



## **Online archives as a source of data on historical seismicity: A Scottish example**

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An important topic in historical seismology is catalogue completeness. An earthquake may be missing from the historical record either because it was never documented, or because the documentation was lost, or because the documentation has never been uncovered. In the last case there exists the possibility that the earthquake may be discovered in the future. However, searching entire archives by hand for earthquakes that one doesn't know the date of, is usually unrealistic. The possibility of computer searching of historical archives is therefore rather attractive.

The Scotsman newspaper is one of the principle Scottish newspapers, published in Edinburgh since 1817. Recently, the entire run of issues up to 1900 was scanned, and the resulting archive made available online for a fee. The online archive includes the ability to search for text and retrieve images of the articles matching the search terms. We have used this facility to search for British (and Irish) earthquakes, with particular interest in seeing how many events appeared that were never before found in any earthquake catalogue. A total of 32 new events were found, of which two were evidently not actually earthquakes, and several more are somewhat doubtful as resting on very slight testimony of single observers. The largest genuine new earthquake has a magnitude of 3.0 ML and a maximum intensity of 5 EMS. Interestingly, the list of new events includes some in parts of the UK without previous record of any earthquake activity. The lack of any new events of engineering significance testifies to the generally good level of catalogue completeness previously obtained in the UK for this historical period.

Further research revealed that what at first was apparently the largest event found had, in fact, previously been recognised as a bolide and thus discounted from the earthquake record. This highlights the danger of reintroducing fake earthquakes back

into the catalogue, unless a record of rejected events is maintained.