had taken steps to obtain supplies of nutmegs

and cloves. The French introduced cloves into Mauritius, whence they found their way to Zanzibar, Pemba and Madagascar, the British did the same with nutmegs and cloves in Penang, and by the middle of the nineteenth century nutmegs and mace were being grown in Grenada.

So, briefly, the spice traders were first the camel trains from Mesopotamia, then the Arabs and the Egyptians, the Phoenicians, next the Venetians followed by the Portuguese, and finally the British and the Dutch.

At the beginning of the twentieth century, with the exception of the Dutch East Indies and Madagascar practically all other countries exporting spices were under British jurisdiction. A great deal of the business with Java was done through the Dutch merchants in Holland, but the produce of India and Ceylon, the West Indies, Africa, Zanzibar and even the Chinese cassia shipped from Hong Kong were sold through the London market. Singapore was the largest transit port in the world for Eastern produce, and British merchants were firmly established as exporters of pepper, nutmegs and mace obtained from Java, Sumatra and the Celebes. Buyers all over the world made their purchases in London, and weekly auctions of spices were held in Mincing Lane until just after the First World War. With the advent of forward business the spot trade decreased and overseas consumers bought their goods for direct shipment from the country of origin but through London merchants.

A flat rate of 4*s* 6*d* per cwt. on pepper and 10 per cent on spices is charged on all imports into the U.K. from countries outside the Commonwealth. Most of our requirements come in under the preferential tariff.

Herbs, however, are few: mint from South Africa and sage and marjoram from Cyprus. Most herbs come from the Mediterranean countries, but sage, parsley, thyme and mint of excellent quality are grown commercially in England. Mint is made into mint sauce or mint jelly, and parsley, sage, thyme and marjoram all go into various poultry seasonings.

Whereas the housewife handles and may even grow the herbs she uses, the occasions on which she actually uses aromatic seeds are rare. Caraway seed from Holland, perhaps—but seed cake is not as popular as it used to be.

Cyprus supplies a very small quantity of aniseed and cumin seed, but within the Commonwealth India is the main producer of aromatic seeds: fenugreek seed for curry and for flavouring cattle food, coriander seed and cumin seed for curry powder, dill seed for pickles and dill water, and celery seed, which has increased in popularity recently, and is used in soups, stews and savoury biscuits.

Morocco supplies a very large proportion of coriander and fenugreek seed to world markets, and the internal consumption in India is so large that Morocco ships coriander seed to Ceylon, Malaysia and the West Indies and it is nearly all used in the manufacture of curry powder in those parts.

Pepper is considered the most important spice, as its consumption is international. Sarawak is the largest Commonwealth exporter to the U.K. The Sarawak Government has given the grower help both financially and with the marketing of the pepper. Shipments of both black and white have the bags sealed by the Customs, showing Sarawak as the country of origin and in some cases indicating the quality

of the contents of the bags. The fruit or berries grow on spikes, similarly to red currants. Black pepper and white pepper come from the same plant—a vine rather like the hop. If black pepper is required the berries are picked before they are fully ripe and dried in the sun. White pepper is prepared from berries picked when fully ripened, soaked in water for about ten days and then their outside skins removed by rubbing, usually with the feet!

India produces about 25,000 tons of black pepper a year, out of which 13,000 tons are shipped to the U.S.A. and 7,000–8,000 tons are used for home consumption. Most of the pepper produced in Ceylon is either consumed locally or shipped to India. Cinnamon, however, is the most important spice shipped from Ceylon, and the bulk of it goes to Central America. It is a flavour well liked in all countries at one time under Spanish influence. From the Seychelles comes cinnamon bark, and practically the whole of the output is shipped to the U.K., where the bulk of it is used in the manufacture of ground mixed spice and ground cinnamon.

Zanzibar is the largest producing area in the world for cloves. Until the late 1930s practically the whole crop, amounting to about 10,000 tons annually, was used for distilling the oil from which Vanillin was made; vanilla flavour could be produced much more cheaply from clove oil than by using the Vanilla bean. Chemists discovered, however, that it could also be made from coal, and later from wood, even more cheaply. So important is the clove business to Zanzibar that the economy of the island is dependent on the industry. When the demand for cloves for distilling declined there came a new demand from Indonesia for the manufacture of cigarettes. To discourage the chewing of betel nuts there the Dutch introduced cigarettes made from local tobacco mixed with shredded cloves, and to a large extent this had the desired effect. In recent years Indonesia has taken on an average 6,000 tons of Zanzibar cloves annually.

Uganda, Kenya and Tanganyika and Nigeria ship chillies and capsicums. Although India produces by far the largest quantity, these are all used for home consumption. In the U.K. the demand for chillies has declined because the use of heat treatment for rheumatic ailments has caused a sharp falling off in the demand for wool impregnated with capsicin, which is obtained by distilling the chillies. America draws supplies from Mexico and the Southern States of the U.S.A.

From Jamaica, India, Sierra Leone and Nigeria comes ginger—a popular flavour in the U.K. Jamaica produces the best variety, clean, peeled and of good flavour. Sierra Leone ginger is the hottest. Ginger was introduced into Nigeria by the British Department of Agriculture in 1930 and grown from cuttings brought from Jamaica. In the early days an excellent peeled ginger was produced, but since cultivation was handed over to the local growers the quality has declined sadly. As with so many spices, the Indian crop is the largest, and once again much of it is required for their own use. In addition to the America demand of about 1,500 tons a year, and rather more to the U.K. and Europe, up to 3,000 tons are shipped to Aden and the Persian Gulf ports for distribution to the Arabs.

In addition to ginger, Jamaica grows pimento, better known perhaps as allspice, so important as a flavouring in the sausage trade and pickling trade of Europe. Many attempts have been made to cultivate this tree in the East, without success.

Although the plants have grown they have never borne fruit. Pimento berries have to be picked before they are ripe, and dried in the sun. If they are allowed to ripen they become soft and lose their flavour.

Grenada is now one of the major producing areas for mace and nutmegs and the bulk of the island's output is shipped to New York and London. In Grenada more care and attention is paid to the cultivation and the preparation of the nutmegs for shipment than in Macassar, and consequently there is far less risk of the produce arriving at its destination in a wormy condition. Nutmegs are grown to a small extent in the islands of Trinidad, St. Lucia and St. Vincent, and small shipments of mace and nutmegs are also made from Ceylon.

Returning to India again, there is turmeric. Not only is it an essential ingredient of curry powder, but many Indians powder turmeric and sprinkle it on all kinds of food. The total crops amount to something like 15,000 tons annually, and nearly all this is consumed in India. It is exported to the U.S.A. and the U.K. for the pickle trade and for the manufacture of curry powder. It is also used in Arab countries as a dye.

Cardamoms are cultivated in Southern India and Ceylon. Although they have a very pleasant aromatic flavour, the fact that the price is normally very high precludes their extensive use in curries or seasonings. Scandinavia is the chief consumer in Europe, Sweden particularly, where the seeds are used in bread, pastries and biscuits. Apart from internal consumption shipments are made to the Arab countries, where they are eaten before, during and after a meal. Cardamom seeds have value as a carminative, and possibly this assists the Arabs in showing their appreciation of their food in the recognized manner.

Outside the Commonwealth, pepper from Indonesia is probably the most important of all the other spices. White Muntok pepper, noted for its pleasant flavour, is grown on the Island of Banka between Sumatra and Singapore. Lampong black pepper is shipped from Southern Sumatra. The political situation in Indonesia during the past few years and the present attitude of the Indonesian government towards Malaysia make it extremely difficult to assess the situation in the future.

Brazil now supplies the needs of the South American continent, and shipments of both black and white pepper are being made to New York and to Europe. It is over 100 years since rubber, indigenous to Brazil, was transplanted to the East Indies; now the reverse has happened with pepper.

Since the days when the Portuguese sold their pepper to the Antwerp merchants this commodity has always had a fascination for speculators—one might even say a fatal fascination. Within living memory three attempts to corner the market have ended in failure, and more fortunes have been lost than made.

Cassia lignea from China was formerly used extensively as a basis for ground mixed spice, and its aromatic flavour was appreciated in all parts of the world. Since 1955, however, the Chinese have asked prices out of all proportion to the value of the article and the trade has virtually disappeared. America buys cassia from Viet Nam, and this quality is the finest flavoured of all cassia. American and European buyers take a quantity of cassia vera, a sweeter quality but less aromatic than

cassia lignea, which grows in Sumatra, and although this grade was rarely used in the U.K. before cassia lignea became so dear, it is now used here in the manufacture of ground mixed spice.

There is another grade of cassia known as cassia fistula which grows in the form of a long pod and contains a black treacly substance known as Confection of Senna. It is used commercially by manufacturing chemists as an ingredient in laxatives. I mention this because in many old writings there are references to senna and to cassia which may otherwise be difficult to understand.

Paprika may almost be termed a 'modern' spice. It is the ground product of sweet red pepper or capsicums, produced in Spain, Central Europe, Mexico and the Southern States of America. It is extremely popular in the countries where it grows, and in recent years consumption in the U.K. has grown considerably. This probably arises from the increased number of people who spend their holidays abroad—particularly in Spain—and return with a desire to experiment with Continental recipes and to eat such dishes when dining out in this country.

Capsicums will grow practically anywhere in a tropical or sub-tropical climate, but change of soil and conditions may completely alter the resultant fruit in shape, size and heat. The plants now producing paprika in Spain were originally extremely hot capsicums from Mexico. The story is that the King of Spain sent one of his noblemen to the New World to bring back tobacco as Sir Walter Raleigh had done. He described it as 'fire in the mouth'. The explorers collected capsicums, which they certainly found very hot in the mouth, and filled their holds with their discovery. We are not told which particular torture was meted out to the nobleman on his return.

Nutmegs and mace still come from Macassar, but at the moment supplies are very limited since previously most of the cracking, grading and sorting was carried out by Chinese dealers in Singapore.

The French tariffs give such preference to produce from territories allied to France that practically all the cloves, cinnamon and pepper from Madagascar, the pepper from Viet Nam and the chillies from African countries are shipped to France.

I mentioned earlier that in 1939 London was the chief market for spices. It is to be regretted that we can no longer claim that position. There are three main causes for this decline. Firstly, during and after the war buyers came into contact with overseas suppliers and by-passed London. Secondly, the native merchants in producing areas have made or have been able to obtain sufficient funds to market their produce without the help of London finance. Thirdly, the granting of independence to most of our one-time colonies has resulted in their governments' giving every encouragement to their own nationals in their activities as exporters, and in very many cases the British merchant has been ousted. Furthermore many spices are now sold through Government-sponsored Marketing Boards. There are for instance the following:

Grenada Co-operative Nutmeg Association—*West Indian Mace and Nutmegs*
Zanzibar Clove Growers' Association—*Zanzibar Cloves*
Sierra Leone Produce Marketing Board—*Sierra Leone Ginger*

Nigerian Marketing Board—*Nigerian Ginger*
Ministry of Trade and Industry, Jamaica—*Pimento*

Whether these systems are satisfactory to growers and consumers only time will show, but it need not be assumed that because a Marketing Board is selling the produce the grower is obtaining a better price than if his goods were sold in the open markets through normal channels. Fixed prices also have the effect of discouraging consumers and merchants from holding stocks. This is particularly apparent in the case of those commodities of which the selling organization will sell half a ton to a buyer in, say, Helsinki at the same price as it will charge to a London distributor for ten tons.

Singapore has, temporarily at any rate, lost the outstanding position it held as the largest entrepôt port for spices in the Far East. For political reasons Indonesia will not sell its pepper to Malaysia, and the same applies to mace and nutmegs. Singapore has also lost a great deal of the pepper trade from Sarawak, but for an entirely different reason. For many years the Chinese bulkers in Singapore have debased the quality to such an extent that the Sarawak shippers, encouraged by their Government, are successfully doing their utmost to sell direct to the U.K. and European markets.

Bulk-buying by governments also reduces the turnover of business passing through markets.

One of the outcomes of these changes is that whereas previously one could rely on the quality shipped against forward contracts, to-day, with lack of European supervision, this is not the case. With practically all raw produce it is essential to ensure that the commodity is properly dried before shipment, but in recent years there have been many instances where this essential has been ignored. In consequence parcels of ginger, capsicums and pepper have arrived mouldy and musty and of course having lost more than the average weight.

In most trading centres—London, Hamburg, Rotterdam, New York—business is carried through on a similar basis. The importer buys from the overseas supplier and then sells through a broker or agent to a dealer, grinder or distiller. The dealer plays a most important part in any market, holding stocks and being prepared to sell and buy forward delivery.

Apart from distillers who extract the oil from ginger, cloves, pimento or cinnamon for the drug trade, there are the mineral water and cordial manufacturers, and, of course, essence manufacturers.

Some distillers are making a comparatively new product which is being sold to food manufacturers here and more particularly in America. It consists of varying bases, salt, dextrose, wheat flour, impregnated with the oleo resin of the spice required. It is rightly claimed that the colour and flavour are always consistent and that the product is free of any bacteria. It must not be overlooked however, that whereas most herbs and spices act as a preservative, compounds made from oleo resin do not.

Apart from those spices used by distillers and in the pickling trade there is a small business in whole cloves, ginger, nutmegs, cinnamon. Generally speaking, however, the chief trade is in powder form.

There are millers in the U.K., America and Germany who clean, grade, grind, blend and distribute to the manufacturers and to the retailers either as a straight grind or in the form of ground mixed spice, curry powder or sausage seasoning. Among manufacturers are the makers of sausages and meat products, soups, sauces, cakes, biscuits and confectionery.

Meat products in the U.K. are not spiced as they were formerly. This applies particularly to sausages, which in flavour are not now comparable to the product of the butcher who made his own with seasoning made from his own recipe. Possibly this is due to bulk manufacture and the consequent keen competition, but perhaps it is because shoppers feel that specks of black pepper and sage should not be visible in the sausages and prefer to buy something very pale.

Thirty years ago nearly every housewife made her own Christmas puddings, cakes and mincemeat and did her own cooking during the year, but nowadays so many families buy prepared foods that the retail trade in ground spices has fallen away. Bulk manufacture reduces wastage and manufacturers use the minimum amount of flavouring. In New York the American Spice Trade Association does a great deal to bring spices before the notice of the public, and it has often been suggested that the trade in this country should make some effort to further the consumption here. It is my opinion that the retail sale of spices could be increased considerably if established selling organizations took an interest. The demand is there, but the average retailer usually stocks a few miserable-looking cardboard drums of ground white pepper and ground mixed spice of the lowest possible quality. Every woman's magazine is full of recipes suggesting the use of many kinds of flavourings, but they are not easy to obtain. Many households to-day have a table pepper mill, but to buy whole black pepper for it is a major operation. It seems extraordinary that in spite of a 10 per cent import duty several supermarkets are selling American and Canadian packed spices and herbs.

Spices generally are expensive to stock, and it is not always realized that it costs the retailer as much to buy, say, a pound of nutmegs as it does to buy 10 lb. of jam or biscuits which can probably be turned over far more quickly. This may well explain why a retailer will say that such and such a spice is unobtainable. However, it must not be assumed that the spice trade has left London—far from it. The knowledge of the commodities and their countries of origin, sound contracts and the integrity of the London merchant, still attract a great deal of overseas business, and will continue to do so for many years to come.

DISCUSSION

THE CHAIRMAN: You have already shown by your applause your appreciation of Mr. Stone's very interesting paper, but I should like to thank him on behalf of the Society, because I think we would all agree that a tremendous lot of knowledge and experience and work has gone into its preparation.

GROUP CAPTAIN H. ST. CLAIR SMALLWOOD, O.B.E. (Hon. Secretary, Royal Central Asian Society): A little while ago I was in the Maldive Islands, north of the Seychelles, and they seemed to me to be a possible field for spice growing, particularly in view

of the very disturbed conditions in Indonesia. I suggest a reference to the Commonwealth Relations Office in this connection.

THE LECTURER: I have never heard of any spice coming from the Maldive Islands, unless it is normally shipped to the mainland somewhere and we know it under a different origin.

MR. A. S. MANI, B.SC. (India House): As a producer of spices and also a net exporter, India is greatly interested in expanding the export of spice. The speaker pointed out that there is demand in this country for spices. I should like to know whether this demand is growing, whether it is an elastic or an inelastic one and whether poor countries—developing countries—which produce spices can afford increasing expenditure in foreign currency?

I should also like to know whether the speaker, with his experience of the spice trade, could put forward concrete proposals for collaboration between the producing countries, and for encouraging the increased use of spice by propaganda through the medium of press, radio and television?

THE LECTURER: I should say that the demand for spices from India is elastic, and a lot depends on price. Many articles which come from India also come from other countries. Ginger comes not only from India but also from three of four other countries. Coriander seed is a very big Indian crop, but invariably the price of this and Indian fenugreek is high, and we can buy these seeds from Morocco.

As far as increasing consumption is concerned, you have got to get the man in the street to eat more spice, and spiced goods, and no one is going to carry bigger stocks until that happens. Also, many overseas suppliers think the business can be done two or three times. If a buyer in Hamburg buys goods through London, it is no good the overseas suppliers thinking they are going to get the order both from London and from Hamburg, and that is what they have been doing in the past.

SIR GILBERT RENNIE, G.B.E., K.C.M.G., M.C. (Chairman, Commonwealth Section Committee): With regard to this question of trying to make the consumption of spices rather larger in this country than it is at the present time, may I ask whether the actual packaging of spices could not be made more attractive? For example, in our own household recently my wife produced a very neat little pack of about half a dozen of the more popular spices which she uses from time to time. I feel that if in some of the shops and supermarkets there were attractive little packs containing samples of some of these spices people would be tempted to try them, and in time make good use of them.

THE LECTURER: I agree with you. There are one or two packers here tonight, and perhaps that idea will impress them.

SIR ARTHUR KIRBY, K.B.E., C.M.G.: I was very interested to hear what Mr. Stone had to say about cloves in Zanzibar, which, I thought, were introduced by Sultan Seyid about a hundred years ago. Our problem there was the almost complete dependence of Zanzibar upon the Indonesian market, and in an endeavour to widen that market we had the idea of selling clove cigarettes in America. It seems impossible to shred a clove in such a way that it can be passed through a cigarette making machine; almost all the cigarette making in Indonesia is done as a cottage industry and rolled by hand. If anybody in this room can find a way to shred cloves in such a fashion that they can pass through a machine we should be grateful to know, because we feel that if the Americans will smoke menthol cigarettes then they will smoke clove cigarettes!

MR. S. BRIGHTWELL: Would the speaker care to differentiate between paprika and cayenne pepper? Secondly, would he comment on the apparent paradox that spices

are said to be preservatives and yet there is a lot of advertising in the trade which suggests that spices contain bacteria?

THE LECTURER: Cayenne is a hot pepper, such as you would like to sprinkle on oysters, but paprika is a softer pepper; it can be of varying degrees of sweetness. I believe the original plant was the hot pepper, a hot chilli, which was indigenous to Mexico and was brought to Europe from Mexico. It loses its heat sometimes, changes its shape when it is cultivated in another climate, and I am pretty sure that the Spanish Paprika, which is sweetish flavoured, came from the hottest chillies originally. If you brought cayenne pepper you would expect to have a hot pepper, but I believe it has been known for poor coloured capsicum or chillies to be ground up and mixed with paprika to give it a bit of colour.

Regarding bacteria in spices—what is wrong with bacteria? I had an American in the office a few months ago, and he was telling me that America is bacteria-mad, everything must be free from bacteria. In consequence they get gippy tummy when they come to England, in the same way that we do when we go to India. I think the best thing to do is to eat as much bacteria as you can without making yourself ill!

THE CHAIRMAN: I do not think it would be right for me to comment on that! May I just thank Mr. Stone once again, and thank the audience for attending this meeting.

The vote of thanks was carried with acclamation, and the meeting then ended.