

the 8th. She is in conjunction with Neptune on the 2d, Jupiter on the morning of the 7th, Mars on the 15th, Uranus on the 17th, Venus and Mercury on the 18th, and Saturn on the 22d.

Princeton University Observatory.

**SOME BREADS OF OTHER LANDS.**

BY L. LODIAN.

One of the brothers Reclus, professor of geography at the Brussels University, has left a posthumous work (as yet unpublished) entitled "L'Histoire du Pain." When this History of Bread is issued in due course, it may be taken for certain that it will be—considering its source—a most important contribution to sociologic literature. For the subject has never been "done" before. A like remark applies to the present paper on some of the curious breads of other nations. The writer, before beginning work on it, looked up every source of reference.

**THE KASAVA BREAD OF LATIN-AMERICA.**

This is the naturally whitest of all breads—without any of the so-styled "electrical" bleaching of modern roller-mill processing. The name is derived from the Caribbean-Indian word of the plant *kasabi*, and is variously spelled *kasava*, *casava*, and half a dozen other ways. However, as the tendency of the times is toward the restoration of indigenous spelling, *kasava* is perhaps the best rendering of *kasabi*.

When the Genoese Colon first reached the Isles of the Antilles, he found the aboriginals using for bread the pulped root of this *kasabi* plant. Later, the *tortilla* (maize bread) was found in use on the mainland.

Kasava bread is a most important article of diet to this day among the natives of tropical America, especially in interior Brazil and Paraguay.

For convenience in baking, it is always made in thin wafer-like cakes, as noted by the earliest travelers. Taken with coffee, it is a quite "satisfying" diet—far more than it looks—due to its rapid absorption of moisture and swelling to produce that feeling of distension which is called "filling."

Blackest of all breads is the *palt brod* of Lapland, northern Scandinavia, Russia, and the far north of Siberia. It is a kind of rye bread, and is regarded as highly nourishing—as it must be when reindeer sledge parties subsist on it and unsweetened brick tea for weeks together, with an occasional diet of fish. It has a slight albuminous taste; and is sometimes soaked in hot reindeer fat to augment, not its nutritiveness, but its heat-imparting capacity.

The Norsemen also have a peculiar hardtack bread of unmilled rye. The rye grains are soaked, mashed by pounding, then lightly baked in circular plate-like disks about twelve inches diameter, and one-tenth to one-seventh of an inch thick. In its center is a hole, and it is stored by racking away on thin poles after baking; or suspending by batches on strings below decks on fishing smacks (for it is the chief bread of the fisher folk). It is eaten with and by dipping in the soups, or by stirring in the coffee, or even alone, like biscuit.

The Italians have a nearly similar disk-like hole-centered bread for their coast-working population. It is known as macaroni *pane duro* (macaroni hard-tack), and is eaten by momentary soaking in their cheap light wines; it may be used in the soup, but is always inferior to the real strip or perforated macaroni. Like this last, it is of a light yellow color, brittle, and has nearly the same glutinous taste.

So diverse is the population of New York, that most breads of different nationalities can be obtained in their respective bakeries. Thus, the characteristic three-cornered oat bread, in cake-like form, can be obtained at several Scotch bakeshops. It lacks, though, the homemade simplicity and purity of the native hannock—being "Americanized" to suit the Scottish-American acquired taste.

It is little known that of all the foreign languages prevailing in New York, the Russian language has the greatest number of speakers. There are about three-quarters of a million familiar with it. True, the vast majority of these are provincial, and mainly converse in their own jargon, but they are as familiar with Russian as the Irishman is with British.

Bread for the hordes of Jew folks, mostly of Russian origin, is quite an industry in the Hebrew quarter of Gotham. There are bakeries for the production exclusively of the matzoths, or unleavened bread. This is both square and round shaped, very friable, and to the Gentile about as uninteresting and insipid a bread as could be conceived. At the same time, it is one of the simplest and purest of breads.

The Italian breads present the greatest variety and solidity and purity of any. Some of their family loaves are big as cartwheels, and retain their table accepta-

bility, without becoming too dry or hard, for a week to ten days. They have also about a dozen varieties of hardtack breads, for dipping in and taking with wine or coffee, or for soup use. But these dried breads, while satisfactory to the Italian, would be pronounced a poor standby by an American. Like meat which has been baked to a crisp, they seem to have had most of the virtue baked out of them by excessive



**A LOAF OF ITALIAN BREAD.**

heat. The Italian chestnut bread (*kastagnacio*) and bean bread are also obtainable in Manhattan.

Of all the hardtack breads of the universe, I have found (by actual experience during many years of almost every known variety) the small ringed bread of Siberia the most substantial. When the Russian engineering parties were constructing the trans-Siberian railroad, this white ring bread (with the coarse rye bread) was their main "staff of life."

It is made without salt or yeast, and is first steamed, then lightly baked to expel the moisture. Some curious uses were made of these breads by the engineers. When soaked in hot pure tallow for a few moments till they sank, they were used in soups or soaked in and eaten with tea, during the severe winter months. This tallow bread was considered the most heat-producing article in the dietary. It is a product which should be utilized by our Arctic explorers. Another curious use to which it is put is as an extempore candle, or coffee-pot boiler. A nail is used to make about eight holes in the tallow ring bread; wax vestas are placed in these and ignited. It will burn slowly for about an hour, emitting a strong heat sufficient to warm and light a small tent, and boil the tea or coffee



**SOME CURIOUS FORMS OF BREAD.**

water. There is a rather strong odor of toasting bread, but that is tolerated in preference to smoke. While sojourning with the engineers in Siberia, I have also seen them using the larger sizes of ringed bread as makeshift quoits for Sunday afternoon sport in their tents, and the bread would stand the knocking about pretty well, and would eventually appear in the soup at the evening meal.

Small Siberian storekeepers also use the ringed bread as an abacus, or primitive counting apparatus for calculating small sums in rubles and kopeks, and simple figuring. Three strings are suspended above the counter; ten breads are strung on each; the top line represents the rubles (their money transactions rarely going above ten) and the two lower strings

stand for the kopeks. Of course, the strings of bread can be increased to mount into the thousands and up, if desired. Even this singular multi-usable bread can be obtained in Manhattan at various bakeries of erst-while Russian citizens, but its use is here confined to the table.

Bread has various applications besides table use. We are all familiar with its therapeutic uses as poultices *et al.*; for erasing stains and marks; for (toasted to a crisp) the infusion known as toast water, and a dozen other uses.

Perhaps its most singular application is—in the form of dough—its use for cleaning parts of timepieces in one of the Waltham watch factories. A recently printed statement gave out that one of these New England horological factories used up some eighty pounds of bread dough per diem for this purpose. The refuse was not wasted, but used on a chicken farm in the region.

**The "Bishop Ring" is Seen Again for the First Time Since Its Discovery.**

For several months after the eruption of Krakatoa in 1883, there was a haziness in the atmosphere, and remarkably gorgeous sunsets were observed in various parts of the world. The great eruption of Mont Pelée in Martinique was followed by similar phenomena. The generally accepted theory among scientific men as to the cause of these phenomena was propounded by Dr. Sereno Bishop of Honolulu, and is known as the Bishop theory. At the same time Dr. Bishop observed a ring round the sun, to which the name of the "Bishop ring" was given. On the first of January Dr. Bishop, for the first time since the eruption of Krakatoa, observed the sun ring, and attributes its appearance to the recent disturbances in Sicily and southern Italy. The Bishop theory is that a volcano in very active eruption throws out immense volumes of impalpable dust into the higher strata of atmosphere, and that this dust spreads through the rarefied air until it surrounds the globe.

Dr. Bishop is the oldest living white person born in the Hawaiian Islands, and has devoted much study to volcanoes and their phenomena. He is now eighty-two years of age.

The residents of Geneva in Switzerland say that for two days about three weeks before the earthquake at Messina in Sicily, the waters of Lake Geneva rose and fell in a strange manner, as though sucked in by a siphon and then permitted to flow out again. It is said that the same phenomenon was observed before the earthquake on April 18, 1906, in San Francisco.

**The Current Supplement.**

Never has an earthquake exacted so terrible a toll of human life as that which has just devastated Calabria. A scientific examination of this calamity is presented in the current SUPPLEMENT, No. 1726. Some twenty pictures are used to illustrate the article. Gas producers for use on shipboard have been pretty well discussed, but all the arguments have presupposed that the present type of slow-speed high initial pressure explosive engine would be used. E. W. Percy in an essay entitled "A Large Gas Engine for Ships" inquires whether a more suitable type of engine cannot be constructed, and argues that the 2-cycle, 3-cylinder fuel injection engine is the coming type. About ten years ago were discovered the first remarkable exceptions to the general rule that crystals are solid and rigid bodies. Prof. Ernst Sommerfeldt reviews the history of that discovery, and gives a brief and succinct account of the present state of our knowledge. Lombroso gives his views on the happiness of lunacy and genius. R. E. L. Maunsell writes on modern workshop practice, in which he discusses high-speed tool steel. Dr. Gradenwitz describes a method for wirelessly transmitting handwriting, drawings, and photographs. Our aeronautical readers will be interested in W. R. Turnbull's account of his new researches on the form and stability of aeroplanes. The Science, Engineering, and Trade Notes and Formulæ are given as usual.

Much success has been attained in repairing automobile crank or gear cases. The sides may be knocked out completely; but to the surprise of many who are not only well posted, but scientific in the art, welding of the damaged parts has been accomplished so as to make the case one solid piece. This new method of repairing gear cases saves the owner of a car not only considerable expense, but much time and delay. In engines of foreign make, for example, it takes from three to four months to get new aluminium cases, and then the cost is very much higher than what it would cost to weld them.