

## EARTHQUAKES.

NOTABLE ONES SINCE THE CHRISTIAN ERA—THEIR GREAT NUMBER AND FREQUENCY—JAVA 1883—PROBABLE CAUSE.

Between 6,000 and 7,000 separate earthquakes are recorded as having taken place at all parts of the globe between the years 1606 B.C. and 1850 A.D.

The most notable and remarkable are, Judea 31 B.C., which caused the death of 10,000 persons, according to Josephus. That which occurred at the Crucifixion is said to be authenticated elsewhere than in the sacred records, and a darkness like the one there spoken of was also noticed on Jan. 22, 1835, in Central America. The earthquake of A. D. 63 resulting in the partial overthrow of Pompeii and Herculaneum, was followed sixteen years later by the bursting forth of Vesuvius, when the destruction was completed. Other notable earthquakes were—Italy 526 A.D., when 120,000 persons perished; Sicily 1693, when 60,000 people lost their lives. Gibbon says about 542 and preceding or following years, each

was marked by repeated earthquakes, Constantinople being shaken for over forty days, and at Antioch, 250,000 persons are said to have perished. During this period the superior planets were in perilous. The Arabian and Persian chronicles record one hundred and eleven earthquakes between the eighth and ninth centuries; some of these lasted seventy days, nearly all being accompanied by winds and floods. Readers of the "Relations des Jesuites" will probably remember the great earthquakes spoken of which shook and tossed the earth all over Canada from Gaspe to Montreal for a space of six months during the year 1663. These earthquakes rivalled the one in the Mississippi Valley in 1811. The severest earthquake ever remembered on the Atlantic coast in this region was that of November 1755, an echo of the convulsion that overthrew Lisbon. On October 19, 1870, occurred the most considerable shock observed in North America during the present century. The source of this disturbance was traced to the volcanic region from 50 to 100 miles N. E. of Quebec. From that place it spread to St. John, N. B., thence was felt westward to Chicago and southward to New York. The velocity of the wave was about 14,000 feet per second. The occurrence of the shock was telegraphed to Montreal by operators of the Telegraph Company at a time to call attention of those in the latter city before the shock reached them.

Java is a seat of almost perpetual volcanic and earthquake activity, a great catastrophe took place there in 1772, but the most remarkable earthquake and volcanic eruption for many

years past took place in August, 1883, commencing on the 25th of that month. North Bantam was covered with ashes, crops ruined, roads and bridges destroyed. Tidal waves swamped the city of Batavia, and swept across the Pacific Ocean, were noticed at San Francisco. The temperature of the sea off the coast of Java rose 30° owing to the steam ejected into the sea. Seventeen volcanoes were in active operation at one time. Fifteen water-spouts were noticed together. The Island of Sering was completely inundated. A mountain disappeared and the sea now flows over where it once stood. Seventy-five thousand lives, were estimated as having been lost. A range of mountains entirely disappeared.

Earthquakes are very far from being of a rare occurrence. He is having estimated that at least two occur on an average daily on the earth. At least thirty three have been felt in a single day. At Honduras during the year 1864 one hundred and eight were counted in seven days. At Hawaii in 1868, two thousand occurred in a single month.

The greatest number of earthquakes are usually recorded about the middle of each century and a second epoch, less powerful than the first, usually occurs about the close of the century.

What these tremors arise from has not yet been definitely settled, some consider them results of severe cold, contracting the rocks; but most authorities at present ascribe them to the presence of underground lava, volcanoes very often becoming active at the same time. Professor Alexis Perry, of Dijon, traces a relation between earthquakes and the age of the moon. By very careful analysis he established the fact that earthquakes occur more frequently at perigee than at apogee, also their frequency increases at the quadrants. "The shocks are generally experienced," he says, "when the Moon is on the Meridian." Perrey, another authority, favors the theory and thinks the solar equinoxes and solstices give the largest number of shocks. Mallet found the winter solstice to give the largest number.

"MINE OWN 'FAMILIAR' FRIEND,"—Prisoner (to Magistrate)—"Well yer see, Gov'ner, me and my old gal———"  
—Magistrate—"Stay! I cannot allow you to address the Bench in this familiar manner."—Prisoner—"I beg your washup's pardon; but you and me has met so often lately that we seems quite like *old friends*."

SLIGHTLY EQUIVOCAL.—Pleasant Gentlemen (to Partner of Firm)—"Oh, is Mr. Watson in?"—Partner (solemnly)—"I regret to inform you, sir, that Mr. Watson expired yesterday."—Pleasant Gentleman (airily)—"Oh, indeed! No matter; it's not of the *slightest consequence*. Good morning."

DAY OF WEEK.		SUN RISE.		SUN SET.		MOON RISE.	
		H. M.	H. M.	H. M.	H. M.		
82	Sunday	7 11	5 17	7 50			
83	Monday	7 10	5 18	0 5			
84	Tuesday	7 11	5 20	10 08			
85	Wednesday	7 8	5 24	11 00			
86	Thursday	7 7	5 23	10 50			
87	Friday	7 5	5 23	11 0			
88	Saturday	7 4	5 25	11 0			
89	Sunday	7 3	5 21	2 52			
40	Monday	7 2	5 27	3 41			
41	Tuesday	7 1	5 28	3 41			
42	Wednesday	7 0	5 29	1 24			
43	Thursday	6 59	5 31	1 8			
44	Friday	6 57	5 32	5 47			
45	Saturday	6 56	5 33	sets.			
46	Sunday	6 55	5 31	0 24			
47	Monday	6 54	5 35	7 28			
48	Tuesday	6 52	5 37	8 10			
49	Wednesday	6 51	5 38	9 04			
50	Thursday	6 49	5 39	10 38			
51	Friday	6 48	5 40	11 43			
52	Saturday	6 47	5 41	12 00			
53	Sunday	6 45	5 42	11 48			
54	Monday	6 43	5 41	11 52			
55	Tuesday	6 42	5 41	7 58			
56	Wednesday	6 41	5 41	3 47			
57	Thursday	6 39	5 47	1 37			
58	Friday	6 38	5 48	3 22			
59	Saturday	6 36	5 51	1 00			

Moon's Phase:—Third Quarter, 5h. 41m. p.m. New Moon, 9h. 20m. p.m. First Quarter, 6h. 35m. a.m. Full Moon, 1th. 3m. p.m.

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WM. McDUNNOUGH, Agent