A Japanese Earthquake Record for 2,000 Years.

The *Japan Gazette* prints a translation from a noted *O-Jishin Neudarki*, giving a calendar of earthquakes in Japan for 2,000 years. A summary of the record is printed in the San Francisco *Bulletin* of July 25.

The first entry in the Japanese chronology is 295 years B.C.: "In the fifth year of the reign of Kôrei-tei, the seventh Emperor, the earth in the province of O-mi sank down, and in one night was changed into a lake. During the same night Fujiyami was upheaved. This was the first earthquake." The presumption is that this was the first of which there is any authentic record in Japan. We here have the origin of the famous and sacred mountain of Japan, provided the account is correct. An earthquake which made a part of one province into a lake, and raised a mountain nearly 17,000 feet high, certainly ought to have an authentic record. It is known that a mountain was lifted out of the plains in one of the States of Mexico in comparatively modern times. The next notation is about the year 412 A.D., when there was a "strong earthquake." Here is an interval of about 700 years in which no convulsion was severe enough to make a part of the ancient record, or if so the record as now read is silent. From the year 600 A. D. earthquakes were frequent. Coming down to the year 976, the record says there was "the greatest earthquake that ever took place, and the shaking continued for over 200 days." In the year 1510 it is noted that the shaking continued 75 days, and during this time a stone portal of one of the great temples was broken down.

A great earthquake is noted in 1595, during which a large temple was destroyed. In 1703 "the earth shook for 200 days in Kuanto, or the eight Eastern Provinces." In 1707 a great earthquake took place in Osaka. "Men and women escaped into boats, but they were all drowned by the sudden rising of the waves." In the southern and northern divisions of the town, 620 dwelling houses were destroyed by the shock. The number of the killed in the southern division was 3,620; in the northern, 2,331. The number of the killed by the waves in the southern division was 12,000 souls, and in the northern 12,030; 22 bridges were destroyed, and the waves rolled up with thousands of ships as far as Dôtombori. The number of the killed was counted in all at 29,981. At this time blue mud gushed forth along the shores of the Provinces of Kii, Ise, Mikawa, and Totomi, and many lives were destroyed by the sudden rolling in of high waves. Fujiyama shook and erupted. Ashes fell in the neighboring country. At this time Hôyeizan was created. Hôyeizan is a parasitic cone on one side of Mount Fuji.

The intervening earthquakes are not here noted, because there is no statement of any destructive results. In 1751 an earthquake is noted at Takata. "During this time the mountain slipped down, and 10,000 lives were lost." During the earthquake of 1847 many persons were killed. In 1854 there was a severe shock. "The dead were innumerable. Those who died by the high waves at Okata were numbered at over 6,000." A list of the townsand provinces is given where the earthquake was the most severe. This was apparently the greatest earthquake ever known in Japan:

"In Osaka, a great many ships were destroyed and persons killed by the high waves which rose after the earthquake. In the river Aiikawa, 174 junks and 180 boats of various descriptions and 150 persons were destroyed. In the river Kidzukawa 590 junks were destroyed. Up to the 11th day of the 11th month (1854, December 30) over 600 bodies were drawn out of the river. Counting the dead of various provinces there were over 6,000. In every part of the city buildings of various descriptions, such as Buddhist and Shinto temples, towers, bridges, theaters, etc., were destroyed and burned. Consequently in many quarters of the city a vast number of human beings died. The sea shores and river sides were damaged, and ships of every kind were destroyed, while the men who were in them almost without exception lost their lives. In the neighboring countries or villages the damage was equally great. The commencement of the shake was at half past the fifth hour, that is, at 9 o'clock in the morning of the 12th. From this hour the shaking continued almost unceasingly until 4 o'clock in the afternoon of the 13th day, when the greatest shock occurred. After this no more severe shocks were felt. Several buildings were destroyed and men were killed. At Nagoya, in the Province of Owari, the shaking was severe on the 4th and 5th days of the 11th month (1854, Dec. 23 and 24). Great numbers of houses were destroyed, many being attacked by waves. High waves of about twenty feet in height rolled over the rice fields of Chitagori, and in three places large dikes were injured. Houses at Susaki, O-i, Kamezaki, etc., were destroyed. In Yawata, in the Province of O-mi, buildings of various descriptions, such as dwelling houses, Buddhist and Shinto temples, etc., were leveled to the ground. The damages in Hikone and Nagahama were about equal. The damages in Samegai were also great. Mount Yorozan slipped down, and the clear water of the neighboring streams became muddy. Seven or eight tenths of Kano and O-gaki were also injured. More than one-half the houses in Sunomata suffered, and mud gushed forth from fissures in the earth. Two-tenths of Hagiwara and eight-tenths of Inaba were also destroyed. In a village between Niizaka and Nakago the earth was split to a depth of four or five feet, and the level of the earth was made uneven. Yokosuka, between Okitsu and Yejiri, was half destroyed. Shimidsu, a harbor between Yejiri and Fuchui, was very much damaged. The houses were all reduced to ashes and taken by the waves far out to sea."

A list of about fifty places is given where the waves were very high and a great deal of destruction was wrought. The earthquakes appear to have lasted through the latter half of the year 1854. The earth opened in seams several feet wide for miles in extent, provinces were inundated, cattle and men destroyed. As late as December 23 of that year it is noted that great waves rolled up the rivers, and a great number of ships were destroyed. At Yusa 600 houses were swept away by the waves. At the village of Hiroura, out of about 1,000 houses, all but three were carried by the waves out to sea. In a number of other villages it is noted that half the houses were carried away by the waves. Then follows another list of towns where the earthquakes of that month or the tidal waves were the most destructive:

"Shook actively in Kojima, in the Province of Awa, and the seventh part of the city was destroyed or else burned by fire. High waves rolled up in Tanabe and Kumano, in the Province of Kii, and all the ships which were near the shore and on the river banks were thrown up and utterly wrecked. Waves equal in force to these attacked several other places. In some villages not only the houses but also the animals were swept entirely away."

The record ends with 1854.

The British Science Association.

The annual meeting of the British Association for the Advancement of Science began in York, England, August 31. It is known as the jubilee meeting, the first meeting of the association having been held in the same city just fifty years ago. It has met in York but once since, in 1844. An interesting feature of the jubilee gathering is a loan collection in which the instruments of scientific research used half a century ago will be contrasted with those now in use, with as complete a chain of intermediate links as can be obtained. Below is a list of the presiding officers of the association from 1831 to 1881, with the places of meeting:

Year.	Met at.	President.
1831	York	Lord Fitzwilliam.
1832	Oxford	Dr. Buckland.
1833	Cambridge	Professor Sedgewick.
1834	Edinburgh	Sir T. M. Brisbane.
1835	Dublin	Dr. Lloyd.
1836	Bristol	Lord Lansdowne.
1837	Liverpool	Lord Burlington.
1838	Newcastle	Duke of Northumberland.
1839	Birmingham	Rev. W. Vernon-Harcourt.
1840	Glasgow	Marquis of Breadalbane.
1841	Plymouth	Dr. Whewell.
1842	Manchester	Lord Ellesmere.
1843	Cork	Lord Rosse.
1844	York	Dean Peacock.
1845	Cambridge	Sir John Herschel.
1846	Southampton	Sir Roderick Murchison.
1847	Oxford	Sir R. H. Inglis.
1848	Swansea	Marquis of Northampton.
1849	Birmingham	Rev. T. R. Robinson.
1850	Edinburgh	Sir David Brewster.
1851	Ipswich	Professor Airy.
1852	Belfast	Colonel Sabine.
1853	Hull	Mr. William Hopkins.
1854	Liverpool	Lord Harrowby.
1855	Glasgow	Duke of Argyll.
1856	Cheltenham	Dr. C. G. B. Daubeny.
1857	Dublin	Dr. Lloyd.
1858	Leeds	Professor Richard Owen.
1859	Aberdeen	Prince Albert.
1860	Oxford	Lord Wrottesley.
1861	Manchester	Mr. William Fairbairn.
1862	Cambridge	Professor Willis.
1863	Newcastle	Sir William Armstrong.
1864	Bath	Sir C. Lyell.
1865	Birmingham	Professor Phillips.
1866	Nottingham	Mr. W. R. Grove, Q.C.
1867	Dundee	Duke of Buccleuch.
1868	Norwich	Dr. J. D. Hooker.
1869	Exeter	Professor Stokes.
1870	Liverpool	Professor Huxley.
1871	Edinburgh	Sir W. Thomson.
1872	Brighton	Dr. W. Carpenter.
1873	Bradford	Dr. A. W. Wiliamson.
1874	Belfast	Professor Tyndall
1875	Bristol	Sir John Hawkshaw.
1876	Glasgow	Dr. Andrews.
1877	Plymouth	Dr. Allen Thompson.
1878	Dublin	Mr. Wm. Spottiswoode.
1879	Sheffield	Dr. G. J. Allman.
1880	Swansea	Professor A. C. Ramsay.
1881	York	Sir John Lubbock.

Nearsightedness in Schools.

The results of an inquiry into this subject are given in a recent number of the *Elsass-Lothringische Volkschule*, showing that myopia is greatly spreading amid the boys and girls of the German schools, the mischief being more marked as the children get up into the higher classes of the schools. The number of shortsighted in the elementary classes was 5 to 11 per cent (the examination embracing 10,000 children); in the higher schools for girls the proportion was from 10 to 24 per cent; in the *realschulen*, between 20 and 40 per cent; in the gymnasia, between 30 and 55; and in the two highest classes of all, between 35 and 88 per cent. A physician at Tübingen has found in an examination of 600 students of theology 79 per cent suffering from myopia, and he attributes this frequency to the small, crabbed print of the dictionaries. No doubt, also, a large proportion of the children's shortsightedness arises from defective living and bad sanitary conditions. In connection with this branch of the subject may be mentioned the report of a society at Leipsic for enabling children under this condition of life to be sent either to the seaside or the country. During 1880 there were 131 children sent away, namely, 67 boys and 64 girls. Of these 119 were forwarded to the Ergerbirge, and the remainder to the baths at Frankenhausen, in Thuringia. During the six weeks of the stay the average weight of each child increased to about 1¼ kilogrammes, the measurement of the chest in nearly every case was also increased, and the sight of many perceptibly improved. The expense of the visit per child was about £2 13s.

RECENT INVENTIONS.

Mr. Charles O. Nyqvist, of Brooklyn, N. Y., has patented an improved storm rudder which enables seamen to readily control their vessels should the rudder become unshipped or disabled in a storm. The invention consists in placing rudders on the sides of vessels, and in arranging suitable mechanism for operating the rudders, whereby the vessel can be guided and controlled should the ordinary rudder become disabled.

An improved car coupling has been patented by Mr. George Holforty, of Sedgwick, Kan. The invention consists of a vertically sliding spring-actuated connecting bolt which engages with the head of the connecting link upon three sides, the bolt being adapted to move in ways formed in the drawhead.

Mr. William H. Howland, of San Francisco, Cal., has patented an improvement in machines for grinding ore. These improvements relate to machines for grinding ore, either wet or dry, and for grinding paints and other materials. The inventor makes use of a pan-shaped receptacle for the material with a ring-shaped bed, and fixed around a central shaft carrying the driver. The driver consists of a conical sleeve, to which the grinding blocks are hung, so as to be thrown out centrifugally by rotation of the driver. A pipe supplies air or water within the driver, from which it passes to the grinding surface, and acts to carry the ore or other material outward.

An improved fish and game trap has been patented by Messrs. Gottlieb Rentz and Frank. H. Herzog, of Quincy, Ill. This invention consists in a wire with hooks at the ends, and a spring coil in the middle, forming two shanks, which are provided with short bends to receive the end of a spring trigger when the two shanks are crossed. When the animal bites or nibbles at the bait the spring trigger snaps upward, thus releasing the spring shanks, which are forced apart in the mouth of the animal.

An improvement in bottle washers has been patented by Mr. Lawrence Wagner, of Jefferson City, Mo. The object of this invention is to provide a safe, speedy, and simple method of cleaning bottles.

Mr. Armand Muller Jacobs, of Moscow, Russia, has patented a process of preparing a mordant for use with alizarine in dyeing in turkey red color, which consists, first, in uniting about two hundred and twenty parts of oil or fat and fifty parts of sulphuric acid, the mixture being stirred for about three hours until a temperature of 30° to 45° Reaumur is reached, and then left at rest for about twelve hours; secondly, adding to this mixture a watery solution of crystallized soda, and allowing the whole to stand about twenty-four hours; thirdly, drawing off the neutralized oil and adding about twenty-six parts of aqua ammonia.

An improved temporary binder has been patented by Mr. George H. Reynolds, of New York City. The invention consists in combining with a book cover a stiffener having strips, flanged plates apertured and attached to covers at each end, metallic strips that are passed into the folds of the papers, and a slotted studded tube carrying a spring catch.

An improved millstone face has been patented by Mr. George A. Coles, of Middletown, Conn. The object of the invention is to save middlings by preventing the granules formed in the furrows from being crushed or pulverized by the lands as the middlings make their way toward the skirts of the stones. The invention consists in connecting the main furrows of a millstone by channels made at right angles to a given radius of the face of the stone, and being limited in extent by the furrows and distributed over the working surface of the stone from the bosom to the skirt.

An improved dish cleaner and drainer has been patented by Mr. Samuel B. Luckett, of Knightstown, Ind. The invention consists in constructing a dish washing and drying apparatus, with a base frame, posts, and a top frame having dish receiving notches, a pan to receive the drip water, longitudinal bars for supporting cups while drying, a hinged angular plate or apron for supporting dishes while being washed, and a perforated pan for supporting knives and forks while drying.

Mr. Bat Smith, of Spanish Camp, Texas, has patented a composition for preserving wood, consisting of coal-tar, crude carbolic acid, and crude pyroligneous acid.

Mr. John H. Gramps, of Stone Arabia, N. Y., has invented a holder for use with ordinary hand lamps, by which such lamps can be securely held on sewing machines, tables, etc., and at other places where there is liability of the lamps being upset. The invention consists in a combined clamp and adjustable holder adapted for being secured to the edge of a table, and for holding the lamp in any position required.

Mr. Gamaliel King, of Westfield, Mass., has patented an improved whip formed of a central cord and sectional rattan cover

An improved rein holder has been patented by Mr. Edward C. Clarke, of Circleville, Ohio. This is a device to be attached to the dashboard, seat, or other part of a carriage or other conveyance for holding the reins.