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RUBBER

An Economic and Statistical Study

RUBBER

An Economic & Statistical Study

BY

JOSÉ CARLOS DE MACEDO SOARES

Preface to the Brazilian Edition by

DR. ANTONIO CARLOS RIBEIRO DE ANDRADA

PRESIDENT OF THE BRAZILIAN STATE OF "MINAS-GERAIS"

and a

Preface to the English Edition by

PHILIP SCHIDROWITZ, Ph.D. (Berne), F.C.S., F.I.R.I.

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PREFACE TO THE BRAZILIAN EDITION

•
WITHIN the compass of this small volume M. José Carlos de Macedo Soares has focussed one of the biggest problems in the economic life of Brazil ; and the ideas he propounds and develops should be carefully weighed and considered by all those in Brazil who, directly or indirectly, control the nation's destinies.

The problem is that of rubber production in the great valley of the Amazon ; and the ideas, if adopted and applied, will spare the country the difficulties that almost certainly lie ahead of it, and will therefore ensure in time the consolidation and successful development of one of our principal sources of wealth.

So long as natural advantages gave us a virtual world monopoly of production and supply, the rubber-extracting industry was in a strong position and enjoyed great prosperity, and for more than a decade it made the extreme north of Brazil a region where fabulous fortunes and enormous profits could be compiled. Then the industry fell upon evil days, and steadily declined until it almost entirely vanished ; while the cultivation of our rubber plant was steadily and systematically organised in other

parts of the world, although natural conditions were less favourable for rubber growing than in the region of the Amazon.

M. Macedo Soares deals exhaustively and in masterly fashion with the history and causes of the decline of the Brazilian industry, the growth of competition and the reasons that led to the ultimate triumph of Brazil's competitors.

Among the causes of decline are the unfortunate neglect on the part of the various Governments, which—though not indeed without valid reasons—have always refrained from interference in the matter. Fortunately for us, however, it is not yet too late for Government intervention.

Of the various arguments favouring immediate action, two are of primary importance. The first is that in the interests of our own economic development we cannot allow so prolific a source of wealth to remain in its present neglected state. The second is that it is our duty to assist, with the help of our unexploited and surplus raw materials, the industrial development of other countries which urgently need those materials.

Despite the vicissitudes already mentioned, rubber is still to-day one of the staple articles of our export trade, and ranks next to coffee in Brazil's share of international commerce. Throughout the world rubber will be in more insistent demand than any other Brazilian product ; the markets of the big

countries will be thrown freely open to it and will before long be clamouring for it. Its natural habitat, where it will develop under better conditions than anywhere else in the world, is in the vast expanse of our own country.

We must reflect on these facts, and particularly on the woefully scanty variety of products figuring in our export trade, and their trifling value. We must bear in mind that we cannot compete with other countries in the export of agricultural produce or livestock, and that our country will find it hard to adapt itself rapidly and effectively to the production of any other commodity that can figure at all largely in the trade balance-sheet. If we remember all this we shall see how vital it is, in our economic interest, that official action should be taken at once to provide for the full development of rubber cultivation in our country, with its incomparably favourable conditions.

But there is yet another reason—the duty of nations to help each other to obtain raw materials, and thereby to provide each other with at least the means necessary for the existence of all.

No country has any right to hold up its natural wealth, or in mere greed to keep that wealth unexploited and untouched, so long as other countries require it to feed their industries and so keep their industrial populations from draining the nation's essential resources.

Any country whose leaders fail to adopt this policy of development is ultimately bound to suffer a rude awakening through the policy of expansion, which other countries will inevitably be driven to follow in collective or individual self-preservation.

Such a policy of expansion has fatal consequences, no matter whether in the form of an influx of foreign capital and labour or that of open or disguised political conquest.

In view of her limitless possibilities of production, Brazil, like all other new countries, must act promptly and unhesitatingly ; she must stem this stream of immigrant capital and labour, and so avert the evils that will almost certainly result from a policy of uncompromising imperialism.

In the particular case of rubber, the form of action which, for the reasons stated, the Brazilian Government must necessarily adopt is set forth soundly, judiciously and irrefutably in the present volume ; and the programme of State intervention it lays down is the only one the Government should be allowed to follow, particularly with reference to the protection of prices.

Many other arguments, all closely relevant, may be adduced from the pages of this book. They proclaim the author not merely a thinker but a cultured mind and a great patriot ; for, living as he does amid the well-known prosperity of São Paulo, M. de Macedo Soares reveals himself a staunch

champion of ideas and proposals which are of paramount interest to the north of Brazil.

It is my earnest hope that the arguments adduced and the conclusions reached by their distinguished fellow-countryman will receive the careful consideration of all who are able, directly or indirectly, to influence the future fortunes of our country.

ANTONIO CARLOS RIBEIRO DE ANDRADA.

PREFACE TO THE ENGLISH EDITION

BEFORE the development of the Plantation Industry Brazil occupied, both as regards quantity and quality, a dominant position in the production of crude rubber ; to-day Brazilian rubber forms but a small fraction of the total output, and this notwithstanding the fact that Brazil possesses many hundreds of millions of mature rubber trees. This change over has been brought about mainly as a result of the advantages with respect to facilities of collection, transport and labour which the plantation industry possesses when compared with “ native ” rubber.

In this volume M. Macedo Soares deals lucidly with the history of the Brazilian rubber industry and with the causes leading to its decline. In the light of the past, and more particularly of the experience gained with the development of the plantation rubber industry, he seeks the necessary moral, and proceeds to consider on what logical lines the latter can be applied to Brazil's needs, and more particularly to the re-vivification of her rubber industry. Viewed through Brazilian eyes the problem appears to be largely bound up with indifference and neglect on the part of the various State Governments con-

cerned, and it is suggested that the organisation of planting work, of labour and of transport must be taken in hand on national lines under State supervision.

In view of the immense latent wealth which Brazil possesses in the form of "wild" rubber, it will be of particular interest to English readers to note that the Author considers that success in the future can only be achieved on plantation lines. "Our watchword," he says, "must be to plant and to keep on planting." Whether successful competition with the Eastern plantations is possible is a problem of considerable intricacy. The future may show whether M. Macedo Soares' views are correct or not, but however that may be, he has certainly, in my opinion, produced a lucid and interesting volume.

PHILIP SCHIDROWITZ.

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CHAPTER I

STATE INTERVENTION. THE "RESTRICTION" OF • RUBBER AND COFFEE AS TYPICAL EXAMPLES OF SUCH INTERVENTION

ALL the financial questions of our day, and more especially those relating to the stabilisation of the currency, depend on an economic factor which cannot be evaded or changed—production—and its corollaries: the profitable sale abroad of the surplus products and the continuous use of the profits to increase production.

The desirability of State intervention in certain economic questions is generally admitted to-day. The State's right of legislation and the power of its credit give the Government authority in matters hitherto carefully kept outside its sphere of action. The old and justifiable mistrust of "Statism" in many fields is now past; the old conception of the individualist school that the State should levy taxes, dispense justice and maintain order, has had to give way to the need for the State to act as a co-ordinator of economic forces. Foreseeing crises, preparing remedies, conciliating rival interests, creating, developing or protecting production, legislating on customs and tariffs and giving protection in every

way—in short, helping or strengthening the national vitality, the modern State exercises economic functions as important as its old political and juridical functions.

Certainly we ought not to drive the policy of State intervention to extremes. We cannot toy with the idea of unredeemed communism as in Bolshevist Russia. We must reject excessive collectivism, which, while preserving individual property in wealth destined to meet personal needs, calls for the socialisation of the means of production. We even feel that we should avoid the extremes urged by “interventionists,” of whom List, Rodbertus and Lasalle were the pioneers, and who are under the twin flags of the Historic school and State socialism.

The ideal limit of State intervention was briefly outlined by Pope Leo XIII in the Encyclical *Rerum Novarum*: “The reason which determines the intervention of the laws fixes its limits: these laws must not go further than what is necessary to remedy errors or avoid dangers.”¹

* * *

The modern tendency is undoubtedly for the State to abandon monopolies and wherever possible to hand its undertakings over to private initiative. This at any rate was the advice given to Brazil by the British Financial Commission presided over by Sir Montagu, when it suggested the commercialisation,

¹ *Rerum Novarum*, iii. 49.

by the sale of shares of the Bank of Brazil, of the Lloyd Brasileiro and of the Brazilian Central Railway.

Not long ago Herbert Hoover, a statesman with Government responsibilities, writing a series of articles for the United Press, said that the State cannot produce cheaply, and that it will never distribute the dividends that private initiative can distribute, because the Government, as an administrator, cannot avoid the constant difficulties and waste which are inherent in bureaucracy and, above all, it cannot avoid direct or indirect political interference.

The opinion of the Secretary for Commerce of the Coolidge Government is explicit enough. The State has, in fact, proved a poor producer and a bad trader. It is not desirable, therefore, that it should take up such occupations. Its rôle is to follow closely rises in agricultural and industrial production and the general development of commerce, especially foreign commerce, in order through skilful and opportune intervention to co-ordinate and assist and keep the balance between antagonistic individual interests on lines which must at all times coincide with the supreme interest of the nation.

* * *

The Governments of most civilised countries, under whatever different political systems they function, find themselves obliged nowadays to collaborate

in an ever-increasing field with the representatives of production and labour. They ask for the help of the conservative classes, and offer their representatives seats on consultative boards which study economic questions. We shall probably succeed in obtaining political representation for those interests, which are of decisive importance in national life ; at all events we shall have to find a formula providing for practical collaboration in the making of laws with regard to them. These facts are increasing the responsibilities of statesmen, who are now obliged to consider a number of grave problems relating to production and commerce which hitherto they have always left untouched.

The rubber problem is a specific example of this new aspect of the economic politics of the world. The action taken by the British Government has led to the big Asiatic centres of production and has dislocated the very largest import and export markets ; and when the time came, it regularised the export trade in this product, ensuring that the long continuance of low prices should not destroy at its source the production of this form of wealth. The natural play of the old economic aphorisms would have attained the same results, but with an enormous loss of time and money. These instances of State intervention might be compared to surgical operations that cause an immediate improvement where natural evolution would move but slowly.

Lastly, the indignation of the consumer has had the result of throwing light on the economic policy of England in regard to rubber ; similar discussion has also taken place in the U.S.A. in regard to coffee, and the future of these two products is of the greatest economic importance for Brazil, both now and in the time to come.

To realise the vital importance of coffee and rubber in the economic and financial life of Brazil, it must be remembered that in the year 1926 she exported goods to the total value of £93,972,000, the value of the coffee being £69,582,000 and that of rubber £3,359,000. Thus, out of a total export value of a little less than £100,000,000, about four-fifths represents these two products—coffee and rubber. It is the seriousness of the situation that has led to the present study of the economic and statistical situation of rubber, which is now submitted to the judgment of the public interested in these matters.

CHAPTER II

THE EVOLUTION OF THE RUBBER INDUSTRY. ECONOMIC PROBLEMS.

THOUGH used by the Indians of America even before the days of Columbus,¹ rubber was not known to the scientists of Europe until the eighteenth century, when it was made known by two French scientists, La Condamine² et Fresneau.³ The evolution of the rubber industry can be described in a few words.

In 1770 Priestley popularised in England the use of elastic gum to erase pencil marks. In 1780 Berniaud showed that rubber could be coloured by mineral processes. In 1791 Grossart advised its use in the manufacture of surgical material. Benson, and later Champion, were the forerunners of Macintosh in the discovery of impermeable cloth. In 1820 Hancock began to study the possibility of rendering elastic gum stouter and stronger, and, examining some samples of rubber "metallized" by Goodyear, discovered what he called "vulcanisation," that is, the empirical process, for which even

¹ Barbosa Rodrigues, *As Heveas ou Seringueiras*, Rio de Janeiro, 1900, p. 7.

² Communication to the French Academy of Science, 28th April, 1745, and *Relation abrégée d'un voyage fait dans l'intérieur de l'Amérique méridionale*.

³ Bougrand, *Le Caoutchouc et son industrie*, p. 44.

to-day no complete scientific explanation has been given,¹ whereby the rubber is rendered stouter and very nearly proof against variations of temperature. After the discovery of vulcanisation, and thanks to its two most characteristic properties, elasticity and impermeability, rubber has been widely employed as the raw material for a number of industries.

In 1850 Reithoffer manufactured in Vienna the first rubber shoes. In 1868, for the first time, solid rubber tyres were put on bicycle wheels, and in 1888 Dunlop, on the basis of the researches of Thompson, manufactured the first rubber tyres for motor-cars. Since then this invaluable substance has become an integral element of that most important industry.

In a recently published book² two well-known British specialists, H. P. Stevens and B. D. Porritt, enumerate the uses of rubber in its very varied forms.

ECONOMIC PROBLEMS

Twenty years ago almost the entire world supply of rubber came from the native trees of the forests of America, Asia and Africa. Since then the plantations of *hevea* in the Far East have become so extensive that the main producing centres have been transferred from America to Asia.

¹ F. Jacob, *L'Industrie du Caoutchouc*, Paris, Béranger, 1923, p. 103.

² H. P. Stevens and B. D. Porritt, *Rubber and Engineering*, London, 1925.

In 1892, Brazil produced 61% of the world production; in 1910, her production was more than 50%; but to-day, the British Dominions and the Dutch colonies alone supply about 93% of the total production.

Professor Brunhes, of the Collège de France, gives the following facts :¹ “ In 1910 the output of native rubber was 62,000 tons and of plantation rubber one-eighth of that amount, *i.e.* 8,000 tons. In 1920, ten years later, the output of plantation rubber reached 360,000 tons, whilst the world output of native rubber was eight times as small. In ten years the proportion had been exactly reversed.”

This displacement of the large importing markets was the immediate consequence of this remarkable revolution in the production of rubber. Fifteen years ago, the large exporting markets were Belem and Manaos (Brazil) and, on a much smaller scale, Matadi for the Belgian Congo and Lagos for Nigeria. The chief importing market at that time was Liverpool. In 1912-1913 this British port alone received 57% of the world's production, re-exporting large quantities to France, Belgium, Germany and the United States.

To-day the most important importing markets are London, where the Rubber Exchange in Mincing Lane at present fixes the world quotation, and New York, which is the chief distributing centre for

•¹ Jean Brunhes, *La Géographie humaine*, Paris, Alcan, vol. i. p. 355.

the enormous quantities consumed by the North American industries. The other importing centres of Europe are : The Port of Havre, which receives part of the Brazilian production, and Bordeaux and Marseilles, which receive the production of the French colonies ; the production of the Belgian Congo goes to Antwerp ; Rotterdam receives rubber from the Dutch colonies ; Lisbon imports and re-exports the rubber from the Portuguese possessions ; Hamburg is the centre for importations into Germany, and Genoa for Italy.

At the present time the big exporting markets are Singapore, Colombo and Batavia, and on a small scale, for the Brazilian production, Belem (Para) and Manaos. Singapore collects the whole output of the British possessions in the Asiatic archipelago, and also that of Borneo, Java and Sumatra ; Colombo is the market for Ceylon and Indian rubber, and Batavia is the principal exporting port for Java rubber.

During the last ten years the most remarkable development ever known in the economic history of the world has occurred in rubber production, the excessively large output leading to a fall in the prices which still subsisted even after the Great War. Great harm was caused to the Brazilian output, which remained stationary. But the statistics of production and consumption which we give below show the policy that must be followed by Brazil.

where the true habitat of the precious commodity is situated. We do not intend merely to follow the British economic policy in protecting our small output ; we intend to increase this article of export by improving its quality, for we feel sure that this will mean an increased demand for the Brazilian product on the world market.

CHAPTER III

PRODUCTION OF RUBBER: WILD RUBBER; BRAZILIAN RUBBER; PLANTATION AND RECLAIMED RUBBER.

RUBBER is found in the form of small globules suspended in the sap of certain plants, and thirty years ago was obtained exclusively from wild trees ; to-day the *hevea* has been planted on an enormous scale by the English and Dutch in their far-eastern colonies, and more than nine-tenths of the world output comes from planted trees. This evolution is clearly demonstrated in the following statistics :

	1910	1923	
Wild rubber - -	88·2%	8·4%	of total production
Plantation rubber -	11·8%	91·6%	„ „

From the economic aspect, rubber offers a typical example of the possibilities of that modern phenomenon, the concentration of capital. It was English capital invested in large enterprises that made possible the enormous plantations of *hevea* in British Malaya, which, followed by similar action on the part of Dutch capitalists, created the immense agricultural wealth of the present day.

WILD RUBBER

The native trees chiefly exploited for rubber are the *hevea*, *castilloa*, *maniot glaziovii*, *hanconia speciosa*,

ficus and *landolphias*. The first four are commonest in America. The *ficus*, especially the following varieties—*elastica*, *fulva glomerata*, *indica* and *altissima*, in Asia and Oceania. In Africa the *landolphias* and a few species of the *ficus*.

In an excellent article published in the *Bulletin de la Société de Géographie*, L. Perruchot gives a detailed description of rubber geography, especially that of wild rubber.¹

BRAZILIAN RUBBER

We need not repeat how important the rubber problem is for Brazil. It is enough to recall, as a well-known expert did,² that sixteen of the States which comprise the Federation have interests in this valuable product, not to speak of Acre, which lives exclusively by it. "The protection of this industry and its future," wrote Raymundo da Silva, "constitutes not a local but a national problem. On its solution depend incalculable interests of an economic and financial nature affecting the whole country."

In Brazil there are four predominant varieties of rubber: *seringa*, *caucho*, *ceara*, and *mangabeira*.

The *seringa* comes from the *hevea* and from some euphorbiacæ commonly called *tapuru*, *curupita*, *murupita* and *seringarana*.

¹ *La Géographie*, Paris, 1912, No. 3, p. 193.

² Raymundo Pereira da Silva, Superintendent of the Brazilian Rubber Protection Office, in the Introduction of the Akers Report on the Amazon Valley.

The *heveas* are of numerous qualities ; the more common are *hevea brasiliensis*, *hevea discolor*, *hevea guayanensis*, *hevea rigidifolia* and *hevea spuceana*. The better quality, which is found only in the upper part of the Amazon, is called by the natives *black hevea*.

Heveas are large trees from 75 to 90 feet high. The diameter attains as much as three feet. The latex is collected when the waters of the river fall, principally from May to September. In the Amazon region, the latex, after it has been gathered, is coagulated by smoke. A tree may yield a pound of latex per day, and one native can attend to sixty trees.

The *caucho*, an inferior quality to the *seringa*, is obtained from the *castilloa elastica*, a tree measuring 45 to 60 feet high and 2 feet in diameter, very common in the upper Jurua and the valleys of the Purus, Madeira, Tapajoz, Xingu and Araguaya. The natives of the Amazon region, as well as those of Central America, when they work the *castilloa*, say that when once cut it dies, and therefore the cuts must be made after felling the tree, so that all the latex may be worked out.¹

The exploitation of *caucho* is thus described by Akers, in his report on the Amazon Valley : ² " The tree-trunk is first of all incised with a small hatchet up to eight feet from the base and the latex runs down into holes made in the ground close to the

¹ J. A. Mendes, " A Produção do Caucho," in the *Annals of the Commercial, Industrial and Agricultural Congress of Manaus*, 1910, p. 334.

² C. E. Akers, *O Valle do Amazonas*, Rio de Janeiro, 1913, p. 96. ,

foot of the tree. This process continues for a week or ten days, until the latex ceases to flow. The tree is then cut down and new cuts are made on the top part and also on the branches of the tree ; the latex flows for 24 to 30 hours, after which the tree is abandoned."

There is no doubt that this process of extraction destroys the source of production. It is called by the French "exploitation sauvage";¹ by the German "Raubwirtschaft";² and by the Swiss "Exploitation dévastatrice."³

This is not the place to say whether this method of handling the *castilloa* is suitable or not. Dr. Labroy, in his report on rubber,⁴ attempts to defend the practice of destroying the *caucho*, claiming that it is the most economical process.

Ceara rubber is supplied by the *maniot glaziovii*, commonly called *manicoba*. Its habitat is in the States of Piauhv, Ceara and Bahia. Some authorities say that *ceara* rubber is the best for the vulcanisation process.

Mangabeira rubber (*hanconia speciosa*), an inferior quality, is very common in the northern States, in the north-east and in central Brazil.

In Brazil there are many other trees that give rubber, but either are not common enough to be

¹ J. Allix, "Production du caoutchouc dans le monde," in the *Archives de géographie*, vol. xxxii., 1923, p. 455.

² Maurette, *Les grands marchés des matières premières*, Paris, 1925, p. 134.

³ Jaccard, *Géographie économique*, Lausanne, Payot, 1925, p. 138.

⁴ Dr. O. Labroy, *A Borracha no Brasil*, Rio de Janeiro, 1913, p. 147.

systematically exploited or produce very inferior qualities. Such are the *massaranduba* (*mimosopus elata*), the *oiticica* (*soarezia nitida*), the *bocapori* (*platonina insignis*), the *suciba* (*plumeria phagedenica*), the *embauba* (*cecropia peltata*) and the *figueria brava* (*ficus anthelmintica*).

PRODUCTION IN BRAZIL

The economic and financial organisation of rubber production in Brazil has never emerged from the rudimentary stage. The latex is extracted almost entirely from wild trees on private property. The *seringueiro* (rubber gatherer) regulates his output according to the scale of his profit; hence the exaggerated curves of production statistics.

The workers in the rubber areas devote themselves only to the extraction of the latex. The other products, even those that are more necessary to life, are wholly neglected, the reason commonly given being that the difference between the price of rubber and of other produce is such that the workmen only trouble about the latex. The *seringueiro* is usually a partner in the business rather than an employee.¹ The latex extraction, when rubber fetches lucrative prices, is carried on continuously, weather conditions permitting. No rest is given to the rubber trees, even in the months of August and September, when they require all their sap for their physiological needs.

On account of the difficulty of obtaining the latex

¹ Senator Eloy de Souza, *A Crise da Borracha*, Rio de Janeiro, 1915, p. 8.

from the wild trees, the natives adopt more rapid processes, which as a rule are most harmful to the trees ; they still use hatchets, although it is recognised that knives specially designed for the purpose cause less serious lesions. The native confines himself to taking the latex, smoking it by means of his local resources and selling the produce thus obtained immediately, without taking any special care to improve its quality. Undoubtedly the Brazilian process of fumigation enables every layer of the ball to be impregnated with an antiseptic-creosote—and acid-acetic—which are obtained from the fumes of burnt cocoanuts from the *urucury*, *uahuassu*, and other palms. But the mixture of rubber-milk from different trees and the impurities of all sorts, such as soil, leaves, wood, etc., which are present render it impossible to obtain the quality demanded by the industry.

Lack of capital to invest in the production of rubber renders the landowners dependent on the commercial firms of Para and Manaos, in the same way as the native depends on the landowner. Naturally this state of affairs cannot last. It is the business of the Government of the Union to organise agricultural credit so as to enable the exploitation to be more regular and especially to increase the plantations. Brazilian rubber statistics are very incomplete. In 1925 the President of the State of Para ordered the organisation of a statistical service.

The Commission appointed by the United States Department of Commerce to study the production of rubber in the valley of the Amazon has prepared the following statistical table : ¹

	Amazon Region (tons)				Other Countries (tons)
	Brazil	Peru	Bolivia	Totals	
1912	38,173	2,814	4,080	45,067	4,114
1913	34,450	2,780	5,143	42,373	1,781
1914	31,714	2,272	4,485	38,471	1,817
1915	31,555	3,401	5,055	40,011	3,611
1916	28,868	2,812	4,917	36,597	2,627
1917	31,595	3,295	5,842	40,732	2,403
1918	22,215	1,737	4,288	28,240	446
1919	32,251	3,232	5,347	40,830	1,001
1920	22,927	4,781	3,759	28,164	661
1921	17,182	133	2,844	20,159	257
1922	19,483	607	3,079	23,169	373
1923	17,991	567	2,979	21,537	—

The following statistical table, taken from a book by Akers, the well-known expert, gives an idea of the Brazilian production in tons from 1822 to 1911 : ²

1822	-	31	1892	-	18,609	1902	-	29,890
1828	-	51	1893	-	19,430	1903	-	32,590
1829	-	91	1894	-	19,470	1904	-	33,090
1830	-	156	1895	-	20,975	1905	-	34,680
1840	-	388	1896	-	22,320	1906	-	37,540
1850	-	1,467	1897	-	22,260	1907	-	36,650
1860	-	2,673	1898	-	25,355	1908	-	38,511
1870	-	6,591	1899	-	28,695	1909	-	39,494
1880	-	8,679	1900	-	27,650	1910	-	38,177
1890	-	16,394	1901	-	29,971	1911	-	44,296
1891	-	17,790						

¹ *Rubber Production in the Amazon Valley*, Trade Promotion Series, 23, Washington, Government Writing Office, 1925, p. 3.

² Akers, *Relatorio sobre o valle do Amazonas*, Rio de Janeiro, 1913, p. 102.

The Brazilian harvest until 1914 was registered by calendar years, but since 1894 it has been established in accordance with the extracting season, from 1st July until 30th June of the following year. For the last few years the statistics are as follows, according to S. Figgis & Co. : ¹

	1920	1921	1922	1923	1924	1925
Receipts at Para -	28,160	20,217	21,512	21,401	24,148	27,386
Shipments from						
Para - -	29,000	17,900	21,700	21,900	24,100	25,207

The receipts at Para until 1928 were : ²

1925-1926	-	-	-	28,637 tons
1926-1927	-	-	-	28,300 „
1927-1928	-	-	-	28,152 „

The *Retrospecto Commercial* of the daily paper *O Jornal do Commercio* (1928) publishes the following figures for Brazilian rubber exports : ³

Years	Metric tons	Value by Kgr. in milreis	Total value in milreis (paper)
1913	36,232	4 \$295	155,631:000 \$000
1914	33,531	3 \$388	113,598:000 \$000
1915	33,500	3 \$861	135,786:000 \$000
1916	31,495	4 \$834	152,239:000 \$000
1917	33,988	4 \$153	144,080:242 \$000
1918	22,661	3 \$266	73,727:818 \$000
1919	33,252	3 \$174	105,532:000 \$000
1920	23,531	2 \$476	58,350:000 \$000
1921	17,439	2 \$059	35,904:000 \$000
1922	19,205	2 \$825	48,760:000 \$000
1923	18,455	1 \$228	81,177:000 \$000
1924	21,568	3 \$443	79,212:000 \$000
1925	23,537	8 \$149	191,803:000 \$000
1926	23,253	4 \$940	114,877:000 \$000
1927	26,186	4 \$052	106,121:000 \$000

¹ ² ³. See following page.

We have extracted from the *Revista Commercial*, published in Manaus by Mr. Ermelindo Silva, the following figures regarding receipts from rubber in the large Brazilian market, including the production from neighbouring countries (Bolivia, Peru, Colombia and Venezuela), (in Kgs.) :

1907-1908	-	24,348,428	1916-1917	-	27,793,497
1908-1909	-	24,785,324	1917-1918	-	27,609,091
1909-1910	-	27,432,739	1918-1919	-	24,056,178
1910-1911	-	24,832,297	1919-1920	-	23,960,165
1911-1912	-	26,308,669	1920-1921	-	16,971,456
1912-1913	-	28,925,655	1921-1922	-	16,343,342
1913-1914	-	26,594,801	1922-1923	-	16,453,013
1914-1915	-	23,949,640	1923-1924	-	19,535,690
1915-1916	-	26,054,014	1924-1925	-	19,639,896

PLANTATION RUBBER

The story of the plantations of *hevea brasiliensis* in the British and Dutch far-eastern colonies is well known. The transplantation of the valuable trees, by James Collins in 1873 and Wickham in 1876, has been briefly described by the latter,⁴ studied by various authors, especially Professor Van Romburgh,⁵

¹ S. Figgis & Co., *Annual Review of Rubber Market*, 1925, London, 14th January, 1926.

² S. Figgis & Co., *Weekly Rubber Report*, London, 1st September, 1927, and W. H. Rickinson & Son, *The World's Rubber Position*, 31st January and 31st July, 1928.

³ *Retrospecto Commercial* of the *Jornal do Commercio*, Rio de Janeiro, 1928.

⁴ H. A. Wickham, *On the Plantation, Cultivation and Curing of Para Indian Rubber*, London, 1908.

⁵ Professor van Romburgh, *La Culture du Caoutchouc*.

and quoted in many Brazilian works, including that by Plinio de Carvalho,¹ and the numerous monographs and reports of the Brazilian Rubber Protection Office.

The first plantation of *heveas* for regular exploitation was made in Malacca in 1896, by a Chinese named Tan Chay Yan. Since then the plantations have been increased enormously, as may be seen from the following statistical table (areas in acres) :

1906	-	294,000	1921	-	3,106,000
1910	-	1,122,000	1923	-	3,765,000
1914	-	2,180,000	1924	-	3,950,000
1918	-	2,795,000	1925	-	4,440,000
		1926	-		5,000,000

According to information obtained from a Blue Book compiled by the Secretary of State for the Colonies,² the area under rubber in 1926 was distributed as follows :

Country	Acres planted	%
Malaya - - - - -	2,250,000	45·0
Ceylon - - - - -	450,000	9·0
Netherlands East Indies - -	1,850,000	37·0
India - - - - -	140,000	2·8
Borneo and Sarawak - -	150,000	3·0
French Indo-China - -	90,000	1·8
Other countries - -	70,000	1·4
Total - - - - -	5,000,000	100·0

¹ Lieutenant Plinio de Carvalho, *A Seringueira do Amazonas*, S. Paulo, 1911, p. 33.

² W. H. Rickinson & Son, *The World's Rubber Position*, London, 31st August, 1929.

The production of rubber extracted from planted trees has constantly increased on an astonishing scale.

During the last few years the production, by countries of origin, has been as follows (in tons) :

•	Ceylon	Malaya	Dutch E. Indies	India, Cochin- China, etc.	Total
1920	37,200	187,800	53,400	—	278,400
1921	40,100	159,900	59,500	—	259,500
1922	47,000	248,000	71,000	—	366,000
1923	37,079	252,146	80,030	15,496	384,751
1924	37,350	259,750	79,500	11,000	387,600
1925	45,618	316,825	109,997	9,515	481,955
1926	58,857	285,700	203,800	31,598	576,955
1927	55,831	242,200	288,900	40,573	567,504
1928	57,288	297,508	223,221	42,151	620,168

WORLD PRODUCTION OF RUBBER

Messrs. W. H. Rickinson & Co., in their indispensable monthly bulletin of information regarding rubber, give us the following statistics of world production (in tons) : ¹

	Plantation	Wild		Total	Percentage of Inc. or Dec. %
		Brazil	Rest		
1900	4	26,750	27,136	53,890	—
1901	5	30,300	24,545	54,850	+ 1·7
1902	8	28,700	23,632	52,340	+ 4·5
1903	21	31,100	24,829	55,950	+ 6·8
1904	43	30,000	32,077	62,120	+ 11·0
1905	145	35,000	27,000	62,145	+ 0·4
1906	510	36,000	29,700	66,210	+ 6·5
1907	1,000	38,000	30,000	69,000	+ 4·2
1908	1,800	39,000	24,600	65,400	- 5·2
1909	3,600	42,000	24,000	69,600	+ 6·4
1910	8,200	40,800	21,500	70,500	+ 1·2
1911	14,419	37,730	23,000	75,149	+ 6·5
1912	28,518	42,410	28,000	98,928	+ 31·6
1913	47,618	39,370	21,452	108,440	+ 9·6
1914	71,380	37,000	12,000	120,380	+ 11·0
1915	107,867	37,220	13,615	158,702	+ 31·8
1916	152,650	36,500	12,448	201,598	+ 27·0
1917	213,070	39,370	13,258	265,698	+ 31·1
1918	255,950	30,700	9,929	296,579	+ 11·7
1919	285,225	34,285	7,350	326,860	+ 10·2
1920	304,816	30,790	8,125	343,731	+ 5·1
1921	271,233	19,837	2,890	293,960	- 14·4
1922	354,980	21,755	3,205	379,920	+ 29·2
1923	284,771	22,580	5,420	412,771	+ 8·3
1924	391,607	23,514	6,096	421,217	+ 2·1
1925	481,955	27,386	6,735	515,947	+ 22·4
1926	576,955	26,433	11,390	614,778	+ 19·1
1927	567,504	30,952	6,740	605,196	- 1·5
1928	620,168	24,556	4,950	649,674	+ 7·3

¹ *The World's Rubber Position*, W. H. Rickinson & Son, 31st August, 1929

RECLAIMED RUBBER

In calculating the production of 1929 we must not forget reclaimed rubber. During the campaign of the U.S. Department of Commerce in favour of using reclaimed rubber, Mr. E. G. Holt, assistant-chief of the rubber section of Mr. Herbert Hoover's Department, published the following statistics (in tons) :

Year	Imported Rubber	Reclaimed Rubber	Reclaimed Rubber	Average Price (Dollars)
1919	202,303	73,535	36	0.40
1920	196,270	75,297	38	0.43
1921	169,308	41,351	24	0.18
1922	283,271	54,458	19	0.15
1923	274,956	69,534	25	0.27
1924	301,778	76,072	21	0.24

This table may be completed by the following figures : ¹

	Consumption (Crude and Reclaimed)	Reclaimed Rubber	% of the Reclaimed Rubber
1925	396,943	132,933	33.5
1926	413,339	180,582	43.6
1927	426,258	189,144	44.4
1928	436,655	208,516	47.7

The lesson of these figures is that the extent to which reclaimed rubber is used depends upon the price quoted for the original article. The higher the price of the latter the more the former is used.

¹ *The World's Rubber Position*, W. H. Rickinson & Son, 28th February, 1929.

RUBBER QUOTATIONS

In the south of Brazil it is currently but erroneously believed that the wild rubber from the Amazon always obtains higher prices than rubber from the Far East. Actually the quotations of best crepe and Para fine hard always depend on supply and demand. Although in some years Brazilian rubber has had a better quotation, in other years plantation rubber has obtained higher prices owing to its purity. Plantation rubber is better finished than Brazilian, but the latter is incontestably superior in elasticity. This is clearly shown by some old samples existing in the Museum of the Para Commercial Association, as has been described to us by the President, Dr. Clementino Lisboa ; while the wild rubber perfectly retains its elasticity, the plantation rubber in time loses this invaluable quality.

Through information we have obtained from the monthly bulletin of Messrs. W. H. Rickinson & Son, we have observed that plantation rubber from 1923 onwards has often obtained a higher price than Brazilian rubber : ¹

¹ W. H. Rickinson & Son, *The World's Rubber Position*, 28th February, 1929.

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AVERAGE.

Plantation Para	1911	1912	1913	1914	1915	1916	1917	1918	1919
	5/5 $\frac{1}{2}$ 5/0	4/9 4/10	3/0 $\frac{1}{2}$ 3/8	2/3 $\frac{1}{2}$ 2/10 $\frac{1}{2}$	2/6 2/7	2/10 $\frac{1}{2}$ 3/1 $\frac{1}{2}$	2/9 $\frac{1}{2}$ 3/1 $\frac{1}{2}$	2/3 $\frac{1}{2}$ 2/11 $\frac{1}{2}$	2/1 $\frac{1}{2}$ 2/5 $\frac{1}{2}$
	1920	1921	1922	1923	1924	1925	1926	1927	1928
	1/11 1/11 $\frac{1}{2}$	0/10 $\frac{1}{2}$ 1/0	0/9 $\frac{1}{2}$ 0/11 $\frac{1}{2}$	1/3 $\frac{1}{2}$ 1/2 $\frac{1}{2}$	1/1 $\frac{1}{2}$ 1/1 $\frac{1}{2}$	2/10 $\frac{1}{2}$ 2/8 $\frac{1}{2}$	1/11 $\frac{1}{2}$ 1/11	1/6 $\frac{1}{2}$ 1/4 $\frac{1}{2}$	0/10 $\frac{1}{2}$ 0/11 $\frac{1}{2}$

HIGHEST.									
	1911	1912	1913	1914	1915	1916	1917	1918	1919
	7/3 7/2	5/9 5/2 $\frac{1}{2}$	4/6 $\frac{1}{2}$ 4/7	3/0 3/2 $\frac{1}{2}$	4/1 $\frac{1}{2}$ 3/8 $\frac{1}{2}$	4/3 $\frac{1}{2}$ 4/1	3/4 $\frac{1}{2}$ 3/5	2/6 $\frac{1}{2}$ 3/8	2/11 2/8
	1920	1921	1922	1923	1924	1925	1926	1927	1928
	2/10 $\frac{1}{2}$ 2/8	1/3 $\frac{1}{2}$ 1/2 $\frac{1}{2}$	1/2 $\frac{1}{2}$ 1/1 $\frac{1}{2}$	1/6 $\frac{1}{2}$ 1/5 $\frac{1}{2}$	1/8 1/7 $\frac{1}{2}$	4/8 4/6	3/8 3/9	1/8 $\frac{1}{2}$ 1/6 $\frac{1}{2}$	1/7 $\frac{1}{2}$ 1/5

LOWEST.									
	1911	1912	1913	1914	1915	1916	1917	1918	1919
	4/6 3/10	4/1 4/3	2/0 3/0 $\frac{1}{2}$	1/11 $\frac{1}{2}$ 2/6	1/11 $\frac{1}{2}$ 2/4 $\frac{1}{2}$	2/1 $\frac{1}{2}$ 2/7 $\frac{1}{2}$	2/2 $\frac{1}{2}$ 2/5 $\frac{1}{2}$	2/1 2/7	1/7 2/4 $\frac{1}{2}$
	1920	1921	1922	1923	1924	1925	1926	1927	1928
	0/10 1/10 $\frac{1}{2}$	0/8 0/10	0/6 $\frac{1}{2}$ 0/9 $\frac{1}{2}$	1/1 $\frac{1}{2}$ 1/0 $\frac{1}{2}$	0/9 $\frac{1}{2}$ 0/10 $\frac{1}{2}$	1/4 $\frac{1}{2}$ 1/5	1/5 $\frac{1}{2}$ 1/4 $\frac{1}{2}$	1/3 $\frac{1}{2}$ 1/2	0/7 $\frac{1}{2}$ 0/9 $\frac{1}{2}$

CHAPTER IV

RUBBER CONSUMPTION DUE TO THE DEVELOPMENT OF THE MOTOR AND OTHER INDUSTRIES.

FROM the economic point of view, the chief anomaly in regard to rubber is that it is used in industrial centres far removed from the producing centres. Cultivated in the Far East, in Africa, in Central and South America, it is used principally in the big factories of Akron (Ohio) and Detroit (Michigan), in the United States, and in England, Germany, France and Italy.

* * *

The principal use of rubber is in the motor industry. It is the rapid development of motoring, especially in North America, that has occasioned the amazing present-day consumption of this important raw material.

In 1914 there were in the U.S.A. 1,711,339 motors ; in 1919, 7,558,848 ; in 1925, 17,500,000 ; and at the present day the number is about 24,500,000.

We take from the review *Le Caoutchouc et La Gutta-Percha*¹ the following figures showing the

¹ *Le Caoutchouc et la Gutta-Percha*, May 1926, Paris.

number of motor vehicles and the output of tyres in the United States from 1916 to 1925 :

Year	Vehicles	Tyres
1916	3,512,996	18,500,000
1917	4,983,340	25,850,000
1918	6,146,617	21,600,000
1919	7,558,848	34,300,000
1920	9,211,295	32,100,000
1921	10,448,623	27,267,000
1922	11,500,000	38,200,000
1923	12,880,000	45,000,000
1924	15,200,000	50,000,000
1925	17,500,000	55,750,000

The figures for the last three years concerning the number of vehicles are as follows, according to statistics published by the *American Automobile* :

1926	-	-	-	-	20,234,000
1927	-	-	-	-	22,137,334
1928	-	-	-	-	24,494,580

Eighty per cent. of the cars existing in the world are in the United States ¹ and the immense development of motoring in that country has not yet attained its maximum. Mr. Henry Ford's principle of making cheap cars in standardised series so as to multiply sales is being increasingly adopted by all

¹ *American Automobile* world statistics for 1928 :

United States	-	-	24,494,580 vehicles.
Great Britain	-	-	1,372,109 „
France	-	-	1,108,900 „
Canada	-	-	1,061,828 „
Germany	-	-	545,100 „
Australia	-	-	515,851 „
Argentina	-	-	299,839 „
Italy	-	-	172,000 „
Spain	-	-	156,501 „
Brazil	-	-	155,000 „

big American works. This is shown from the following statistics, which give us the prices (in dollars) for 1922 and 1925 of a special type of car, the Sedan, made in the largest works :

		Price in 1922	Price in 1925
Ford	- -	645	660
Overland	- -	895	693
Chevrolet	- -	875	735
Dodge	- -	1,785	895

That the use of rubber will increase is certain not only in the motor-car industry but also through the development of many other industries in which this article is a principal raw material.

The rubber consumption in the United States in the last thirteen years and the percentage of consumption in the same country, in relation with the world's consumption, has been as follows :

	World's Consumption Tons	United States Consumption Tons	% of the American Consumption
1916	175,000	104,000	49·4
1917	207,000	134,000	64·7
1918	216,000	140,000	64·8
1919	331,000	214,000	64·6
1920	385,000	247,000	64·2
1921	382,000	252,000	66·0
1922	430,000	312,000	72·6
1923	426,000	305,000	71·6
1924	465,000	333,000	71·6
1925	540,000	384,000	71·1
1926	616,440	412,000	66·8
1927	605,000	410,000	67·7
1928	660,000	435,000	66·0

Great Britain comes the second in rubber consumption. The following table shows the imports,

re-exports and existing stocks on the 31st December in the last few years (in tons) :

	Imports	Exports	Stocks
1921	84,989	42,873	42,116
1922	63,917	52,753	11,164
1923	80,142	67,606	12,536
1924	65,553	76,663	11,110
1925	88,114	84,054	4,061
1926	143,251	58,384	84,867
1927	145,320	85,072	60,248
1928	109,859	105,013	4,846

For the London market, the largest in England, the statistics give us the following figures (in tons) :

	Imports	Delivered	Stocks
1921	72,576	54,544	96,001
1922	56,750	54,538	72,213
1923	65,302	77,728	58,787
1924	55,362	83,709	29,304
1925	63,856	83,709	5,589
1926	130,012	54,272	47,672
1927	130,889	78,116	63,196
1928	98,247	100,399	19,810

The market in Liverpool, which imports part of the South American output, shows the following figures :

	Imports	Delivered	Stocks
1921	4,398	3,708	1,310
1922	3,265	4,827	518
1923	2,353	2,408	463
1924	2,550	2,872	141
1925	2,366	3,391	403
1926	12,509	3,519	2,402
1927	13,649	5,149	2,467
1928	9,967	3,452	2,881

We show below a table giving the world production and consumption of rubber during the last thirteen years (in tons) :

	Production	Consumption
1916	201,598	175,000
1917	265,698	207,000
1918	269,579	216,000
1919	362,860	231,000
1920	343,731	385,000
1921	293,960	382,000
1922	379,920	430,000
1923	412,771	426,000
1924	421,217	465,000
1925	515,947	540,000
1926	614,778	616,440
1927	605,000	605,000
1928	660,000	660,000

FORECAST OF PRODUCTION AND CONSUMPTION FOR THE IMMEDIATE FUTURE

The various estimates of the world harvest for 1929 vary a good deal. Indeed at the present time all the experts differ in their opinions owing to the chaotic situation of the rubber market.

We give below the estimates of several British experts, whose calculations show an average production of 713,055 tons and an average consumption of 706,722 tons, so that there would be in 1929 a surplus of about 6,333 tons :

ESTIMATES FOR 1929 (IN TONS):

		Production	Consumption
Symington & Sinclair	-	726,000	723,000
Lewis & Peat	- -	690,000	699,000
Hymans, Kraay and Co.	-	715,500	692,000

RUBBER CONSUMPTION

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	Production	Consumption
Wm., Jas. & Hy. Thompson -	707,000	705,000
Geo. White & Co. - -	732,000	710,000
W. H. Rickinson & Son -	727,000	727,000
H. Eric Miller - - -	700,000	700,000
E. A. Barbour, Singapore -	725,000	725,000
Lane Mitchell - - -	695,000	720,000

The opinion of Messrs. Rickinson & Son regarding consumption in 1928 and their estimate for 1929 are as follows : ¹

1928 SHIPMENTS

		Tons	%
British Malaya - - - - -		297,508	46.0
Ceylon - - - - -		57,570	8.9
Dutch East Indies - - - - -		223,221	34.5
India - - - - -		11,000	1.7
Other plantations - - - - -		28,000	4.3
Brazil - - - - -		24,556	3.8
Wild (Africans, etc.) - - - - -		4,956	0.8
Total - - - - -		646,805	100.0

RETAINED BY COUNTRIES

		Tons	%
U.S.A. - - - - -		407,852	67.7
U.K. - - - - -		4,846	0.8
France - - - - -		41,000	6.8
Germany - - - - -		40,000	6.6
Italy - - - - -		12,000	2.0
Canada - - - - -		31,000	5.2
Japan - - - - -		25,951	4.3
Russia - - - - -		8,000	1.3
Rest - - - - -		32,000	5.3
Total - - - - -		602,649	100.0

Balance (difference due to amount afloat on 1st Jan. and 31st Dec., 1928, and final official returns) - - - - -

	44,156	—
Total - - - - -	646,805	100.0

¹ *Supplement to World's Rubber Position*, January, 1929, and *The World's Rubber Position*, W. H. Rickinson & Son, 30th September, 1929.

It is very curious that at the beginning of 1927 the general opinion was that there would be a period of deficit in the rubber market. We can see this from the following table :

	Financial Times		American Rubber Association	
	Production	Consumption	Production	Consumption
1926	621,654	630,000	606,000	575,000
1927	644,511	661,500	623,000	628,000
1928	659,439	694,500	633,000	641,000
1929	665,903	730,000	637,000	672,000
1930	670,777	767,000	641,000	703,000
1931	672,244	805,000	—	—
1932	688,390	845,000	—	—

The present situation in the rubber market, which we will study in the next chapter, shows the unreliability of these figures, which we only reproduce for purposes of comparison.

* * *

We have taken from the monthly bulletin of Messrs. W. H. Rickinson & Son the following statistics of the rubber consumed from 1919 to 1928 : ¹

¹ *The World's Rubber Position*, W. H. Rickinson & Son, 31st August, 1929.

RUBBER

DISTRIBUTION OF RUBBER DURING 1919-1928 (IN TONS).

	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928
United States	-	236,677	248,791	179,647	296,267	300,364	318,258	395,668	398,483	404,496
Great Britain	-	42,520	56,972	42,116	11,164	12,536	-11,110†	84,867	60,248	4,846
Russia	-	120	140	200	3,200	4,900	1,500	7,000	12,500	8,000
Germany	-	4,000	13,400	22,428	27,551	19,436	22,738	22,776	38,893	35,857
*France	-	20,300	16,606	14,701	27,660	31,108	34,442	39,091	38,949	41,476
*Italy	-	10,200	6,300	4,000	6,500	8,400	8,764	9,840	11,290	12,423
Japan	-	12,000	5,500	23,164	16,581	17,318	19,768	18,269	20,978	25,356
*Canada	-	9,500	11,300	8,259	9,353	13,255	5,058	20,224	26,404	30,845
Belgium	-	3,994	3,500	1,705	204	1,780	2,155	2,500	6,505	7,949
Rest	-	5,586	11,560	6,126	-1,366	5,023	6,014	16,205	12,263	26,908
Totals	-	348,397	374,069	302,346	396,910	414,210	419,384	616,440	626,513	600,156

* Including Gutta Percha.

† Minus.

From these figures it is clear that consumption in the United States had grown enormously. Germany in the Armistice year only received one thousand tons ; in 1928, 35,857 were imported. In the same period the other countries more than doubled their consumption.

CHAPTER V

THE STEVENSON PLAN. OVER-PRODUCTION. FALL
IN PRICES AND THE NECESSITY OF A PLAN OF
PROTECTION AND RESTRICTION. THE WORK-
ING OF THE STEVENSON PLAN. THE BOOM OF
1925. THE PRESENT CRISIS (1927-1928). ABOLI-
TION OF THE RESTRICTION SCHEME.

THE over-production of rubber led to such a fall in the price that it was one of the few products which did not become dearer during or after the Great War ; on the contrary, the price actually became lower.

In 1910 the highest price fetched by rubber was 12s. 9d. Soon the quotation fell, coming down to 2s. 6d. in 1918. In 1919 the price came down to 1s. 7d., and in 1920 to 10d. Thus from 153d. in 1910 the price of rubber came down to 10d. in 1920.

For the quality known in the market as *Crepe Plantation* 1 and used for making tubing, the average price per lb. was as follows :

Average Price		Average Price		Average Price	
1910	- 8/9	1917	- 2/9 $\frac{3}{4}$	1923	- 1/3 $\frac{1}{4}$
1911	- 5/5 $\frac{1}{2}$	1918	- 2/3 $\frac{1}{2}$	1924	- 1/1 $\frac{1}{8}$
1912	- 4/9	1919	- 2/1 $\frac{1}{4}$	1925	- 2/10 $\frac{3}{4}$
1913	- 3/0 $\frac{1}{4}$	1920	- 1/11	1926	- 1/11 $\frac{3}{4}$
1914	- 2/3 $\frac{1}{2}$	1921	- 0/10 $\frac{1}{2}$	1927	- 1/6 $\frac{3}{8}$
1915	- 2/6	1922	- 0/9 $\frac{1}{4}$	1928	- 0/10 $\frac{1}{8}$
1916	- 0/10 $\frac{1}{4}$				

We must remember that the lowest quotation for rubber was 6½d. on 30th August, 1922. In 1917, to maintain the price of rubber, the Rubber Growers' Association asked its members to limit exports in 1918 to 80% of the crop. This resolution was only partially successful on account of the non-compliance of the Dutch as well as that of Ceylon and Malaya ;¹ this voluntary restriction, however, reduced production by 35,000 tons (1918) in comparison with 1917, thus enabling some of the stocks accumulated to be released.

In November 1920 the Rubber Growers' Association, representing 95% of the producers in the Far East, introduced on their own initiative a new restriction of 25% on the export of the crop. In December 1921, when the first year of this period of voluntary sacrifice ended, the price of rubber had come down, the minimum reached being 8d.

The Governments of the different British colonies were carefully studying the problem. On 26th January, 1921, the Duncan Committee handed over to the authorities of the Straits Settlements and Federated Malay States a very detailed report, and on 15th October of the same year another report was issued by a technical commission appointed by the High Commissioner of British Malaya. At that

¹ Fernand Maurette, " Le Caoutchouc," *Annales de Géographie*, 15th September, 1924, p. 425.

time England was interested in 72% of the world production : ¹

The British Government, faced with this grave situation in the most important product of its colonies, appointed a Committee of eight members to study the rubber situation and the practical measures to be adopted for its control.

PERCENTAGE OF THE WORLD PRODUCTION					
Country					Percentage
British Malaya	-	-	-	-	57·5
Ceylon	-	-	-	-	12·5
India	-	-	-	-	2·0
Dutch East Indies	-	-	-	-	25·5
Other countries	-	-	-	-	2·5
					100·0

Mr. Winston Churchill, then Colonial Secretary, appointed the following Committee :

Sir James Stevenson (*Chairman*) ;
 Sir Stanley Bois ;
 Sir Edward Brockman ;
 Mr. E. J. Byrne ;
 Mr. Wm. Duncan ;
 Sir Gilbert Grindle ;
 Mr. H. Eric Miller ;
 Sir Edward Rosling.

This Rubber Committee presented its first report on 19th May, 1922. After describing the situation, it makes the following statement :

¹ *Report of Committee on the Rubber Situation, 1922, p. 6.*

“ On these figures, the Committee cannot fail to advise you to contemplate with grave concern the position of the Industry in British Colonies and Protectorates, unless steps are taken to reduce stocks and, further, to prevent over-production of rubber so long as the potential normal production continues to be substantially in excess of consumption. They are of opinion that consumption is not likely to overtake potential production for some years.

The Committee next directed their attention to the manner in which the existing surplus could be reduced and future supplies so regulated with a view to establishing an equilibrium between supply and demand, and stabilising the Industry on a sound footing.”

The Committee finally presented two plans :

1st. The adoption of the Duncan Committee's suggestion to restrict by law the production and exportation of rubber.

2nd. The plan proposed by Mr. Stevenson, which advised only restriction in exports by the application of a sliding scale on Customs duties.

The report was presented to the Colonial Office and the Committee awaited the reply from the Dutch Government, who had been asked to adopt the same resolution for the Dutch crop.

On 2nd October of the same year the Committee sent in a Supplementary Report, in which, after declaring that it had been impossible to secure an agreement with the Dutch Government, they advised the acceptance of the second plan, which was thereafter called the *Stevenson Plan*.

The control of rubber by the Stevenson Plan was not officially established by the British Government. It was simply advised by the Colonial Office.

THE STEVENSON PLAN

The Rubber Committee, having as chairman Mr. Stevenson, began by verifying the following facts, so as to be able to determine the elements on which to base the solution of the problem :

WORLD PRODUCTION AND CONSUMPTION (TONS)

	Production		World Production	World Consumption
	Plantation	Wild		
1920	335,000	35,000	370,000	310,000
1921	260,000	22,000	282,000	265,000

For 1922 the Rubber Committee made the following estimate :

Available for 1922	-	-	-	-	300,000 tons
Consumption	-	-	-	-	260,000 „

Excess of production over consumption - 40,000 tons

The world stock on 1st January, 1922, ascertained by the Rubber Committee was 310,000 tons, distributed as follows :

STOCK ON 1ST JANUARY, 1922

Producing countries	-	-	-	-	60,000 tons
Consuming markets	-	-	-	-	210,000 „
In transit	-	-	-	-	40,000 „

World Stock - - - 310,000 tons

As we have seen, the rubber situation was extremely serious. The stock was larger than the world's probable requirements for 1922 ; further, the excess of production over consumption would still, in this period, increase the world's stock by 40,000 tons.

* * *

The Stevenson Plan was based on three main principles :

- 1st. Restriction of exportation ;
- 2nd. Application of a sliding scale to the export duty ;
- 3rd. Fixing of the percentage of the harvest which would benefit by the minimum export duty in accordance with the prices in the import markets.

The export restriction was framed to deliver to the import markets only the amount required by consumers, and had already been recommended by the Duncan Committee in its report of January 1921.

The standard production of each grower having been fixed, the restriction of the respective exports was effected by a duty of 4d. per lb. of rubber for 65% of the harvest ; this duty would increase in proportion to the percentage of the production that each planter wished to export.

The percentage of the harvest dutiable at the minimum rate duty would be automatically increased or diminished in accordance with the rubber quotations.

Nos. 2 and 3 were proposed by Mr. James Stevenson himself.¹

MECHANISM OF THE STEVENSON PLAN

The Stevenson Plan ² for the protection of rubber consisted of the following :

I. The harvest of each planter was fixed (Standard production 1922) in accordance with the production in the twelve months from 1st November, 1919, to 31st October, 1920, and as a result the world production for plantation rubber was calculated to be 330,000 tons.

To obviate any misunderstandings that might arise, the Rubber Committee established, amongst other practical measures, the following table for the calculation of the production of the trees : ³

Age			Maximum production per acre in 12 months
Less than 5 years	-	-	nil
Between 5 and 6 years	-	-	120 lb.
Between 6 and 7 years	-	-	180 „
Between 7 and 8 years	-	-	240 „
8 or more years	-	-	320 „

The age of the trees on each estate once determined, the standard harvest could be determined by multiplying each group by the coefficient of production.

It was decided that a revision should be made in

¹ *Report of Committee*, p. 6.

² *L'Economiste français*, No. 15, 51st year, 14th April, 1923.

³ *Supplementary Report*, Appendix, p. 7.

the standard production if, during the period between 1st November, 1919, and 31st October, 1920, the production were below the normal for any of the following reasons :

- 1st. Existence of planted trees not yet tapped ;
- 2nd. Want of labour ;
- 3rd Unexpected illness of labourers ;
- 4th Temporary poor growth ;
- 5th. Trees to be given a rest ;
- 6th. Any other unforeseen cause.

II. In place of the *ad valorem* export duty there would be created for three years a single export duty, varying in accordance with the percentage of the harvest which the planter wished to export. In these circumstances a minimum duty of 4d. per lb. would be levied for quantities up to 65% of the harvest. Those planters who wished to export larger percentages could do so by paying a progressively higher export duty as follows :¹

VARIABLE EXPORT DUTY

Quantities up to 65% of the harvest	-	-	0/4
More than 65% but not exceeding 70%	-	-	0/5
" 70% " " " 75%	-	-	0/6
" 75% " " " 80%	-	-	0/7
" 80% " " " 85%	-	-	0/8
" 85% " " " 90%	-	-	0/9
" 90% " " " 95%	-	-	0/10
" 95% " " " 100%	-	-	0/11
100% or more	-	-	1/0

¹ *Supplementary Report*, p. 4.

III. The Stevenson Plan also provided that the exportable quantity paying a minimum tax would be increased as soon as better conditions should obtain, on the following terms : If during three consecutive months the price remained at 1s. 3d. per lb. (price in London), the percentage of the output which would pay the minimum tax would be increased 5% for the following quarter ; if the price was 1s. 6d. during three consecutive months, the minimum percentage would be increased to 10%.

IV. Similarly, when the quotation fell the percentage of the harvest which paid the minimum tax would be reduced 5% per quarter.

The Stevenson Plan necessarily required a committee in London to co-ordinate all the operations under the Plan in all the interested territories, to advise the Secretary of State of all questions which might arise in connection with its execution and, lastly, to decide any modifications which might have to be made in the Customs duties based on the Plan.

To promote the Stevenson Plan the Governments of the interested territories appointed local committees to decide questions relating to the application of the Plan, a Supplementary Report being issued containing rules for the guidance of these committees.¹

* * *

¹ " Rules for the Guidance of Committees," Appendix A, of *Supplementary Report of the Committee*.

As we have seen, the Stevenson Plan aimed at making exports dependent on prices, permitting the exportation of a larger or smaller quantity of rubber according to whether the quotation was high or low at the time. It did not, however, directly interfere with production, being limited to the adoption of the Customs tariff, so that it would indirectly secure the restriction of the quantities exported. This enabled the growers to dispose freely of 65% of their crops irrespective of the cost of production. It did not hinder the exportation of the remaining 35% ; the planter, if he thought fit, could export all he wanted, even the whole crop, if he paid an export tax, which increased proportionately as the quantities exported increased.

HOW THE STEVENSON PLAN WORKED

Notwithstanding the refusal of the Dutch, who are also greatly interested in the problem of protecting rubber, Great Britain decided to proceed with rubber protection.

The Stevenson Committee, in their Supplementary Report, presented in October 1922, stated this very simply in the following words : ¹

“ The Committee concluded their report of June 1922, by stating that they were unable to carry their enquiry further until the attitude of the Dutch was definitely known, as they did not feel justified at that time in recommending the

¹ *Supplementary Report*, p. 3.

adoption by one or more British Colony or Protectorate of either of the proposed schemes for Government intervention in the rubber industry.

Since that report was issued, the reply of the Netherlands Government to the proposals for co-operation with His Majesty's Government in legislating to ameliorate the situation in the industry has been received.

The Netherlands Government has decided not to take at present any legislative measures to restrict the production of rubber in the Netherlands.

The Committee have considered the question of whether in these circumstances a policy of restrictive measures in British Colonies and Protectorates alone could be adopted to the advantage of the British rubber industry."

The refusal of the Dutch to participate, which removed a considerable percentage of the output outside the scope of the plan, was the first and most serious setback experienced by the Committee. It is interesting to recall some of the difficulties overcome by the energy and ability of those in charge of the execution of the plan.

Notwithstanding the very definite rules annexed to the Supplementary Report, serious difficulties arose regarding the fixing of the amount of the standard crop.

It was not possible to visit each property and determine the number of trees and their age. Consequently the owners' declaration had to be accepted.

False declarations were numerous, in spite of the official actions taken against offenders. A. Phillipson,¹

¹ A. Phillipson, *The Rubber Position and Government Control*, 1924, p. 39.

dealing with the subject, mentions the very common case of including plantations destroyed by plague or on bad land and long abandoned, and quotes the case of a rice planter who did not own a single rubber tree, but obtained a licence for exporting rubber and sold it to another person.

The local committees had all sorts of difficulties to contend with, on the part of both producers and traders, in regard to pre-existing contracts for the sale or supply of rubber.

The Stevenson Plan, which was based on very broad principles, had also the additional advantage, as stated in No. 8 of the Supplementary Report, that the restriction avoided intensive cutting, thus saving the trees. With this aim, and also in view of the necessity of avoiding the accumulation of partial stocks on the producing properties, the Committee decided to place a tax of one shilling per lb. on all quantities above the normal stock.

The falsification of bills of lading also created a serious difficulty; severe measures were taken against offenders, and measures of relief were instituted for the victims of such acts.

Many difficulties also arose in the situation of the agricultural labour which the restriction threw out of employment. The Government of the Federated Malay States had to suppress a number of riots caused by the coolies discharged from some of the large properties.

On account of the waterways and the vast extent of the coasts where the plantations are situated, contraband was practised on a large scale, thus obliging the local government to create a small patrol flotilla. Very heavy fines were imposed on smugglers (one fine amounted to as much as four thousand pounds).

The Committee did not hesitate when necessary to modify the fiscal arrangements so as to increase the effectiveness of the restriction.

Vigilance associations were also created at many different places.

* * *

In accordance with the decisions reached in the Supplementary Report,¹ when the restrictions scheme was first applied the exportable percentage paying the minimum tax was fixed at 60%. Later on it varied as follows :

	Percentage
1st November, 1922, to 30th April, 1923	- 60
1st May, 1923, to 31st July, 1924 - -	- 65
1st August, 1923, to 31st July, 1924 - -	- 60
1st August, 1924, to 31st October, 1924 -	- 55
1st November, 1924, to 31st January, 1925 -	- 50
1st February, 1925, to 30th April, 1925 -	- 55
1st May, 1925, to 31st July, 1925 - -	- 65
1st August, 1925, to 1st October, 1925 -	- 75
1st November, 1925, to 31st January, 1926 -	- 85
1st February, 1926, to 30th April 1926 -	- 100
1st May, 1926, to 31st July, 1926 - -	- 100
1st August, 1926, to 31st October, 1926 -	- 100

¹ *Supplementary Report*, p. 5.

From the London *Economist* and Messrs. Rickinson & Son's bulletin, *The World's Rubber Position*,¹ we have taken the following statistical table, which shows clearly the average price per lb. and the maximum exportable quantities permitted by the Stevenson Plan :

		Average Price	Per cent. allowance
1923	31st January - -	1/2	55
	30th April - -	1/4	60
	31st July - -	1/2	60
	31st October - -	1/2	65
1924	31st January - -	1/2	60
	30th April - -	1/0	60
	31st July - -	0/10	60
	31st October - -	1/2	60
1925	31st January - -	1/5	50
	30th April - -	1/7	55
	31st July - -	3/2	65
	31st October - -	3/7	75
1926	31st January - -	3/10	85
	30th April - -	2/4	100
	31st July - -	1/9	100
	31st October - -	1/8	100
1927	31st January - -	1/7	80
	30th April - -	1/7	70
	31st July - -	1/6	60
	31st October - -	1/4	60
1928	31st January - -	1/7	60
	30th April - -	1/0	60
	31st July - -	0/9	60
	31st October - -	0/9	60

In July 1925 the American Ambassador in London protested to the British Government against the

¹ *The Economist*, 26th September, 1925, and *The World's Rubber Position*, October 1928.

Stevenson Plan. Though Great Britain did not officially give a clear and decisive reply to America's interpellation, the restrictions scheme was in reality suspended, as the percentage of exports paying the minimum tax, instead of being increased to 95% of the standard production, as had been arranged, was raised to 100%. The risk of drastic action on the part of America induced Great Britain to take steps to prevent the threatened war in raw materials.

THE BOOM OF 1925

The technical reviews and even the daily papers reported a boom in rubber markets in 1925. The price of raw rubber went up from 0/10³/₈d. in July 1924, to 4s. 4¹/₂d. in July 1925, and again up to 4s. 8d. in November of the same year.

This immense increase is explained by the law of supply and demand. The constant and rapid increase of consumption was not accompanied by an equal increase of production. On the other hand, the restriction scheme, whereby part of the crop was withheld, added to the difference between demand and supply. The stocks in London and New York being nearly exhausted, were powerless to affect the quotations, which attained enormous figures in comparison with the prices of the preceding months.

The enormous profits reaped by the big rubber-planting companies enabled big dividends to be paid.

We give below a statistical table comparing the profits and the dividends distributed in 1924 and 1925 :

	Profits in £		Dividends %	
	1924	1925	1924	1925
British Malay Rubber Co. -	12,305	61,303	3	15
Oriental Rubber Co. - -	9,009	51,357	4	20
Sungei Salak Rubber Co. -	8,755	52,707	12.5	47.5
Cornaven Rubber Co. -	6,137	27,083	15	40
Lubok Rubber State - -	4,154	24,017	5	20
British Badang Rubber Co.	1,748	11,175	5	20
Anglo-Malay Rubber Co. -	27,957	87,842	7	20
Banjarsaine Rubber Co. -	6,038	19,263	7.5	25

The abnormal height of the quotations of rubber stocks during the boom towards the end of 1925 is shown in the following figures quoted on the Paris Bourse :

	Highest price in 1924 (Francs)	December 1925 (Francs)
Caoutchouc de l'Indo-Chine -	686	2,340
An Loc - - - -	515	2,250
Eastern Rubber - - - -	77	425
Gula-Kalumpang - - - -	192	480
Kuala Lumpur - - - -	175	906
Malacca Rubber - - - -	209	858
Sumatra - - - -	1,180	6,400
Padang - - - -	495	1,950
Terres Rouges - - - -	354	1,463
Tapanoelie - - - -	950	5,425

A share of the Suzannah Co. was quoted in June 1925 at 2,040 francs and six months later was sold for 7,950 francs.

THE AMERICAN POOL OF 1926

A recent American movement in the campaign against the restriction scheme is the organisation of trust among consumers, with a capital which will reach \$40,000,000, for the purchase of an immense reserve of raw rubber, to be thrown on the market whenever a rise is announced. .

This combination received the expressive name of “ *rubber pool* ” in the United States, and its organisation was not known until the end of 1926.

The funds already collected by December 1927 enabled it to control 40,000 tons.

We can understand the immense effect that the trust would be able to produce on the market. Moreover, the President of the U.S. Rubber Company made a formal public statement regarding the aim of the pool.

THE PRESENT CRISIS (1927-1928)

The London stocks which, as we have shown, stood at 47,672 tons in December 1926, continued to increase until the week ending 15th October, 1927, when a maximum of 70,916 tons was reached.

These figures have gradually fallen in the course of 1928, as is shown in the following table : ¹

¹ *The World's Rubber Position*, W. H. Rickinson & Son, London, 31st January, 1929.

	Stocks in U K		Stocks in U S A		World's Stocks	
	1927 *	1928	1927	1928	1927	1928
Jan.	56,743	68,463	76,172	110,243	158,355	204,574
Feb.	60,950	65,140	91,080	108,955	178,796	196,962
Mar.	65,423	60,264	86,561	118,000	179,828	198,802
April	69,538	55,709	92,765	113,083	186,846	185,738
May	69,636	46,697	94,582	105,356	189,348	169,740
June	66,918	40,947	89,274	92,390	178,090	151,544
July	66,613	37,680	98,469	83,242	187,640	139,585
Aug.	67,681	34,335	96,148	68,995	189,593	122,301
Sept.	71,349	33,645	97,829	72,346	194,356	120,889
Oct.	72,445	26,580	97,452	66,421	195,687	105,150
Nov.	69,683	19,924	101,300	61,957	199,352	111,069
Dec.	65,663	22,691	101,685	66,166	193,146	121,762

Concurrently the prices fell rapidly, as we see below (plantation rubber) : ¹

	1927		1928	
	Highest	Lowest	Highest	Lowest
Jan. -	1/8 ¹ ₈	1/6 ³ ₄	1/7 ⁷ ₈	1/6 ⁵ ₈
Feb. -	1/7 ¹ ₂	1/8 ⁵ ₈	1/6 ⁵ ₈	1/1 ¹ ₄
March -	1/8 ³ ₈	1/7 ³ ₄	1/1 ³ ₄	0/11
April -	1/8	1/7 ¹ ₂	1/1	0/7 ³ ₈
May -	1/7 ⁷ ₈	1/7 ⁵ ₈	0/9 ⁵ ₈	0/8 ¹ ₈
June -	1/7 ³ ₄	1/4 ¹ ₂	0/9 ¹ ₂	0/9 ¹ ₈
July -	1/5 ¹ ₈	1/4 ¹ ₂	0/9 ¹ ₂	0/9
Aug. -	1/5 ¹ ₂	1/4 ³ ₄	0/9 ⁵ ₈	0/8 ¹ ₁₆
Sept. -	1/4 ³ ₄	1/3 ⁵ ₈	0/8 ¹ ₁₆	0/8 ¹ ₄
Oct. -	1/5 ¹ ₈	1/3 ³ ₄	0/9	0/8 ¹ ₁₆
Nov. -	1/7 ⁷ ₈	1/4 ¹ ₈	0/8 ⁷ ₈	0/8 ³ ₈
Dec. -	1/8	1/7 ⁵ ₈	0/8 ³ ₄	0/8 ¹ ₂

The average cost price to the planter of 1 lb. of rubber is 10d. From that we must deduct the great sacrifices they made during the last months of 1928.

¹ *Ibid.*

How can we explain the rise of stocks when the most optimistic view predicted a scarcity in 1928 ?

A few figures will clearly show the reasons :

- (1) The United States employ reclaimed rubber on a very large scale—in 1928, 47% of the total quantity used ;
- (2) The statistics of the motor industry show a decrease of production for the year 1927 for the United States, owing principally to the temporary interruption of output at Mr. Ford's works during the change of model of his car : ¹

1925	-	-	-	4,154,269	cars and trucks.
1926	-	-	-	4,257,289	„ „
1927	-	-	-	3,385,482	„ „
1928	-	-	-	4,343,900	„ „
1929 (Jan.-July)	-	-	-	3,723,179	„ „

- (3) American buyers get rubber directly from the Far East ;
- (4) The other countries follow the example of the United States ;
- (5) The Dutch colonies, which have not adopted the restriction scheme, produced more than 200,000 tons in 1927 (dry rubber) : ²

				Tons
1925	-	-	-	189,000
1926	-	-	-	199,000
1927	-	-	-	227,700

¹ *The World's Rubber Position*, W. H. Rickinson & Son, 31st August 1929.

² Division of Commerce of the Department of Agriculture, Industry and Commerce, Buitenzorg, Java, *Report on Commerce, Industry and Agriculture in the Netherlands East Indies*, during 1927.

- (6) It is believed that American consumers and other countries in general have stocked great quantities on account of the predicted dearth of rubber.

It is interesting to note here the reasons given by Mr. Ormsby-Gore, Under-Secretary of State for the Colonies, in his speech to the Malay Planters' Association in Malaya on 18th April, 1928: "Firstly, the increased amount of reclaimed rubber and consequent cheapening; secondly, increased production and export from unrestricted areas outside British control; and thirdly, the unwillingness of Ceylon to tighten the restriction scheme still further."

ABOLITION OF THE RESTRICTION SCHEME

The last existing rules for the application of the Stevenson Plan were the following:

(1) If the average price of rubber in London is less than 1s. 9d. a pound, but not less than 1s. 3d. a pound, during any quarter, the percentage of standard production which may be exported at the minimum rate of duty for the ensuing quarter will be reduced by 10.

If, however, the reduction to be effected under this regulation is a reduction from a figure of 100% the

reduced percentage for the ensuing quarter will be 80.

(2) If such average price for any quarter is not less than 1s. 9d. a pound, there will be no change in the percentage for the ensuing quarter.

If, however, in each of three consecutive quarters such average price is not less than 1s. 9d. a pound, the percentage for the ensuing quarter will be increased by 10.

(3) If such average price for any quarter is 2s. a pound or over, the percentage will be increased by 10 for the ensuing quarter.

If, however, the increase to be effected under this regulation is an increase from a figure of 80%, the increased percentage for the ensuing quarter will be 100.

(4) If such average price is below 1s. 3d. a pound in any quarter, the percentage will be reduced to 60 for the ensuing quarter.

(5) If such average price is over 3s. a pound in any quarter, the percentage will be increased to 100 for the ensuing quarter.

(6) In no case will the percentage be increased above a figure of 100 or decreased below a figure of 60.

The fixed quarters were : 1st November to 31st January, 1st February to 30th April, 1st May to 31st July, and 1st August to 31st October.

Owing to the abnormal situation of the market the Colonial Office decided not to modify any rules which were applied in the period between 1st November, 1926, and 31st October, 1927, and published the following declaration :

“ It is not proposed that any change shall be made on 1st November in the regulations which at present govern the export of rubber from Ceylon and Malaya.

“ The Governments of the territories concerned will be asked to overhaul the machinery of the scheme with a view to increasing the efficiency of its working. The Governments are being consulted on the question whether any, and if so, what alterations are required in the regulations now in force. If it is considered that any changes are necessary, full right is reserved to make them as from 1st February, 1928, subject to notice at the earliest possible date.”

Finally, a statement by the Prime Minister on 4th April foreshadowed the complete abolition of the restriction scheme from 1st November, 1928 : ¹

“ The Government has received the report of the Committee of Civil Research on the question of rubber restriction, and it has decided that all restriction on the export of rubber from British Malaya and Ceylon will be removed on 1st November, 1928, the existing scheme being continued unaltered in the meantime.”

In a speech given at Singapore, 11th April, 1928,

¹ *The Financial Times*, 5th April, 1928.

Mr. Ormsby-Gore employed the following words, the significance of which we desire to emphasise :—

“ The raising of the pivotal price had wrecked the restriction scheme, but Lord Stevenson and the Advisory Committee were to blame, not the Colonial Office.”

CHAPTER VI

THE ATTITUDE OF THE UNITED STATES TOWARDS STATE INTERVENTION IN THE MARKET. HER- BERT HOOVER, THE PRINCIPAL EXPONENT OF NORTH AMERICAN OPINION

THE questions relating to restriction bring all countries interested in a restriction scheme into conflict with the interests of American trade, and with the traditions of its economic policy. In view of this fact, which is confirmed by the official attitude of the Washington Government, we should do well to examine closely the decisive influence of economic interests on the foreign policy of the United States.

In the movement in this great Republic against the intervention and restriction promoted by foreign Powers for the benefit of some of their products the lead has been taken by Mr. Herbert Hoover, Secretary of Commerce under the Coolidge Government and his successor at the White House.

Mr. Hoover is considered in the United States to be one of the greatest of living Americans, and also, in the words of one of his biographers, "the most useful man on earth."

Herbert Clark Hoover was born at West Branch

(Iowa) on 10th August, 1874, son, grandson, and great-grandson of pioneers of the West, an old Quaker stock, who were among the founders of his country.¹ Left an orphan at the age of ten, he went to live with his uncle in Oregon, and notwithstanding the love of books that he evinced from an early age, he was obliged to work for his living. However, availing himself of his freedom of movement he entered Stanford University, obtaining in 1895 the diploma of mining engineer. He worked thereafter in the office of one of the most reputed experts in the United States, and was chosen to fill an appointment as assistant in a large enterprise in the east of Australia. In 1898 he was offered the position of Chief Engineer of the Chinese Imperial Mines. For some years he was managing director of various mining enterprises in different countries, working in the United States, Mexico, Canada, Australia, Italy, England, East Africa, India, China, and Russia.² At the age of 34 he occupied a very high position in technical exploitation in the mining world.

In 1916, though occupying a brilliant position in the business world, he decided to resign his position in the companies he was managing and devote himself to a great philanthropic work which had aroused his patriotism. When the Great War was declared, thousands of Americans in different European

¹ *The Making of Herbert Hoover*, Rose Wilder Lane, New York, 1920.

² *Who's Who in America*, 1925, p. 1618.

countries found themselves without resources and quite unable to communicate with their own country. Many such persons came over to London and experienced the greatest privation. Hoover organised a commission to help his fellow-countrymen. But his most important work was done as Chairman of the Commission for Relief in Belgium, upon which depended for a long period of time the lives of seven million Belgians and two million Frenchmen, who were constantly menaced by the spectre of famine during the German occupation. The term "to Hoover" was coined in Belgium, meaning to ration. As President of the American Relief Commission he was the virtual economic dictator of more than half of Europe.

As an author, he published in 1912 a translation of Agricola, *De Re Metallica*, and in 1922 *American Individualism*; he remained a constant and assiduous contributor to reviews even after joining the Government as Secretary for Commerce.

A man animated with a wide spirit of social service, endowed with immense energy, tenacious, impartial, he embodies by his extraordinary qualities of character, by his professional life, and even by his characteristic physiognomy, the true American pioneer of the West, the Quaker by birth and nature. Quiet and taciturn, averse from noisy protestation, he deliberately reserves all his energies for action, with a view to the definite settlement of the points at issue.

His manner is brief and sharp ; in few words he describes what he has already done or proposes to do, the inexorable outcome of the conclusions he has formed.

This man of action is proceeding to address nations occupied with the restriction of their products, and he speaks in the name of the American Government. The weightiness implicit in his words is bound to have its effect.

* * *

In an article in *Current History* ¹ bearing the suggestive title : “ America solemnly warns foreign monopolists of raw materials,” signed by himself, Herbert Hoover enumerated the products restricted by State action, directly by a special legislation, or indirectly by official help. They include coffee, silk, nitrates, potash, rubber, quinine, iodine, tin, sisal, certain dye-stuffs, quicksilver, certain tanning extracts and other articles.

Mr. Hoover protests against the policy of restriction. “ The problem that faces the world,” he says, “ and possibly the more serious problem, is not alone the commodities that are now controlled, but the spread of these ideas. There are many other raw materials whose sources are so situated that they could also be controlled by the action of a single Government. The price of wool could be controlled by governmental action within the British Empire.

¹ *Current History*, vol. xxiii., December 1925.

The prices of oil, cotton and copper could be controlled for many years by similar governmental action in the United States. Tea and jute could be controlled by India ; antimony and tungsten by China ; nickel and asbestos by Canada."

With the common sense and good humour that characterise the American when considering his own interests, Herbert Hoover says : " Moreover, it could also be said that the buyer of a commodity has an inalienable right to argue at the price even when his friends are the sellers. He has a right to consider all these things from his own point of view, without any implication of unfriendliness, for there are two parties in these matters—buyers and sellers—not one party. But far above this, if a man sees his friends pursuing courses which can only lead to mutual disaster to themselves, or the community in which we all live, he is a poor friend who does not say so and say it frankly. And it is equally true among nations."

" High prices," continues Mr. Hoover, " stifle consumption, and when we stifle consumption we do two things : we reduce the standards of living of the consumer and in the long run tend to reduce the business of the producer. The consumer at once seeks every device to get larger use out of a smaller quantity, and he turns, consciously or unconsciously, to the use of substitutes. The demand for substitutes stimulates every genius to discover and exploit

them. I am not referring to adulteration. For instance, the coffee drinker abstracts the last drop from his beans and turns to tea and cocoa. We thus reduce our consumption of coffee by 20 per cent. during the past year. The rubber user patches his automobile tyres and recovers old rubber to use it again."

After reminding us that, as a general rule, foreign monopolies are applied to products of the domestic consumption which represents only a small percentage of the total production, Mr. Hoover adds : " These international monopolies have a very wide difference from governmentally created domestic monopolies. In all modern Governments where we do create a monopoly we likewise regulate its prices and profits in order to protect the consumer. In the international monopolies the consumer has no voice at all."

* * *

Through the initiative of Herbert Hoover the United States Department of Commerce has appointed various technical committees to study the possibilities of producing rubber in various parts of the world. Three monographs were published in 1925 : *The Plantation Rubber Industry in the Middle East*, by David M. Figart ; *Possibilities for Para Rubber Production in the Philippine Islands*, by Vance, Muzzall, Bushwell and Mark Baldwin ; *Rubber Pro-*

duction in the Amazon Valley, by Schurz, Hargis, Marbut and Manifold.

In this last monograph the technical committee carefully studies the restriction projects which the Brazilian Government has evolved for rubber.

It should be observed here that the scheme which Brazil has set up for her principal product, coffee, was determined by the urgent need to prevent the economic disorganisation of production and not by any spirit of gain.

The rapidity with which big coffee plantations were laid out in Brazil did not permit the establishment *pari passu* of the economic and financial bases which are especially necessary to a product of such value as coffee.

The consequence was an enormous fall in prices—especially in 1906—aggravated by over-production. At that time the State of Sao Paulo was governed by men of great energy. Thanks to the courageous initiative of the Government, presided over by Mr. Tibiriça, it was possible to carry into effect a bold plan for coffee restriction. The immediate object was to raise prices. There was an increased stock not only at producing centres, but also in the distributing and consuming markets, so that supply had to be adjusted to meet demand. The Government of Sao Paulo had recourse to an external loan, and by this means bought up some millions of bags of coffee and lightened the markets of such heavy

stocks. Small crops and the increasing consumption enabled the Sao Paulo Government to dispose gradually of the coffee they were holding.

Some years later there was a second restriction. The economic disorder all over the world due to the Great War forced the Government, under President Altino Arantes, to intervene again in the coffee market by buying a few million bags. The money necessary for these purchases was found by the issue of treasury notes by the Government of the Republic.

The great frost in the State of Sao Paulo reduced the crops for some years, thus enabling the Government to dispose of their stocks. The experience of the statesmen of Sao Paulo showed what measures should be taken to afford permanent protection for this, the most valuable product of Brazil. For a long time in various presidential speeches it was pointed out that one of the main causes of the damage to agriculture was that each year the crop disappeared rapidly within a few months, glutted the market of Santos and forced a fall in prices. The planters, lacking the help of adequate financial organisations, would rapidly sell their crop. In the following half-year, after the crop had passed into the hands of middlemen, agents or exporters, prices went up, but no longer to the benefit of the producers.

The Government at length realised the necessity of adopting permanent measures capable of strength-

ening the financial and economic position of the producers.

By keeping the crops in the distributing warehouses the annual output, when placed on the market, is spread equally over the twelve months of the year and always in accordance with the demand, thus preventing an artificial reduction in price through its being sent to Santos too soon.

This protection is not unfavourably viewed by American critics. Mr. Herbert Hoover, in the press interview he granted to Mr. Nestor Rangel Pestana, editor of the Brazilian paper *Estado de Sao Paulo*, said: "I think the Sao Paulo Government has acted in a manner which is legitimate and praiseworthy by intervening directly so as to regulate the arrivals of coffee into the port of Santos by rail. It is an entirely honest way to prevent the accumulation of stocks, which would produce an artificial fall in prices, as compared with consumption." "Nevertheless," continues Mr. Hoover, "I think there is some danger in the provision whereby the Coffee Protection Institute is to allow coffee to come into the market when it thinks fit."

American opinion in this particular case is absolutely clear: the Governments are free to give all assistance to producers; they are free to regulate consignments and impose taxation according to the needs of the producers; but once the goods are in the market and subject to the laws of supply and

demand, the Government's right of intervention should cease. If Government assistance continues to be granted, the Americans will at once denounce such intervention as speculation and consider themselves entitled to take repressive measures against illicit practices which may prejudicially affect consumers.

This is intended as a warning to the Coffee Protection Institute.

In several speeches Mr. Hoover has reminded us what action the United States might take against the restriction of raw materials : " We could resolutely set ourselves to reduce consumption in every article that is so controlled. We could stimulate the use and manufacture of substitutes. We could induce our citizens to go abroad to other regions and establish rival production. We could prohibit the extension of credit to countries where such controls are maintained. We could request the rest of the consuming world to join with us in these campaigns." Summarising his ideas, he added too that the United States could introduce tariff protection for the defence of the American consumer and organise purchasing and unify it so as to face the sellers with only one buyer ; and he concluded : " For the organised consumer has ever proved stronger than the producer, and we could win out in such a battle."

There is no need to examine Mr. Hoover's proposal to see the advantages of a policy of producing

“ more and cheaper ” and so obtaining the same profit as by “ selling less and dearer.” Obviously Brazil can by certain means “ produce cheaper ” ; but one of the big hindrances to production has been taxation, part of which was imposed to cover the expenses of the successive restrictions. We in Brazil ought to envisage in particular the capture of new markets, an increase in consumption in the countries which are already our customers, and, above all, the improvement of the product itself, so as to obtain better prices.

At the same time we cannot ignore Mr. Hoover's observations regarding the American viewpoint in the matter of intervention for restriction.

The conflict leads us to a retrospective glance at American history. To overcome the difficulties of its economic expansion the United States were driven for a whole century to a constant expansion of territory. The rubber question is much more important than that relating to coffee, because it involves the existence of a leading industry which has, in America, an enormous influence on the life of every American citizen. If we realise the impracticability of manufacturing substitutes for this special product, if America does not succeed in overcoming the stubborn policy of Britain, whose economic and financial situation obliges her to put her own above other peoples' interests, the United States may quite conceivably consider the acquisition of territory

capable of producing the raw material essential for its largest industry.

And, if these considerations are not convincing, we should bear in mind the speech given by Mr. Hoover to the Chamber of Commerce at Erie, in which he categorically declared that, should the political control continue, it will affect not only the economic but also the political relations of the United States with the countries which apply it.

CHAPTER VII

THE ECONOMIC POLICY OF THE UNITED STATES.
•THE POSITION OF BRAZIL WITH REGARD TO
THE NORTH AMERICAN RUBBER PROBLEM.

A HISTORY of the territorial expansion of the United States since their independence might be written solely with reference to the economic needs of the great Republic.

The purchase of Louisiana, promoted by President Jefferson for the purpose of obtaining free navigation on the Mississippi, followed by the occupation of West Florida, decided upon by President Madison for the same purpose ; the so-called “ second war of independence ” to guarantee the freedom of the seas ; the acquisition of East Florida and the west territories as far as Oregon, so as to put an end once for all to the losses caused by Indian attacks on the frontier of the Spanish colonies ; the entry of Texas into the Federation, becoming *de jure* American territory after already being so *de facto* ; the ensuing Mexican war, with the capture of New Mexico and California ; the acquisition of Alaska to secure the fishing and regularise the important fur trade : these represent broadly the different stages of the territorial expansion of the United

States, all of them determined by imperialism of a purely economic order.

Each of these stages of American territorial expansion represents one aspect of its traditional policy. The country has attained all the real national objectives, by carrying on to that end a constant, persistent and finally victorious struggle. The old European formulas were often abandoned and replaced by the policy which we call *Americanism*, though no one has yet sufficiently crystallised it to define it in its dynamic and static forms or mark out its irreconcilable contrasts with the ideas of the old world. It is worth while to give a brief account of these episodes, which reveal the genius of a great people, fulfilling itself through the realisation of its economic policy.

THE LOUISIANA PURCHASE (1803)

When Spain ceded the Louisiana territory to France, the Spanish Governor declared henceforth invalid the rights acquired by the Pinckney Treaty of 1795, whereby Americans could place in free warehouse at New Orleans the grain, timber and other products which came down the Mississippi and its most important tributaries, chiefly from the States of Ohio, Kentucky and Tennessee, to be shipped for export.

The vigorous and repeated protests from the American producers and merchants stirred public

opinion and attracted the attention of the leaders of the country. .

Ambassador Jay had already spoken to the Spanish representative the following words, which show how far the great Republic can go when her economic interests are at stake : “ Nous avons dans la Louisiané des populations qui sont encore peu considérables sans doute, mais qui seront un jour très nombreuses. Ces populations ont besoin d’une grande route qui les mène à la mer. Si vous ne voulez pas les laisser passer de bon gré, elles passeront de force.”¹ (We have at present a small population in Louisiana, but it will one day be very numerous. This population requires a big outlet to the sea. If you don’t allow it to pass willingly, it will force its way.)

Madison, then Secretary of State, wrote on 1st May, 1802, to R. R. Livingston, Ambassador in Paris : “ The cession of Louisiana to France becomes daily more and more a source of painful apprehensions.”—“ A mere neighbourhood could not be friendly to the harmony which both countries have so much an interest in cherishing, but if a possession of the mouth of the Mississippi is to be added to other causes of discord, the worst events are to be apprehended.”²

Livingston and Monroe, the latter sent as envoy

¹ Ed. Laboulaye, *Histoire des Etats-Unis*, Paris, 1866, vol. iii., p. 171.

² *The Writings of James Madison*, edited by Gaillard Hunt, vol. vi., pp. 451 and 452, G. P. Putnam’s Sons, New York, 1906.

extraordinary, were instructed by President Jefferson to obtain the Louisiana territory from France by purchase. Jefferson, in a letter to Livingston, explained clearly the importance of the territory : " It is New Orleans through which the produce of three-eighths of our territory must pass to market, and from its fertility it will ere long yield more than half of our whole produce, and contain more than half of our inhabitants." ¹

After some difficulties, Prince Talleyrand, the French Minister, unexpectedly made to the Americans on 11th April, 1803, by order of Napoleon, then first Consul, an offer to sell the whole of Louisiana, which was then much bigger than the State that now bears the same name. The American ambassadors immediately accepted the proposal, and it was settled that the United States would pay 15,000,000 dollars, of which sum 3,500,000 would be given to American citizens who had suffered loss, and certain privileges would be granted to French and Spanish vessels (Clause No. 7 of the Treaty of Paris).² Thus was signed the Treaty of Paris, on the 1st Floreal of the year XI. of the French Republic (30th April, 1803).^{3 4}

¹ *The Writings of Thomas Jefferson*, vol. iv., p. 432, Taylor & Maury, Washington, 1854.

² " Message transmitting conventions with France for the cession of Louisiana, and the liquidation of certain claims of American Citizens " : *American State Papers : Foreign Relations*, vol. ii., p. 506, Washington, 1832.

³ Joseph Story, *Commentaries on the Constitution of the United States*, Boston, 1905, vols. i. and ii.

⁴ Henry Adams, *History of the United States of America during the First Administration of T. Jefferson*, New York, 1889, vol. ii., p. 25.

Napoleon explained his unexpected decision as follows: "Ils ne demandent qu'une ville, mais il me semble que la Louisiane toute entière sera plus utile entre leurs mains à la politique et même au commerce de la France que si je tentais de la garder."¹ But the real reasons why Napoleon sold the old Spanish colony were the difficulty of governing and defending it. Above all, as he himself said: "Cette accession (de la Louisiane) affermit pour toujours la puissance des Etats-Unis et je viens de donner à l'Angleterre une rivale maritime qui, tôt ou tard, abaissera son orgueil."²

This first increase of the territory of the great Republic was really the outcome of economic imperialism. Notwithstanding the size of the territory acquired the American negotiations were guided solely by economic considerations.³

OCCUPATION OF WESTERN FLORIDA (1810)

When, in the arena of European politics, an enfeebled Spain was a mere toy in the hands of Napoleon Bonaparte, and the struggle between the French and the British was to decide the fate of France's colonies in America, the Government of

¹ Barbé-Marbois, *Histoire de la Louisiane*.

² Damas-Hinard, *Dictionnaire Napoléon*, Paris, p. 314.

³ When the United States became independent their area was 529,338,270 acres. Louisiana had a greater area than the American Republic of that period—561,728,394 acres.

the United States decided to regard Western Florida as included in Louisiana territory, which had been acquired by the Treaty of Paris on the 30th April, 1803, and so to prevent any hindrance to the free navigation of the Mississippi. In 1810, President Madison decided upon the occupation of Western Florida, and two years afterwards it was incorporated in the Union. Thus once again we see an increase of the national territory due to reasons of an economic character. It was the free navigation of the Mississippi and not the wish to add to the frontier of the country that caused President Madison to occupy Western Florida.

THE ACQUISITION OF EASTERN FLORIDA AND OREGON (1819)

The inglorious and fruitless campaign which the Americans were forced to wage to defend themselves against the attacks of the Indians of Georgia and Alabama who fled for refuge to Eastern Florida, then a Spanish colony, determined the Government of the United States to try and acquire this territory as President Jefferson had acquired Louisiana.

Diplomatic negotiations failed, and thereupon General Andrew Jackson made a demonstration of strength, which obliged Spain to sign the treaty of 22nd February, 1819, at Washington, by which the United States acquired for the sum of five million

dollars French Eastern Florida and the territories on the American side of the river Sabine, of the Rocky Mountains and of the 42° parallel as far as the Pacific Ocean, including Oregon. The United States reached an agreement with England regarding the Oregon frontier by the treaty of 15th June, 1846.

Once again economic interests dictated the action of the American Government and brought about an increase of the national territory.

“ RE-ANNEXATION ” OF TEXAS (1845)

The Mexican province of Texas was inhabited mainly by North Americans. Some years before its independence the French writer Alexis de Tocqueville said : “ I have already alluded to what is taking place in the province of Texas. The inhabitants of the United States are perpetually migrating to Texas, where they purchase land ; and although they conform to the laws of the country, they are gradually founding the empire of their own language and their own manners. The province of Texas is still part of the Mexican dominions, but it will soon contain no Mexicans ; the same thing has occurred whenever the Anglo-Americans have come into contact with populations of a different origin.” ¹

At the beginning of the second quarter of the nineteenth century Texas had 68,000 inhabitants.

¹ *Democracy in America*, by Alexis de Tocqueville (translated by Henry Reeve), vol. i., The Colonial Press, New York, 1900, p. 438.

Of these, 50,000 were Americans, who demanded the " re-annexation " of the province, as they considered it American territory through the acquisition of Louisiana, to which Texas had belonged.

The American inhabitants had brought to the Mexican province the institution of slavery, which was not acknowledged by the Mexican Government and so was always a source of discord.

In 1827 President John Quincey Adams had offered Mexico a million dollars for Texas. Two years later President Jackson renewed the offer, and in 1835 raised the offer to five million dollars. But Mexico refused, and the population of Texas, under the command of General Samuel Houston, a friend of President Jackson, proclaimed the independence of the province (1836), which formed a Republic recognised by the United States in the following year.¹

The incorporation of Texas in the Union was delayed by the slavery question,² which caused the war with Mexico. The latter lost the campaign, surrendered to its powerful neighbour the provinces of New Mexico and California, and recognised the frontier of the American State of Texas to lie along the Rio Grande. By the Peace Treaty signed on 2nd February, 1848, the United States paid to Mexico fifteen million dollars and agreed to

¹ *The Writings of Alb. Callatin*, Philadelphia, 1879, vol. ii.

² *Debate in the Senate concerning the Treaty for the Annexation of Texas*, 28th and 29th thesis.

grant a little over three million as compensation to American citizens.

In 1853, again by purchase, under the treaty known as the Gadsden Purchase (30th December, 1853), the United States acquired from Mexico the strip of land between the Rio Grande and the Colorado, and thus finally fixed the frontier.¹

PURCHASE OF ALASKA TERRITORY (1868)

The fur trade and fishing in Alaska territory were impeded by the necessity of crossing the British colonies by land and by the action of the Russian Government. During the presidency of Monroe, the Czar forbade foreign ships to approach within one hundred miles of the coast and claimed to bring the frontier to the parallel of 51° , which Russia considered to be the boundary of her colony.

The United States offered five million dollars in 1859 for the territory of Alaska. By the treaty of 30th March, 1867,² Russia sold the whole territory to the United States for the sum of 7,200,000 dollars.³

The accession of Alaska safeguarded the fur trade and the freedom of fishing, but the discovery of gold was in a short time to render this purchase an excellent stroke of business for the Americans.⁴

¹ 23,209,876 acres.

² *U.S. Congress*, 40th, 2nd sess.

³ J. C. Blaine, *Twenty Years of Congress: from Lincoln to Garfield*, Norwich, Conn., 1884, "The Purchase of Alaska," pp. 333-339.

⁴ The territory purchased measured 384,690 acres.

When President McKinley came into office the United States initiated a foreign policy that was an echo of the military imperialism which then dominated Europe.

The expansion in the American continent began by the annexation of the Hawaii Islands (1898), followed by the annexation of the Philippines, Porto Rico and other islands from Spain. In 1899, by agreement with England and Germany, the United States seized the Samoa Islands.

Then there arose the Cuban question and the creation of the Republic of Panama—matters which no Brazilian Government should ever forget.

CUBA

The economic interests of the United States had claimed, since the beginning of the nineteenth century, the acquisition of the Island of Cuba, the possession of which was tempting to the Southern States on account of the great value of her sugar and tobacco, nearly all of which was imported by the Americans, and also because it was a slave-market.

In 1825 President Adams openly declared himself in favour of the annexation of Cuba, thus enlarging the slave territory.¹ President Polk proposed to Spain in 1848 the purchase of the island for 120 million dollars. Spain's answer is well known :

¹ Colonel Senger, *Report on the Cuban Census*, Washington, Government Printing Office, 1900.

"She had rather see Cuba sink in the ocean than transferred to any Power."

A band of Americans made an unsuccessful attempt to seize the island in 1851.

In 1854 President Pierce decided to send to Spain a special ambassador to negotiate for the purchase. Pedro Soulé was chosen for the mission, and was given instructions to take combined action with Mason and Buchanan, the United States representatives in France and England. The three ministers met at Ostend in the summer of 1854 and wrote and signed the so-called "Ostend Manifesto," in which they openly declared that the possession of Cuba was indispensable for the peace of the United States. They proposed to Spain to pay 200 million dollars for the island, and asserted that if, "*actuated by stubborn pride and a false sense of honour*, Spain should refuse to sell Cuba, then we were *justified by every law, human and divine*, in wresting the island from her by force."¹

Important events in home politics turned the thoughts of public men for a time from Cuba, but not those of private citizens, who continued to acquire productive estates in the island. Trade between the United States and Cuba constantly increased, so that in 1897 about 95% of the sugar was exported to the United States. In 1896 the Cubans revolted against Spanish rule. They had

¹ David Saville Muzzey, *An American History*, Boston, p. 373.

fought for two years without gaining a decisive victory, when on 15th February, 1898, the American warship, *Maine*, anchored in the port of Havana, blew up, a number of officers and hundreds of sailors being killed. A commission of American experts stated that the explosion had taken place on the outer plating and that it must have been due to a criminal act. The excitement of the American public forced the Government to ask Congress on 11th April for permission to intervene in Cuba, end the war and establish a stable government in the island. On the 19th of the same month the United States demanded that Spain should abandon her old colony—in reality a declaration of war. A few days afterwards Admiral Dewey destroyed the Spanish fleet which had taken shelter in Manilla in the Philippines, and in July the most powerful Spanish warships were also completely destroyed. This determined the fall of the city of Santiago.

An armistice was signed at Paris on 12th August, and on 10th December the Peace Treaty was signed by the belligerents. Spain ceded to America Porto Rico, the Philippines and other islands, and withdrew from Cuba, in return for an indemnity of twenty million dollars. The United States appointed an American military governor until May 1902 to prepare for a stable government in Cuba. He was followed by the first President, Estrada Palma. By the Platt amendment to the Constitution of the

Cuban Republic, the United States has the right to intervene in the affairs of the island whenever necessary.

REPUBLIC OF PANAMA

Ever since the sixteenth century a number of speculative theorists have toyed with the idea of piercing a canal through some part of the isthmus of Central America. There were countless projects for a passage through Tehuantepec, Nicaragua, San Blas, Darien, Panama and elsewhere. America fully realised the economic importance of a highway linking the two Oceans. Foreseeing that the canal would be cut through Colombian territory, the United States signed with that Republic the treaty of 1846, by which the rights of United States commerce and navigation were placed on an equal footing with those of Colombia.

On 19th April, 1850, America concluded with England the treaty known to diplomacy as the Clayton-Bulwer Treaty, by which the two countries retained for themselves predominant rights on any canal cut through Central America.¹

When in 1880 Ferdinand de Lesseps, fresh from the successful construction of the Suez Canal, launched the enterprise to carry out the Panama Canal, the Americans organised against him a

¹ A. Richards, *The Panama Canal Controversy*, Oxford, 1913. In the Annex the Clayton-Bulwer and Hay-Pauncefote treaties with England, and the Hay-Varilla treaty of 1903 between United States and the Panama Republic, are quoted.

clandestine war so persistent that the subscription of the capital of the company failed.

De Lesseps did not lose courage, and though he was already seventy-five years of age, he inspected the Isthmus of Panama again, confirmed the technical practicability of the enterprise and began an extensive campaign of propaganda, giving public lectures in the United States, France, England, Holland and Belgium.

In 1881, De Lesseps was more fortunate; he successfully launched the Universal Panama Canal Company, and was then able to organise the enterprise with a capital of three hundred million francs, and began the gigantic undertaking at once. According to the calculations the cost of the canal would be sixty million francs.

When De Lesseps had spent twelve hundred million, mostly drawn from French savings, he fell a victim to clever undermining intrigues, found his credit exhausted and was unable to finish the work begun.

The bankruptcy of the enterprise in 1889 was the biggest known in history. It affected an incalculable number of small capitalists.

Americans had always followed De Lesseps' work with close interest. In 1885 an enterprise was launched in the United States with a capital of 100 million dollars to build the Nicaragua Canal, and the work began early in 1889.

The failure of De Lesseps' enterprise allowed the United States to undertake the completion of the Panama Canal. The first step taken by the American Government was to denounce the Clayton-Bulwer treaty and offer England a new treaty signed on 18th November, 1901, by which the United States reserved the exclusive right of regulating the traffic and administering the canal. The work in Nicaragua was, of course, immediately abandoned.

Americans thus acquired De Lesseps' bankrupt enterprise. They bought for 200 hundred million francs all the rights and material belonging to the French enterprise, which had spent twelve hundred million.

When the work began again the United States signed with the Colombian Government the treaty of 22nd January, 1903, which laid down the rules for the construction and operation of the Panama Canal in Colombian territory. But on 12th August the Colombian Parliament refused to ratify this treaty. The consequence of this act is well known.

On 3rd November, 1903, the province of Panama declared its independence, and in a few hours the new Republic was recognised by the American Government. On the 18th of the same month the Panama Republic signed a treaty with the United States giving up not only the possession and control of the canal but also a strip of land measuring ten miles on each side.

On 15th August, 1914, the United States opened the Panama Canal, the price of which had been the territorial dismemberment of Colombia, but which satisfied the economic and strategic necessities of the North American Republic.

* * *

As we see, after 1898 American economic expansion began to enter into open competition with the imperialism of the old European Powers. This evolution led to the United States becoming a colonising nation in Oceania by the conquest of the Philippines, Hawaii, Guam, Tutuila and several others. In 1905 President Roosevelt took possession of the Island of San Domingo, declaring that he had so acted by virtue of the Monroe Doctrine.¹ The famous American doctrine that denied to other continents the right of interference in the affairs of the American countries *ipso facto* imposed upon the United States the duty of dominion in the countries threatened by such interference.²

Until 1898 American expansion throughout her history had always been the outcome of economic pressure. When she had definitely constituted her national home, America allowed herself to be drawn into the current of European military imperialism despite the fundamental principles and political traditions of the Union. The result of the great

¹ Message of 7th March, 1905.

² *Congressional Record*, vol. xl., 1905, p. 7.

European conflagration appeared to bring the United States back to the formula laid down by Washington in his *Farewell Address* : “ The great rule of conduct for us, in regard to foreign Nations, is, in extending our commercial relations, to have with them as little *political* connection as possible.”¹

Has the notion of military expansion ceased to exist in face of the reaction produced in American opinion at sight of the hatred aroused in European post-war politics ? The entry of the United States into the Great War was justified in American opinion until the victory of the Allies over German imperialism, but subsequent European politics have not observed the principles of right and justice that brought America into the battlefields of France. Even international idealism has a logic which the conscience guided by its light must obey. We have no space to define in this work the extraordinary conflict between the European and American allies in the political field since the war ; we can only point out the idealistic character of American policy, dictated as it was by the religious conscience of the people.

It is very remarkable that at the height of its economic prosperity, one of the most civilised peoples, unprecedented in all manifestations of intellectual and physical power, endowed with a wide and intense general and professional culture,

¹ *Washington's Farewell Address*, Duffield & Co., New York, 1907, p. 50.

should have shown itself guided by religious considerations and scruples in its foreign and home policy, in its ordinary legislation and even in the text of its Constitution, interfering even with the oldest human liberties in the name of pure morals, in the interests of eugenics and of race, of social hygiene and of public and individual health.

Anyone who carefully examines American history in the light of American territorial expansion and observes the indifference of that country to the common conceptions of political philosophy current in Europe must foresee that soon there will come into being a new American political doctrine, suggested partly by legitimate apprehension and partly by the desire to profit from the essential wealth of the raw materials of industries which constitute a common patrimony of human civilisation.

M. Briand, in the French Senate, defending the Locarno Agreements, said amidst the applause of the senators : " Mais les accords de Locarno signés, la tâche de paix n'est pas terminée. Il faut prévoir des accords économiques. Là aussi il y a des dangers de guerre. Si un peuple n'a pas sa liberté économique et financière, il cherchera à la conquérir pour échapper à un esclavage plus insupportable que celui qu'impose une guerre." ¹

These words must be carefully studied in Brazil.

¹ Paris, Papers, 5th June, 1926.

Brazil possesses a virtual monopoly of coffee, and can win a predominant position in the rubber, sugar and cotton markets ; and she must seriously consider the economic requirements of the United States, the chief consumer of her exported products, so that she may direct her economic policy to suit the interests of her most important customer.

Brazil has not worked on the classic lines of cheap production to increase sales. She has adopted a low exchange and devised plans of protection in order to export her produce at good prices.

We have time to recover. We must gradually mitigate the passing evils that otherwise will ultimately ruin our production. Let us try to strengthen the economic organisation of the country, using common-sense methods of exploiting the sources of wealth we have abandoned, such as rubber, cotton, sugar, meat and corn.

We must improve the quality and lower the prices of other products, such as coffee and cocoa, so as to extend their sale and compete with similar foreign products.

The American Government has already given us warning in the particular cases of coffee and rubber. One man has spoken in its name on these two questions, which are vital for our national existence ; we know Mr. Herbert Hoover, and we know the immense importance that must be attached to whatever he may say on problems of this kind.

CONCLUSION

To sum up all the foregoing considerations, we must remember that rubber plays an important part in world economy and now holds a very prominent place in the market for raw materials. The enormous development of the industries which employ rubber ensures a most promising future for that article. Brazil possesses—and it is one of the largest regions in the world—the habitat of this plant ; but she has stood still and clung to obsolete processes of exploiting it ; she has lost her supremacy in production and has been thrust into the background in the international rubber trade.

The systematic rehabilitation of this source of wealth is a relatively easy matter ; we have only to follow the admirable example afforded by the exploitation of our agricultural wealth and the influence on our trade balance will be decisive.

Coffee began to be cultivated in Brazil in unoccupied areas, by wholly empirical methods based on slave labour or relying on the fertility of the soil. The stimulus provided by this wealth enabled labour to be organised on a basis of freedom, enabled migration to be controlled and led to the opening up of the interior of the State of Sao Paulo, the recon-

struction of agricultural methods on scientific lines and the improvement of industrial development.

To achieve this successful development rubber must face the enormous foreign competition which has been started and fostered through our negligence.

Brazil possesses 300 million native trees. If we could in a few years exploit only half of our wild trees we should obtain from each at least 6 lb. of fine rubber a year—an annual yield of about 450,000 tons, or two-thirds of the aggregate output of the rest of the world. Brazil has also the advantage of being able to cultivate the *hevea* from the extreme north up to 23° S. lat. and from sea-level up to an altitude of 2,500 feet.

To recover our lost ground we must establish a national program of assistance and protection to the rubber planters, who have at their disposal valuable natural resources wherewith to recover the lost markets. We must gradually replace the old process of the rubber-extracting industry by a systematic exploitation of the valuable Brazilian trees.

Our watchword must be to plant and to keep on planting. To execute this program the Federal Government and, if required, the states and municipalities must establish schemes of an economic and financial nature. The organisation of agricultural credit will guarantee the cost of plantation until the extraction of the latex is possible. The planters so assisted must be required to cultivate other agri-

cultural products needed to feed the workers, so that the cost of life in the regions of *Ouro Negro* (Black Gold) would be reduced.

Immigration must be directed to the rubber plantations ; a regular system of paid labour will enable the agricultural labourers to settle there permanently. There must be easy and cheap transport to carry the product rapidly from the rubber areas to the national distributing markets and from these to the world centres of sale.

Scientific research laboratories must be established, and experimental stations with expert technical staffs will evolve the best conditions for plantation and treatment. Public health regulations must also be adopted.

Greater care in treatment during the preparation of rubber, so as to produce national varieties of quality and in unfailing quantities, must be ensured.

In fact, to compete in the world market Brazil must exploit to the full the fine quality of her national product and strain every nerve to produce varieties of the finest quality.

Capital, labour, quick and convenient freightage, and more care in the treatment of rubber will assuredly guarantee success in the plantation of *heveas* and other kinds in their original habitat, and this can be effected only by well-conceived, vigorous and well-directed action on the part of the Government of the Union.

Nations, like men, amass riches only by work, by an intelligent use of their surplus products and by the creation and development of new sources of wealth. The important rôle of the governments of modern States is to act as a link between the collective efforts of the people and the initiative of individuals, which together mean the national productive capacity. In other words, the Government in the most civilised countries must, on behalf of the community as a whole and by the aid of the resources at its command, act in a protective capacity towards the individual. It must begin by establishing political and juridical order, and must ultimately ensure the organisation of labour and the proper development of public wealth. We have seen that in the United States the *State* influences the moral strength of the country and of the race. At the same time the successive Governments of that country have succeeded in exercising over the nation a moral authority such as we cannot as yet lay any claim to emulate. We should regard it as enough that our statesmen should base their political authority on the legitimate use of their powers and on respect for the law in the exercise of their functions, and that they should succeed in acquiring sound reputations by showing themselves above considerations of mere personal gain from public office and by studying and finding solutions for the great problems of labour, wealth and civilisation in Brazil.

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