SCIENCE:

A WEEKLY NEWSPAPER OF ALL THE ARTS AND SCIENCES.

PUBLISHED BY

N. D. C. HODGES,

47 LAFAYETTE PLACE, NEW YORK.

SUBSCRIPTIONS.—United States and Canada.....$3.50 a year.
Great Britain and Europe..... 4.50 a year.

Science Club-rates for the United States and Canada (in one remittance):

1 subscription	1 year	$ 3.50
2 "	1 year	6.00
3 "	1 year	8.00
4 "	1 year	10.00

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VOL. XIV. NEW YORK, SEPTEMBER 20, 1889. No. 346.

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ABOUT TEN DAYS AGO there appeared in the *New York Sun* a sensational article to the effect that, on account of the depreciation in the value of Baltimore and Ohio stock, and the loss of income from dividends on the stock, Johns Hopkins University was ruined. What the animus of this article was we do not know. It may have been written with the hope that it might further the interests of some stock jobbers, or it may have been written by some enemy of Johns Hopkins bent on doing the university what harm he could. A glance at the article in question showed that it contained nothing but what was perfectly well known months ago, so far as ill was concerned, and that all reference was omitted to the successful efforts of the university's friends to help it at a time when it was temporarily short of ready cash. We were so impressed at the time with the character of the article, that we made no allusion to it last week, supposing it to be evident enough on the surface that it was all published to produce a sensation, and not to record a plain statement of fact. We should not now have any thing to say were it not for the frequent allusions published in our exchanges, showing that some read the *Sun* and accept its fictions as news. All that need be said now is that for years the trustees of Johns Hopkins University knew, as any body of sensible men would know, that, as a good portion of their income-bearing property was in Baltimore and Ohio stock, it would be wise to save up some of the income to provide against any cessation of dividends. This was done. Again, when the dividends stopped some months ago, steps were taken to raise additional funds to cover expenses, and these efforts were rewarded with all the success desired. The result is that the university goes on with ample means to continue as a model to all our American universities, as it has been from the start, with a full faculty on full pay.

THE PREPARATION OF JAPANESE LACQUER AND THE MANUFACTURE OF WAKASA WARE.[1]

JAPANESE lacquer is the product of a tree (*Rhus vernicifera* D. C.) which grows throughout the main island of Japan. It attains a large size, the trunk sometimes measuring a metre in diameter. It is said the tree will live for forty years, but only comparatively young trees are valued for the production of lacquer. Having yielded for several years, they are cut down, the lacquer extracted from the branches, and young trees take their places.

The principal section of the lacquer industry is between the parallels of 37° and 39°, beginning about one hundred miles north of Tokio. The best lacquer, however, comes from much farther south, from Yoshino, in Yamato.

The lacquer exudes from horizontal cuts in the bark, in the form of a rather viscid emulsion, and may be collected from April to the end of October. In the spring it is more watery than in the later months. However, the sap never flows so freely that it can be collected in vessels, as has been stated by writers. It exudes slowly, and is collected by means of a pointed, spoon-like instrument, and transferred to a wooden receptacle or tube of bamboo. Several cuts are made in each tree, the last as high as a man can reach. Having thus prepared a dozen or more trees in rapid succession, the collector begins to collect the juice from the cuts in regular order, beginning with the one first cut.

Having finished the collecting, he takes other groups of trees, and after about four days returns to the first, where, after removing the accumulated yield, he cuts again into the same trees, and repeats the same rôle fifteen or twenty times. Thus the work may go on for eighty to a hundred days. The utmost yield of a single tree is about forty to fifty cubic centimetres of raw lacquer.

As the sap first exudes, it is a grayish-white thick or viscous fluid, which quickly turns yellow, and afterwards black where it is in contact with the air.

The sap thus collected is *ki-urushi*, *urushi* being the general name for lacquer. An inferior kind is obtained from the branches when the trees are cut down. The branches are soaked in water for several months, then taken up and slightly warmed, when a small quantity of sap exudes. This is *seshime urushi*.

The lacquer is strained through cotton cloth to free it from bits of wood and dirt, first being thoroughly stirred to break up lumps and make a uniform mixture. The product thus purified is known as *seshime urushi*; but this name, which has already been used to designate the lacquer from the branches, has now a different meaning, and is applied to the cheaper kinds of raw lacquer, such as are used for the first coats in lacquering. These lacquers have usually lost some of their water by stirring in shallow receptacles exposed to the sun. They have undergone no further preparation.

Many varieties of lacquer are prepared for special purposes, ranging in price from one or two to six or seven dollars per kilogram. These differ in quality and color. There is a famous black lacquer prepared by the addition of iron, which forms a chemical combination to be mentioned further on; while red, green, yellow, and other colors are imparted by addition of various pigments, as cinnabar for red, orpiment and indigo together for green, orpiment for yellow, etc. Ultramarine is decomposed by lacquer, giving off sulphuretted hydrogen. Certain lacquers have a small proportion of a drying oil (perilla oil) added to them. The lacquer known as *shiu urushi* contains from one to ten per cent of this oil. The name "*shiu urushi*" means "cinnabar lacquer," and is applied to this variety because it is commonly used to mix with cinnabar when a red lacquer is required.

The emulsion as it comes from the tree consists of an aqueous

[1] Abstract of a paper read by Romyn Hitchcock before the Chemical Society of Washington, April 11, 1889.