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country have an agent or reporter at Washington and he usually keeps a file of the paper he serves. The library of Congress keeps files of two or more papers from every State. As many of these as practicable were thoroughly examined. Many local papers were requested to furnish copies of their issues of Sept. 1st, 2d and 3d, and most of them complied. Many marked copies of papers were sent to the survey from unexpected sources. Altogether more than four hundred time reports were gathered.

As might be expected a portion of these were useless. In order that it may be apparent which were selected for consideration and which rejected, the following account is given. There were about thirty which stated that the shock occurred "about 10 o'clock" or "a few minutes before 10." As a single minute is a very important quantity here, all such reports were summarily rejected as too indefinite. The reports from lighthouses in most cases proved unavailable. These structures being situated most frequently where access to standard time is difficult, their clocks are regulated by the sun and an almanac. The uncertainties of this method of time keeping were evidently too great to justify any attempt to utilize them. But a few lighthouses keep standard time and in all such cases their reports were admitted to consideration. There were a few (nine or ten) which gave times so widely aberrant, differing by a quarter to half an hour from the great mass of records, that they were rejected. The whole number which received preliminary consideration was 316, many of which it was expected would also be rejected after a more thorough examination, due cause being assigned. These 316 observations were catalogued in alphabetical order, the latitudes and longitudes of the localities being roughly ascertained and also their distance from the centrum.

By far the most important time determination is that of the centrum, which was computed to be about six seconds earlier than that of Charleston. The time at Charleston is derived as follows. Among the numberless clocks stopped in that city by the earthquake, there were four which had compensated seconds pendulums and second hands and were of the pattern generally classed as "jewelers' regulators." All were compared daily with the time signal of the Western Union Telegraph Co., and the testimony is positive that none of them had errors on August 31st exceeding nine seconds, while the mean probable error of the four was certainly much less than this. The first was the regulator of James Allan & Co., Jewelers, No. 285 King street. It was regulated by means of a "sonder," which was daily put into circuit with the Western Union time signal wire. The clock was corrected only when its error exceeded

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