

Exporter and Importer

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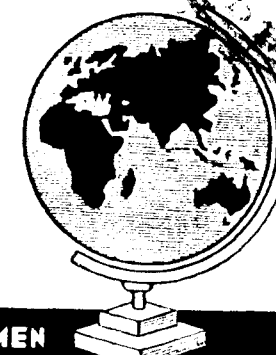
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Exports of Hides and Skins

The term hides in general parlance denotes the raw, dressed or tanned skins of bullocks, cows, buffaloes, horses, camels, etc., while the term skins is restricted to those of calves, sheep, goats, deer and other wild animals. Statistically and commercially, however, calf skins are treated as hides. It has been calculated that in India there are about 200 million head of cattle and 93 million sheep and goats. The

internal trade in hides is greatly affected by the seasons and, when there is any shortage of fodder or general scarcity the market is unusually brisk. The exports of raw hides and skins largely exceeded the tanned before the war, and they are even now about double the latter as the following figures for 1935-36 indicate.

Quantity and value of hides and skins exported in 1935-36.

Description	Hides		Skins	
	Quantity	Value	Quantity	Value
	Tons.	£	Tons.	£
Raw	22677	841260	21195	2234345
Tanned	14029	1717977	6275	2183315

It has been estimated that the internal absorption of tanned hides and skins in local manufactures is equal to the entire volume exported, making the total turnover in hides and skins about £. 10 millions in 1934-35 as compared to 13 millions in the pre-war year. In round figures out of every 100 tons of hides and skins exported, only 32 tons are exported tanned.

In the two years preceding the outbreak of war, there was a marked advance in the prices of raw and salted hides due to a world shortage and an increased demand. This advance was particularly marked in the case of buffalo hides, which

Raw Hides appreciated by 50 per cent. between

1912 and 1913. There is evidence in fact of considerable over trading (doubtless deliberate) on the part of Germany and Austria with a consequent accumulation of stocks in Europe, while the United States market was almost base.

Half tanned or 'crust' tanned hides, known in the trade as East India 'kips', the product for the most part of Indian hand-tanneries in Madras and Bombay were in pre-war days exported in considerable quantities to the United Kingdom where they were curried and turned into finished leather. The tannage used was chiefly the bark of Casia Auriculata (known

as avaram in the Madras Presidency and Tarward in Bombay), of which there are abundant supplies only in the two presidencies named and in the adjoining Indian States of Hyderabad and Mysore.

As soon as the value of these hides as upper leather for army boots was realised every effort was made to stimulate the export, and in August 1916 the Government of India assumed control of the trade and purchased the whole supply for shipment direct to the War Office. The scale of prices was revised from time to time, but so pitched as to encourage the production of army selection leather as much as possible. Steps were also taken to prevent adulteration and improper weighting. The average outturn before the war was only 1,50,000 'kips' annually equivalent to 27,000,000 feet of upper leather. The

Government Control

The scale of prices was revised from time to time, but so pitched as to encourage the production of army selection leather as much as possible.

Exports of raw skins from India in 1913-14, 1918-19: and from 1931-32 onwards.

Year,	Quantity in tons.			Total.	Value.	Average value per ton.
	Goat Skins.	Sheep Skins.	Others.			
1913-14.	22668	1653	7	24328	2260244	929
1918-19.	21345	3622	15	24982	4481107	179.4
1931-32.	15613	520	331	16464	2053536	124.7
1932-33.	12152	636	528	13316	1602388	120.3
1933-34.	18183	1244	492	19909	2424263	121.8
1934-35.	13874	1176	164	15160	1517971	100.1
1935-36.	10108	933	154	2195	2234345	105.4

The export of goat skins, raw and tanned from India represents about one-third of the world's supply. The United States of America has always been India's best customer for raw skins, her share of the trade often exceeding 75 per cent. of the total exports. Next comes the United Kingdom, while Continental countries like France, Netherlands, Germany and Belgium which differentiate against tanned skins by their tariffs, absorb considerable quantities. The fall in the quantity exported in the first two years of the war was of no great moment, and in 1916-17 there was a marked increase in the volume and an even more marked increase in the value of the skins which left India, although by a notification of the 12th August 1916 the only destinations to which shipments were permitted were the United Kingdom, United States, France and Italy. When an apprehended shortage of tanning materials in India seemed likely to prejudice the output of East India 'kips' for the War Office, the tanning of sheep and goat skins in the Madras and Bombay Presidencies was prohibited with effect from the 28th April 1917 and this was followed up by an embargo upon the export of tanned skins to all destination with effect from the 15 May, but the exports of raw skins were below the level of the previous year, chiefly owing to the scarcity of

output at one time during the war was in the neighbourhood of three million 'kips' and at least three fifths of the upper leather, used for the boots, of the Allies was made from Indian hides.

India's exports of raw sheep and goat skins have greatly expanded during the last thirty years owing to the introduction of chrome leather tanning in the United States and the increased demand in Europe for glaze kid. Being largely obtained from animals slaughtered for food, Indian skins, and goat skins in particular, compare more favourably than Indian hides with similar classes of pelt from other parts of the world. The condition of the trade in 1913-14, 1918-19 and from 1931-32 onwards is illustrated by the following table.

Raw Skins

freight and prohibitions subsisting in the principal markets against such imports. As in the case of hides, a boom in 1919-20 was followed by a severe set-back in 1920-21 and shipments of goat skins alone are responsible for the improved figures for 1921-22 and 1922-23 with a lower range of prices in the latter year. This improvement was generally maintained till 1928-29 when exports amounted to 22,891 tons. Since then exports have declined due, as in the case of hides to the general economic depression. About half of the total exports of raw skins from India are shipped from Calcutta alone, while the percentage shares of Karachi and Bombay are 26 and 20 respectively. Madras accounts for only 8 per cent. of the total export trade and shipments from Rangoon are negligible.

Tanned skins, commercially speaking, mean sheep and goat skins only, though there some inconsiderable shipments of other pelts from Indian ports. As in the case of tanned hides, the existence of the bark of Cassia Auriculata in the Madras and

Bombay Presidencies created a large Tanned Skins industry in lightly tanned skins, which flourished for the first two-and-a-half years of the war with very high prices in England,

the United States of America and Japan. In 1917-18 the embargo upon the export of tanned skins, already referred to reduced the volume of these exports from 166,000 to 34,000 cwts. and was lifted only in September 1918 too late to effect more than a partial recovery

in the figures for 1918-19. In the early parts of 1922-23 Indian tanned skins were in good demand but the year closed with large stocks in hand both in London and New York. The export trade in tanned skins has gradually expanded in recent years as will be apparent from the following table.

Exports of tanned skins in 1918-19 and from 1931-32 onwards with value and index numbers.

Year.	Quantity exported.	N	Value.	Index.
	Tons.		£	
1918-19.	...	100	1701428	100
1931-32.	2984	184	2352675	138
1932-33.	5494	184	2281246	134
1933-34.	5485	220	2428246	143
1934-35.	6546	219	2433806	143
1935-36.	6275	210	2183315	128

It will be noticed that the exports in 1935-36 were more than double those of 1918-19. The prices have also risen to an appreciable extent.

The export of tanned goat skins usually exceeds the export of tanned sheep skins, but not to the same extent as in the case of raw skins. The finest qualities of tanned sheep and goat skins come from the Trichinopoly and Coimbatore districts and the Dindigul sub-division of the Madura District of the Madras Presidency, where the tanners are very expert and produce skins unexcelled as regards texture, colour and pliability. The finest qualities of Madras tanned

are specially suitable for the production of light weight leathers finished in light colours. In other parts of the Madras Presidency and in Hyderabad there is a large outturn of tanned skins but they are much commoner in type. India's chief market for tanned skins is the United Kingdom which took 95 per cent. and 83 per cent. of the total exports of goat and sheep skins, respectively in 1935-36. Japanese market for tanned sheep-skins is a post-war development. The distribution of trade according to countries from 1932-33 onwards is shown in the following table, goat and sheep skins being separately distinguished.

Percentage distribution of the trade in tanned goat and sheep skins among importing countries

Countries	Goat Skins.				Sheep Skins.			
	1932-33	1933-34	1934-35	1935-36	1932-33	1933-34	1934-35	1935-36
United Kingdom	99.0	96.0	97.0	94.6	76.0	78.0	74.0	82.7
Japan	...	.5	...	.5	19.0	18.0	21.0	15.3
France	.3	1.1	...	1.7	...	...	...	.2
United States of America	.2	2.4	1.6	2.0	...	.1	...	...



Mica

Twenty-two years ago three-fifths of the world's production of mica was derived from India, the bulk of the balance being contributed by the United States of America and Canada though German East Africa was making considerable headway. A feature of the war was the considerable development of mica mining in Brazil. Practically all the mica mined in India is muscovite, though small quantities of phlogopite are won in Travancore.

Muscovite mica is obtained from two principal areas : 1, the Bihar mica belt, a strip of country about 12 miles broad and 60 to 70 miles long, running obliquely across the districts of Hazaribagh, Monghyr and Gaya in the provinces of Bihar and Orissa, and 2, the Nellore District of the Madras Presidency. The mica mines in Nellore are situated on the eastern

half of the Madras coastal plain over a tract of country about 60 miles long and 8 to 10 miles broad. The garnets of both Nellore and Hazaribagh are of the same variety although they have different crystal shapes. Mica is also obtained from workings in the Eranial Taluk of Travancore, the Hassan district of Mysore and Ajmer in Rajputana. It is impossible to give accurate figures of production from these different fields, which differ considerably not only in the quantity but also in the quality of their output.

The following statement compares the quantities and average values per cwt. of Indian mica imported into the United Kingdom with the quantities and average values of mica from the United States of America, Canada and Brazil.

Quantities and values of imports into the United Kingdom of Indian mica contrasted with those from the United States of America, Canada and Brazil.

Country of Origin-	1913		1919		1932		1933		1934	
	Quantity	Average value per cwt.	Quantity	Average value per cwt.	Quantity	Average value per cwt.	Quantity	Average value per cwt.	Quantity	Average value per cwt.
British India.	cwts. 40178	£. s. d. 3-11-7	cwts. 59013	£. s. d. 9- 1- 5	cwts. 22240	£. s. d. 6- 6- 8	cwts. 20406	£. s. d. 8- 4- 8	cwts. 28360	£. s. d. 8- 1- 9
Canada.	1383	6- 9- 6	780	15- 9- 0	...	...	...	...	...	...
United States of America	889	1- 3- 0	2755	2- 9- 5	240	9- 4- 8	10240	1- 1- 2	7140	1- 5- 4
Brazil.	..	...	217	21-18-10	60	14- 7- 4	...	...	...	...

Originally all the smaller sizes of mica, i.e., under one square inch, had little or no commercial value. These, with the trimmings and other waste, were dumped close to the mine or factory. It is now unusual to discard clear or slightly stained mica of above one square inch and this is recovered even from mica dumps. The installation of grinding plants to convert these trimmings into boiler and pipe lagging, etc., has scarcely been attempted in India in the absence of an assured market for their consumption though, it is stated, they form part of the equipment of almost every mine of any size in America.

For the manufacture of micanite, mica splittings (generally No. 6 and No. 7 size) are stuck overlapping each other with shellac dissolved in spirit. They are thus cemented together either alone, or on cloth or paper backing and built up under pressure into

sheets of any required size and thickness. These varieties are most commonly known as micanite 'broad', 'cloth', and 'paper' respectively. The micanite is normally steamed, rolled and trimmed and finally shaped. Women and children are extensively employed in the mica fields for the preparation of splittings from mica block. Micanite was made at Kodarma but has been discontinued for many years as it has been found more convenient to make it in England where the market can be more quickly supplied with sheet or pressed ware. The same reasons apply to condenser plates, funnels and other mica manufactures which would otherwise be undertaken in India.

At present exports are chiefly in the form of block mica and splittings which are packed in boxes lined with paper and calculated to weigh about 1 cwt. nett each, the unit of sale being the bazaar maund

Exports.

in Calcutta. From Madras shipments are made in cases of 90 to 170 lbs., from Tuticorin cases of 100 lbs. and from Calicut in cases of 83 lbs. Quotations for export are generally based on the lb. f. o. b. The following are the statistics of export of mica from

India in recent years as compared with the pre-war and post-war figures. There are, it will be noticed, considerable variations in the average value from year to year partly attributable to the proportion of block mica to splittings in the shipments.

Exports of mica from India in 1913-14, 1918-19 and from 1931-32 onwards

Year.	Quantity	Value
	cwts.	£.
1913-14	53891	302564
1918-19	55992	598971
1931-32	53368	295187
1932-33	40466	236430
1933-34	65718	335529
1934-35	104502	517994
1935-36	166649	626141

Nux Vomica

Nux vomica, which is commercially important as the source of the alkaloids strychnine and brucine, is the name given to the seeds of a deciduous tree widely distributed over India known as Strychnos Nux Vomica. The fruits are collected between November and January and the seeds taken

out and dried in the sun, the busy season for export on the West Coast running from February to the middle of May. Shipments are chiefly from Cochin, Madras, Cocanada, Bombay and Calcutta. Figures for the foreign trade in 1913-14, 1918-19 and from 1931-32 onwards are given in the following table.

Exports of Nux Vomica from India in 1913-14, 1918-19 and from 1931-32 onwards.

Year	Quantity	Value.	Average value per cwt.
	cwts	£.	£ s
1913-14	46149	17366	0 8
1918-19	62158	57606	0 18
1931-32	28789	8502	0 8
1932-33	19978	8787	0 9
1933-34	59058	22400	0 8
1934-35	65041	27058	0 8
1935-36	17093	7063	0 8

The prices, which rose to an appreciable extent during the war period and some years after it (the average value per cwt. in 1921-22 being £ 1 17s.) have again declined to the pre-war levels. The chief countries participating in the trade in pre-war times were the United Kingdom Belgium, Germany, Holland and France, and in 1933-34 the United States of America, (52 per cent.), the United Kingdom (24 per cent) and Netherlands (18 per cent.). 'Fair general average of season, Europe cleaning' is usual

quality exported. in Madras and Cocanada nux vomica is exported in bags containing 168 lbs. and 182 lbs. each while on the Malabar Coast, the unit is the packets of 28 lbs, or 56 lbs. It is exported from Bombay in bags of 140 to 168 lbs. The unit of sale in Calcutta is the bazaar maund and in the South the candy of 500 lbs. or 600 lbs., generally, garbled or ungarbled.

Betel Nuts

The betelnut, which is the fruit of the arecapalm (areca catechu) forms in conjunction with the leaf of the betel, and a little lime and clove or nutmeg, the common masticatory of the East, known all over India as pan supari. Statistically both the betelnut and the betel leaf are regarded as spices and the internal demand for the former is so great that the import trade is of much greater moment than the export, though there is some traffic outwards with colonies where Indian emigrants abound. Though supplies of betel leaf which are derived from a climbing plant belonging to the same family as pepper are drawn from considerable distances by rail and river, the fact that they have to be chewed green, limits foreign exports, which are negligible, to the Island of Ceylon. The areca palm is confined almost entirely to the moist tropical tracts that

fringe the coastline and it is seldom found more than 200 miles from the sea. No statistics of area of production are available but the number of trees must be very large as the demand is practically universal. In Southern India a full-grown tree is calculated to yield 250 to 300 nuts annually, but elsewhere as for example in Burma, the average output is very much lower. The nut is prepared in a great variety of ways for sale being sometimes marketed sun-dried only and sometimes plucked unripe and boiled and sliced. The Indian tariff recognises eight different classes with different valuations for purposes of import duty.

The following table illustrates the insignificant extent of the export trade as compared with the import trade.

Exports and imports of betelnuts in 1913-14, 1918-19 and from 1931-32 onwards.

Year	Exports		Imports	
	Quantity	Value	Quantity	Value
	lbs.	£	lbs.	£
1913-14	439886	8224	127464241	819068
1918-19	362419	8119	142527683	1142288
1931-32	295120	7717	123314240	1085628
1932-33	367248	11003	125143088	891983
1933-34	382144	10264	133773696	784408
1934-35	394128	10352	137480560	767201
1935-36	426160	9554	147777504	729014

The principal recipients of Indian betelnuts are the Union of South Africa, Kenya Colony, Aden and Fiji Islands, and the chief ports of export Bombay

and Madras. The bulk of the imports come from the Straits Settlements, Ceylon, Java and Hongkong.

Scientific Research in Indian Jute Manufactures 1

By Dr. S. G. Barker, O. B. E. *

It is a great privilege that one who is engaged in the development of science in an important Imperial Textile Industry should address the Royal Society of Arts in emphasis of the significance of the introduction of methods of scientific precision into a sphere which has, up to date, been largely the particular province of operative artistry. The future,

† A paper read before the Royal Society of Arts, Indian Section, on Friday March 11th, at 4-30 P. E. A. Watson in the Chair.

* Reproduced from the Mysore Economic Journal.

however, demands that production of textiles should be that of hygienic, utilitarian and economic commercial commodities which will find aesthetic acceptance, and in the achievement of this object, Arts and Science must be irrevocably wedded. In industry, both ancient and modern, textiles manufactured from natural as contrasted with those synthetically or chemically produced, occupy a distinctive position in textile science and manufacture, in that they are based upon raw materials which are not controllable in formation and hence are not of uniform characteristics

and composition, but whose greatest feature has aptly been described as "the variability of their variability."

In the growth of jute fibres, Nature, assisted by the innumerable cultivators, evolves delightfully variable filaments for mill manipulation, which set the mill technician great problems, the underlying theme of which is the question as to how he can apply his operative artistry and skill to the production therefrom of fabrics which will present uniformity of appearance and performance in use, whilst also, in general, will average the variability of the raw material presented to him for manipulation, to reproduce every time that degree of uniformity and non-variability of the finished cloth which is essential in commercial dealing. Under these circumstances, where not only local differences of growth but annual differences of climatic, soil and husbandry conditions exert their influences on the nature of the fibres produced, manufacture into a uniform and reproducible fabric calls for human artistry as a paramount factor which cannot be wholly replaced, but can be materially assisted by methods of scientific precision. Thus our immediate concern is to see how far we can take advantage of the exact and exacting methods of science as assistants to operative artistry in the more economic production of a uniform jute fabric. It is not my intention, in this paper, to deal with the more detailed parts of our research programme, but to begin, *ab initio*, to study the outstanding features of the second largest textile industry in the world.

Like many other good things, the jute manufacturing industry had its wider origin and drew its inspiration from Scotland, and like another commodity well known in Bengal from Scottish sources, it has matured until its potency and efficiency are highly developed and firmly established. India is almost monopolistic regarding jute production, being practically the only source of the world's jute fibres, the production in recent years reaching almost two million tons per annum, all grown in India, except some 12,000 tons in Nepal and 5,000 tons in Formosa.

It has also to be remembered that the whole two

million tons of jute are grown in a comparatively compact area at the centre of which we have Calcutta, with its manufacturing interests and shipping facilities. The latter are an important issue, in that very little of the jute grown or manufactured remains in India, but nearly all is exported (in fact, in some years jute exports collectively represented 25 per cent. of India's total exports). Thus there is little close proximity between user and manufacturer or producer, a fact that is of great importance in devising a research scheme. It is somewhat surprising in this country to discover how few people have any idea of the vast dimensions and ramifications of the Indian jute manufacturing industry and of the wonderful mills which have been built up along the banks of the Hooghli, affording employment for the skilled artistry of the Indian operative in the utilisation of an indigenous fibre of local production. I was very considerably interested some years ago in an excellent paper by Sir Alexander Murray to the Royal Society of Arts, which set out very ably the extent and importance of the jute manufacturing industry to the Empire and to India. There are many who regard jute as the cinderella of textiles, merely used for packing and wrapping and of such little intrinsic value that it is unworthy of scientific thought and development. To them, it comes from somewhere remote, it carries goods from other remote places, and its function is always to afford a picking for something else more valuable. When one remembers that over 70 per cent. of the raw materials, foodstuffs and fibres of the world are carried to their destination in jute covers and, further more, that at the moment we are more than interested in foodstuff storage and transport as

Production in Thousands.				
Jute Raw	Bales	Bags Yds.	Cloth Yds.	Total Yds.
1937	8618		Not yet available	
1936	9635	757967	1834249	1253
1935	6400	654467	1824735	1009
Exports of Raw Jute.				
	Quantity cwt.	Value Rs.		
1933-34	748188	109326707		
1934-35	752474	108710918		
1935-36	771324	137076350		

Exports of Jute Manufactures.				
	Gunny Cloth Hessian and Sacking. Quantity: Tons.	Gunny Bags Hessian and Sacking. Quantity. Yds.	Gunny Bags. Hessian and Sacking. Value. Rs.	Gunny Cloth Hessian and Sacking. Value. Rs.
1933-34	381171	1052581163	97242529	113816255
1934-35	395772	1063473232	102531544	109929633
1935-36	425726	1218316409	110146341	122373035
Authorised capital of the mills				Rs. 237067000
Average daily workers -1936				271786

also hygienic and protective methods, of so doing, then research on the wrapping and conveyor material becomes something of magnitude and immediate importance.

In his paper Sir Alexander Murry made one particularly interesting statement which I would quote:—

“We must not omit to give due weight to many factors that in the past have helped to absorb the ever-increasing output of jute goods, *e.g.* the industrial revolution, which required bags and cloth for the movement of great quantities of raw materials and manufactured articles all over the world, the opening up of new countries requiring jute goods for the movement of crops to feed people of the industrial towns and cities, the expansion of road, rail and steam vessel transport, and in particular the opening of the Suez Canal, which brought the jute fields of Bengal nearer to the large consuming centres. Important factors such as these, which contributed so much to the expansion of the jute trade and industry are not likely to be repeated.”

This paragraph sets out clearly the objects and range of an ideal jute research programme. Taking this as our “text,” let us develop the subject on lines which will be most likely to produce materials for modern requirements.

First of all we mention the extent of the industry. It is not my function or my capacity to dwell upon the statistical side of the industry, but in passing, merely to quote the figures which will indicate something of the range of the vast industry under discussion.

The Fibre Itself

It would take a much longer time than I have at my disposal to go into the many aspects of production, but it is significant to mention that there are no large estates or plantations, but the maximum holding for jute cultivation is not more than three acres as a rule. The cultivation and extraction is more or less a family affair, the actual incentive to the ryot being that it renders him a quick cash return for his labours. The extraction, in reality a very important issue, is in the hands of millions of people and as such it is obvious that a considerable range of variability can be, and is, introduced simply by the personal factor in addition to the natural influences. The latter involve preliminary preparation of the land and tillage, etc., all dependent on the individual ryot and his economic circumstances, selection of seed, and retting technique and facilities. Even in harvesting a great deal of variability is introduced so that before it reaches the baling station every possible opportunity is afforded to create variables. This state of affairs naturally has to be limited, and at the baling stations a first, and incidentally a very efficient attempt, is

made at sorting the jute into grades. Baler's assortment only bears a very indirect relationship to manufacturing performance and it is for the mill buyer to assess the baler's selection in terms of hessian warp, hessian weft, sucking warp and sacking weft, etc., *i.e.* the proportion of fibre suitable for each purpose in the bale. This refers to Indian mill practice. “Pucca” assortment is much more specialised and the standards vary very little from year to year. This is essential for export purposes.

Now let us turn to the fibre itself and examine its identity before dealing with manufacture. The plain question, what is jute? has to be answered both anatomically, chemically, and physically, before we can proceed further. There are two kinds of jute: “white jute,” produced from *Cochorus capsularis*, and red jute extracted from *Corchorus olitorius*. The two types do not vary greatly in chemical composition, but a really good Tossa or Olitorius is a good spinning proposition as a rule. It is not my intention to dwell further upon this genetic aspect of the fibre, but to push along to what to me is the initial opportunity for research work in the manufacturing industry, namely, the moisture content of the bale and the trouble which may ensue from too much water (added to otherwise). Secondly, there evolves out of the technique of selection and assortment, the psychological factors which are called into play in so doing. It is more convenient at this stage to consider the assortment question, leaving the moisture issue until we have studied more about the absorptive qualities of the fibre.

As already stated, for Indian purposes there is little direct relationship between manufacturers' requirements and assortment at the baling station, yet commercially this causes little trouble. Dealing with variable fibres, both internally in a year's crop and annually from the same locality, the manufacturer has to average his batch or blend to meet the requirements of the yarn to manufacture his final product. In his assortment the mill technician has one object in view, namely, the production of uniformity of his cloth. This information could never be in the possession of the baler, as he does not know the individual skill, machine facilities, or other factors of the mills to which the fibre may be sent. Standardisation of assortment, therefore, in my opinion, must be preceded by improvement and greater uniformity in production and extraction. This, however, does not preclude us from an examination of the sorting methods. Three factors are at least involved, physical, physiological and psychological. Apparently, the desirable characteristics of the fibre are lustre, strength, length, “fineness” (or lack of coarse structure), silkiness, cleanliness and freedom from roots and adhering bark. The sorter's assessment is mainly

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Tare weight not to exceed 650 lbs.

Gross weight not to exceed 1,100 lbs.

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Orchis incarnata, saleb panja, hastanjuli

Paris polyphylla, dudwach
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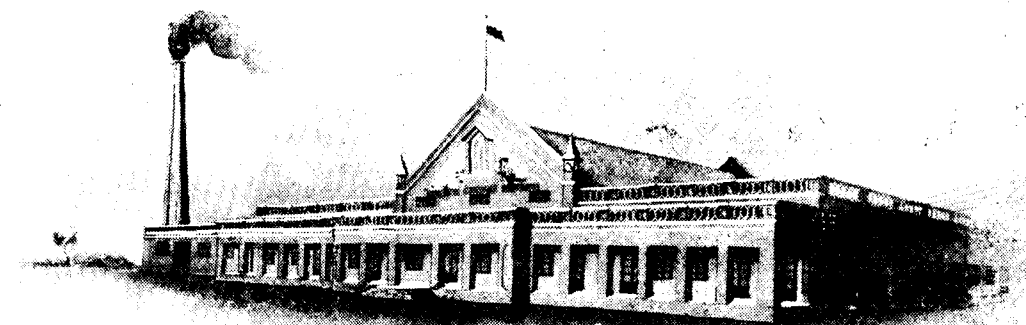
CONTRACTORS & ENGINEERS

20, SECOND LINE BEACH,
MADRAS (S. INDIA)

visual, and probably "appearance" of the fibre in the mass, is the "outward and visible sign of the inward manufacturing grace." There is a direct relation between appearance and physical properties, however, which justifies this. What is involved in appearance? Colour, shade and lustre. These attributes are all measurable with precision and science has given us to-day instruments which will accomplish these assessments. The research organisation of the Indian Jute Mills Association is now busy investigating how far these instruments can render values capable of being related to commercial transactions and utility. In the past (there has been little necessity therefore) the jute fibre in manufacture has been treated as something inferior to flax which could, by suitable adjustment, be manipulated on modified flax machinery, into cheap packing materials. This

procedure has been adequate for the type of material to be produced, and will prevail for a very long time. Science has, however, presented a new idea namely, the individuality of the jute fibre, and the trend of modern machine processing, will undoubtedly, proceed along the lines of the limitations imposed by the fibre itself, or in other words its individuality, as it becomes known, will influence the methods of its treatment. In all things, however the scientist must remember that it is easier to alter than to improve.

It is therefore essential that we study the chemical and physical nature of the fibre first of all. At the moment the outstanding work of Mr. A. G. Norman on jute at the Rothamsted Agricultural Experimental Station and the conclusions to be derived therefrom are very important.



R.E.I. Dairy (Dayalbagh)



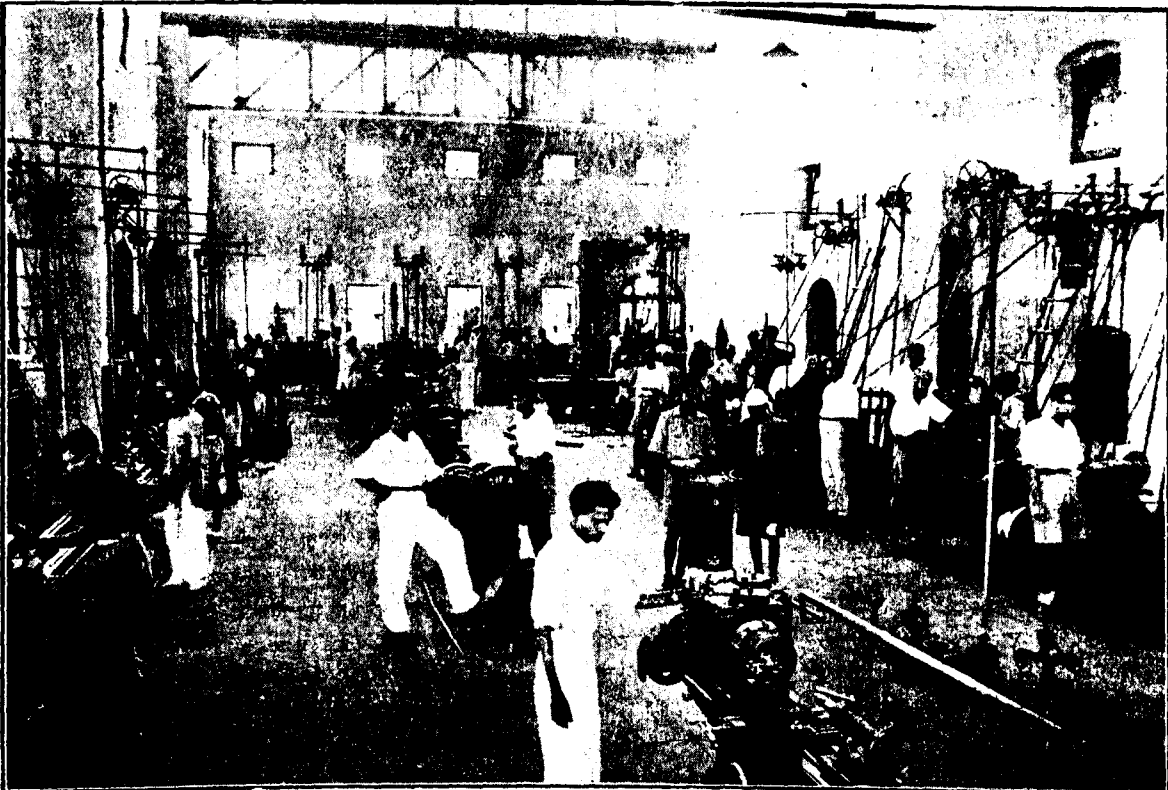
Model Industries Dayalbagh

DAYALBAGH which, translated into English, means the 'Garden of the Merciful', is the name of the colony of the Radhasoami Community, situated at a distance of about a mile from the township of Agra. The colony was founded in the year 1915, by His Holiness Sahabji Maharaj, the fifth Revered Leader of the Radhasoami Faith. After the departure of the fourth Revered Leader in December 1913, the headquarters of Radhasoami Satsang were temporarily shifted from Murar in the Bihar Province to Ambala, the native place of His Holiness Sahabji Maharaj. Within about a year of this event, the Satsang movement acquired an unprecedented mo-

mentum, and it began to be felt that the time had come to put into effect the August Commands of the Founder and the subsequent Revered Leaders of the faith regarding the building of a permanent abode for the Central Satsang at Agra and the establishment of various institutions requisite for the consolidation and progress of the community and for the spreading of the Message of Radhasoami Dayal. Early in January 1915, therefore, a site, measuring about 4 acres, was acquired opposite the Sacred Mausoleum of the August Founder of the Faith at Agra, and, on January 20, 1915, the foundation of the colony was laid by His Holiness Sahabji Maharaj.



H. H. SAHABJI MAHARAJ



June 1938.
by the planting of a mulberry tree.

The colony now covers an area of over 3,000 acres, and has a population of about 3,500 souls of whom 762 are students.

In constructing buildings in the colony, whether for purposes of living or for accommodating their public institutions, scrupulous care has been taken to avoid overcrowding and make provision for plenty of sunshine and free air. The public buildings are located in separate compounds, while the residential quarters are grouped in separate localities or *nagars*, known as Prem-nagar, Soami-nagar, Swet-nagar, Karyavir-nagar, Saranashram-nagar and Bidyutnagar. In order to make life pleasant for the residents, pains have been taken to provide, within the colony, all the necessary conveniences of life. The colony has its own electric supply and waterworks, its own flour and oil mills, its own farms and factories, and its own hospitals and stores. The scrupulously clean roads with rows of shady trees on both sides, the beautiful flower gardens, fountains and playgrounds, and various public institutions contribute, in no small measure, to the felicity of life. In the colony, there are schools to teach arts, sciences and handicrafts, shops and factories to give practical training in mechanical, electrical and automobile engineering and in other industries, a bank, and orphanage, and an agricultural and dairy farm. The rules

June 1938

and regulations of the colony, moreover, which are applicable to all the residents equally and are observed religiously, keep many an ill and evil off their doors. For example, no resident of the colony is allowed to own any immovable property within its boundaries, and all maternity cases have to go for delivery to the Maternity Hospital. It is compulsory for all boys and girls of school-going age to go to school. All the residents attend the morning and evening Satsang (Divine Service) and keep their persons and clothes clean. Every resident makes it a point to use the cloth and other articles, made in the factories of the colony, and thereby contribute his quota to the growth and prosperity of its industries.

A reference to the first edition of the Colony's prospectus which appeared in December 1928, will show that the colony then owned only 500 acres

EXPORTER & IMPORTER

of land and had a population of 2,000 souls. During the interval, we rejoice to say, not only have the acreage and population appreciably increased, but also all their institutions, including the industries, have considerably expanded. The exports of the colony, consisting of the products of its farms and factories, amounted to Rs. 10,51,730 in 1936-37 as against Rs. 3,93,658 in 1927-28. The number of employees on the rolls of the paid establishment has also mounted up proportionately, and it is no small consolation to us that, at this time of universal depression and unemployment, the little Colony is able to provide work and bread for nearly 2,000 employees. The Colony manufactures laboratory balances and weights, pad bolts, tower bolts, fountain pens, inks, pen knives, gramophones, ceiling and table fans, lanterns, jewellery, cloth, hosiery, footwear etc.



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Wollen Carpet Co.,
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Meadows Street, BOMBAY.

Swadeshi Bhandar,
Khajanchi Mohalla, ALMORA.

Reliance Carpet Co.,
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In reply to enquiries for the names and addresses of trade and technical journals in India, we publish the following list of such journals.

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'Commerce,'
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'Industry'
Shambazaar, CALCUTTA.

Engineering News,
ALLAHABAD.

Indian Forester,
Pioneer Press, ALLAHABAD.

Mysore Economic Journal,
BANGALORE.

Business India,
Graham's Building, Parsi Bazaar Street,
BOMBAY.

Indian Listener,
NEW DELHI.

Calcutta Exchange,
Gazette, & Daily Advertiser. 5, Mission
Row, CALCUTTA.

Indian Concrete Journal,
Telephone Bldgs, Home Street, BOMBAY.

Indian Textile Journal,
Noormahal, Military Square, Fort,
BOMBAY.

Radio Talkie & Electric News,
192, Hornby Road, BOMBAY.

Safety News,
676, Electric House, Fort, BOMBAY.

Commercial Education,
P. B. 2020, CALCUTTA.

Commercial Gazette,
2, Royal Exchange Place, CALCUTTA.

Financial Times,
61/3B, Eden Hospital Road, CALCUTTA.

Indian Aviation,
13 Ezra Mansions, CALCUTTA.

Indian Soap Journal,
22, Canning Street, CALCUTTA.

Planters Journal & Agriculturist,
13, Ezra Mansions, CALCUTTA.

Indian & Eastern Motors,
5, Mansion Row, CALCUTTA.

Tisco Review,
100, Clive Street, CALCUTTA.

Industrial India,
Chandni Chowk, DELHI.

Journal of the Motion Picture Society of India,
Mherwan Building, Sir Phirozeshah Mehta
Road, Fort, BOMBAY.

Indian Efficiency Magazine

D. B. Taraporevala & Sons.,
Book-sellers & Publishers, Hornby Road,
BOMBAY.

Indian Finance,
British Indian Street, CALCUTTA.

Financial News,
Yusuf Building, BOMBAY. 1
Capital, CALCUTTA.

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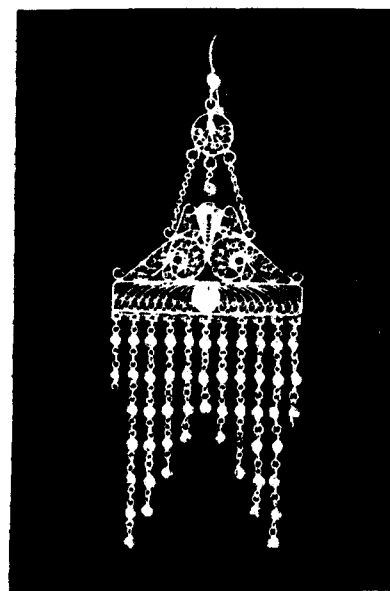
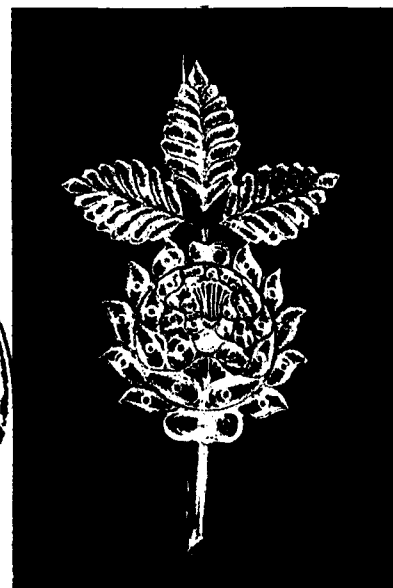
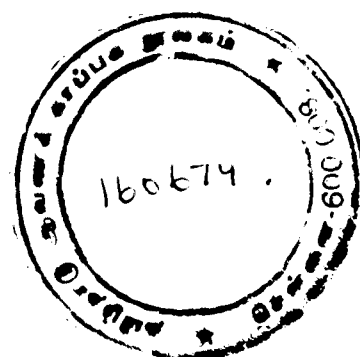
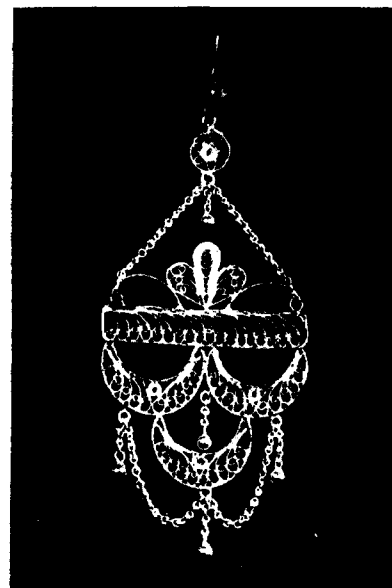
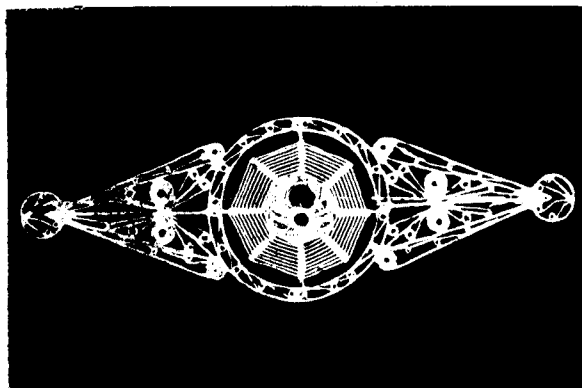
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Address	
Place	When Established

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(Give exact data)
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Make active use of our Service! It costs nothing. We have instituted this service to facilitate the opening up of new and reliable business connections and to simplify the business intercourse between customers and suppliers.

1. Export Department

Our EXPORT SERVICE DEPARTMENT, immediately on receipt of any enquiry, will do their best to procure the information needed. We are experienced technical experts, who know our ground perfectly well and irrespective of the nature of the information required, we will try our utmost to furnish the correct and exact information. **We always give such information absolutely free and disinterested.** All that we require is the **most exact and specific** description of the article required, for then only we can supply **accurate** information speedily and easily also. The more accurate the details given to us, the quicker and better can we supply the required information.

2. Agency Department

We always have a list of efficient factories in nearly all branches which desire to dispose of their agency and also list of individuals and firms who desire to take up agencies. We always direct the one to the other. We inform the firms of the names of those who wish to take up agencies or we communicate the address of the manufacturers to the agents. People desiring to take up agencies must give exact details as to the articles in which they are prepared to take up agencies, in which line they have a good connection, whether they have expert knowledge of any line, if so of which and in which languages they would be able to correspond. They must also give us their references [See Information Department.]

3. Trust Department

Clients may deposit with us amounts which are destined for the payment of small and large consignments. We pass these on to the seller in accordance with instructions.

Clients who feel uneasy about the punctual delivery of an order or who receive no answer from firms of whom they have made enquiries can write to us about it. In most cases we shall be in a position to help them and clear up existing misunderstandings. We are also prepared to institute, conduct and defend suits on behalf of our clients so as to spare them unnecessary worry and vexation as also to collect debts.

4. Correspondence Department

In the event of any one needing a quotation urgently or particularly specified, our Correspondence Department gets in touch directly with the source of supply and hastens the despatch of the quotation. Very accurate details, as mentioned under 1, are particularly necessary in this case in order to avoid waste of time by counter queries. We undertake the procuring of valuable samples upon previous remittance of the amount to us. We forward letters to firms whose exact address is not known to our customers.

5. Information Department

In order to facilitate us to give the manufacturers to whom we recommend our clients some reliable information about them, it is necessary for them to give us their references—in addition to their bank, also firms with whom they have had business connections for some time. **The opening up of new business connections is thus considerably facilitated and they have the advantage of always being able to quote the EXPORTER & IMPORTER Information Department as a reference in the future.**

6. Travel and Guides Department

When you are visiting India, Burma, Ceylon, we place at your disposal efficient Guides and give you any information desired. When you come to Madras we can refer you to interpreters and can place at your disposal stenographers, meeting rooms etc. We procure you prospectus of every company and map out travel routes for you through the most important industrial centres. We are willing to act as wards for pupils in whom our clients are interested, to receive amounts on their behalf and to disburse the same.

7. Advertisement and Publicity Department

This department is in charge of the 'EXPORTER & IMPORTER' museum and will furnish all information regarding the demand for commodities in Indian Markets etc. (vide advertisement elsewhere). We also undertake to work as advertising consultants and publicity agents.

