

where the wells are sunk. Should this be done, a liberal allowance will be made for seepage and evaporation between the point of emptying into the river and the point of reception into the Jordan and Salt Lake conduit.

Should formidable objections be raised by the owners of the other canals, then the city will take early steps in the direction of conducting the water direct to the one that belongs to the city. Recourse to this alternative will incur considerable expense, but seepage and evaporation would thus be practicably avoided. In any case the citizens of Salt Lake will get the benefit of the new supply at the earliest possible date. Mayor Armstrong is elated at the prospect.

Water Commissioner Smith expresses himself confidently on the absorbing subject. By close examination he unhesitatingly states that he is entirely confident that in the meantime at least, together with existing surface facilities, what can be obtained from sub service sources will afford an ample supply of water for the use of the people of Salt Lake City before another season comes around.

#### EARTHQUAKE STATISTICS.

THE *Millennial Star* has collected from Milne's work on Earthquakes and other Earth Movements, a batch of statistics relative to the number and effects of earthquakes which have occurred in the eighteenth and nineteenth centuries. As the information conveyed is of considerable interest we reproduce it. Those who desire to make the catalogue complete for the present century can do so—providing they shall live eleven years longer—by cutting out the following, pasting it in a scrap-book and adding the record of terrestrial disturbances as they occur up to the opening of the year 1900.

	18th Century.	19th Century.
In Scandinavia and Ireland.....	111	113
In the British Isles and Northern Isles.....	63	110
In the Spanish Peninsula	93	95
In France, Belgium, Holland.....	237	211
In the Rhine Basin.....	71	81
In Switzerland and Rhine Basin.....	141	173
In the Danube Basin.....	88	145
In Italy, Sicily, Sardinia, Malta.....	438	390
Supplemental in last countries.....	20	88
In Turco-Hellonic Territory, Syria, Aegean Isles and the Levant,	124	194
In the United States and Canada.....	88	51
In Mexico and Central America.....	24	30
In the Antilles.....	85	145
In Cuba.....	2	50
In Chila and La Plata Basin.....	10	170
In the Northern Zone of Asia.....	32	57
In Japan.....	31	27
Totals.....	1658	2120
Excess during the present uncompleted century.....		462

For purposes of comparison the following statistics also are taken from Haydn's Dictionary (see under "Earthquakes"). The time included in this report embraces about 120 years, divided into two periods of 60 years each; the first beginning with 1770 and closing with 1830, the other continuing from 1830 up to date, June 30, 1889. Only the more notable shocks are recorded:

Santiago, with its inhabitants, swallowed up, 1773.

Destructive shock at Smyrna, 1778.

At Tauris, 15,000 houses destroyed, thousands buried, 1780.

Messina and other towns in Italy and Sicily overthrown, thousands perished, 1783.

Ezinhain destroyed, 5,000 buried, 1784.

At St. Lucia, 900 people killed, 1788.

At Borgo di San Sepolero, 1,000 destroyed, 1789.

All the country between Santa Fe and Panama, also Cuzco and Quito shaken, 40,000 people buried in one second, 1797.

Curmana, South America, ruined, 1797.

Royal Palace at Constantinople destroyed, 1800.

The country from Cronstadt to Constantinople shaken, 1802.

A violent shock in Holland, 1804.

At Frosolone, Naples, 6000 people killed, 1805.

St. Nicholas, Azores, sunk, 1810.

Awful shock at Caracas, 12,000 perished, 1812.

Several shocks in India, 2000 buried, 1819.

Genoa, Palermo, Rome and other cities greatly damaged, thousands perished, 1819.

Aleppo destroyed, 20,000 killed, 1822.

At Murcia, Sp. E. n. and other towns, 6000 lost, 1829.

At Canton and neighborhood, 6000 killed, 1830.

This closes the first sixty years period.

Forty shocks at Bogotara, 1834.

Concepcion, Chili, destroyed, 1835.

At Cosenza and other towns in Calabria, 1,000 killed, 1835.

At Castiglione, Calabria, 100 killed, 1835.

Nearly half of Port Royal destroyed, 700 lost, whole island damaged, 1839.

At Ternato thousands killed, whole island made a waste, 1840.

Awful shock at Ararat, 3,137 houses destroyed, several hundreds of lives lost, 1840.

Great shock at Zanti, many perished, 1840.

At Cape Haytien, St. Domingo, 4,000 or 5,000 lost, 1842.

Guadaloupe entirely destroyed, 1843.

At Rhodes and Macru, 600 killed, 1851.

At Valparaiso, 400 houses destroyed, 1851.

At Melfi, Italy, 14,000 perished, 1851.

Manilla, Philippine Islands, injured, 1852.

Thebes, Greece, nearly destroyed, 1853.

St. Salvador, South America, destroyed, 1854.

Anasca, Japan, and Sumoda, Nippon, destroyed: Jeddo also much injured, 1854.

Broussa, Turkey, nearly destroyed, 1855.

Several villages in Central Europe destroyed, 1855.

Jeddo, Japan, nearly destroyed, 1855.

On the island of Great Sanger, about 3,000 killed, 1856.

At Candia, Rhodes, etc., hundreds perished, 1856.

In Calabria at several towns, 10,000 killed, 1856.

Corinth nearly destroyed, 1858.

At Quito, immense damage done, 5,000 perished, 1859.

At Erzeroum, thousands destroyed, 1859.

At San Salvador, many buildings destroyed, 1859.

At Mendoza, S. A., 7,000 perished, 1861.

At Guatemala, 14 churches and many other buildings destroyed, 1862.

At Rhodes, 13 villages destroyed, 1863.

At Manilla, 10,000 killed, 1863.

At Sicily, 200 houses destroyed, 1865.

At Mitylene, 1,000 people killed, 1867.

Djoiia destroyed, 400 lives lost, 1857.

Arequipa, Iquique, and many other towns destroyed, 25,000 lives lost, 1868.

At Santa Marina, town destroyed, 1869.

In Calabria, several villages destroyed, 1870.

In California, several towns destroyed, 1872.

Tehru destroyed, 500 people killed, 1872.

The statistics which follow are obtained from other sources:

San Salvador destroyed, 1873.

Destructive shock at Iquique, 600 killed.

At Cuba, Venezuela, 600 killed, 1878.

Shocks felt in half the world, awful in South America, 1878.

Great damage at San Luis Potosi, S. A., 1878.

Great damage at Manilla on two different occasions, 1878.

Great shock at Agram, 1880.

Cassamicciola ruined, 1881.

Forty-five villages destroyed at Chio; in many localities the population disappeared, 1881.

Awful shock at Costa Rica, 1881.

Cassamicciola sunk, great damage in other towns, 8,000 killed, 1883.

At Krakatoa, 10,000 lives lost, 1883.

Awful destruction in Java and vicinity, 100,000 people perished, 1883.

In Asia Minor, 1,000 killed, 20,000 rendered homeless, 1883.

Widespread shocks in Spain, hundreds of lives lost, 1884.

Northern part of New Zealand laid waste, 1886.

Awful shocks in the United States, Charleston damaged, 1886.

In Italy and France about 2,000 killed, 1887.

Terrible shock at Yunnan, 5,000 perished, and elsewhere in China a