

can corroborate the fact as regards the valley of Lake Lemán, in Switzerland. At Geneva, a newspaper has described the abnormal crepuscular glows of June 2, 3, 4, and 13. At Morges (46° 30' N. lat.), Prof. C. H. Dufour and myself have observed them on the 12th and 13th.

On the 12th the sun disappeared beyond the Jura range about 7h. 30m. p.m.; at 8h. 10m. my attention was called by the brilliant illumination of a strange pale yellow, the same which in December, 1883, and January, 1884, always foretold the great crepuscular glows; at 9h. the western sky was coloured by brilliant purple red tints, which spread as high as the zenith; the red colour only vanished from the horizon at 9h. 30m.—i.e. two full hours after sunset. The successive phases of the phenomenon were the same as in the winter 1883-1884; the brilliancy of the colours was, however, fainter, but they were, perhaps, of greater duration.

On the 13th the same glows were observed, with decreasing intensity; on the following days nothing extraordinary has been noticed.

F. A. FOREL

Morges, Switzerland, June 21

THE INTERNATIONAL EXHIBITION—MUSIC LOAN COLLECTION¹

THE story runs that a countryman, visiting London for the first time, and feeling bound to see Westminster Abbey, by a slight mistake overlooked the Royal Fane, and attended service in St. Margaret's Church hard by. He told his friends in the shires on coming home that the ancient edifice was sadly overrated. Exactly a parallel case to this has just occurred to the writer of the present lines. He was informed by an unknown friend that the small collection of unlabelled instruments in the basement of the Albert Hall was unworthy of the occasion; and he only made out on close inquiry that the person in question was speaking of one out of the two "overflow rooms" in which the superabundant stores of the Loan Collection are housed, and had never seen the Loan Collection itself at all. This was the more remarkable as the said individual carried the proof-sheets of his guide-book to the printers. It is therefore clearly not superfluous to state that this, probably the grandest and most complete illustration of the history, progress, and development of music ever furnished, occupies the whole of the circular gallery which forms the top storey of Capt. Fowke's gigantic building, and runs over into two large rooms at a lower level.

It is impossible in a short preliminary notice to do more than call early attention to the vast mass of priceless materials here collected, and soon to be again dispersed; nor can sufficient credit be accorded to Mr. Alfred Maskell, who, aided by his learned father, has been mainly instrumental in arranging and bringing it into order. He has been seconded signally by Mr. Hipkins, representing the old and honoured firm of Broadwood and Sons, so that the collection of ancient spinetts, virginals, clavichords, harpsichords, and the like is the most remarkable ever brought together. There is at least one such instrument lent by its noble owner from his family seat in Ireland which is all but unknown even to connoisseurs.

The Belgian Government have most liberally lent the whole of the grand museum of the Brussels Conservatoire of Music, originally presented to that institution by M. Victor Mahillon. This in itself is a "*Syntagma Musicum*," like the scarce work of Prætorius, but presenting the very things themselves, not merely their graven images.

The realism of the exhibit is carried to the highest degree by three beautiful model rooms, designed with the taste and accuracy for which Mr. Davidson, himself an exhibitor of some grand fiddles, is so justly noted, each room showing furniture, decoration, and instruments of a

¹ We hope to supplement this preliminary note, by a more detailed notice of the collection when it is complete and the Catalogue ready.—ED.

great epoch in musical history. The visitor can, if he choose, yield to the pleasant illusion and revel in the madrigals of Orlando di Lasso, "*Il più dolce cigno d'Italia*," the motetts of the Elizabethan age, the Lull-inspired melodies of Purcell; or sit at the clavichord with Handel and grand old John Sebastian Bach. Of its kind the thing is as nearly perfect as can be, and the undersigned takes the first possible opportunity of praying his brother and sister amateurs not to let slip the unique privilege of seeing it.

W. H. STONE

THE MEASURE OF FIDGET

LATTERLY—no matter where—I was present at a crowded and expectant meeting. The communication proved tedious, and I could not hear much of it, so from my position at the back of the platform I studied the expressions and gestures of the bored audience.

The feature that an instantaneous photograph, taken at any moment, would have most prominently displayed was the unequal horizontal interspace between head and head. When the audience is intent each person forgets his muscular weariness and skin discomfort, and he holds himself rigidly in the best position for seeing and hearing. As this is practically identical for persons who sit side by side, their bodies are parallel, and again, as they sit at much the same distances apart, their heads are correspondingly equidistant. But when the audience is bored the several individuals cease to forget themselves and they begin to pay much attention to the discomforts attendant on sitting long in the same position. They sway from side to side, each in his own way, and the intervals between their faces, which lie at the free end of the radius formed by their bodies, with their seat as the centre of rotation varies greatly. I endeavoured to give numerical expression for this variability of distance, but for the present have failed. I was, however, perfectly successful in respect to another sign of mutiny against constraint, inasmuch as I found myself able to estimate the frequency of fidget with much precision. It happened that the hall was semicircularly disposed and that small columns under the gallery were convenient as points of reference. From where I sat, 50 persons were included in each sector of which my eye formed the apex and any adjacent pair of columns the boundaries. I watched most of these sections in turn, some of them repeatedly, and counted the number of distinct movements among the persons they severally contained. It was curiously uniform, and about 45 per minute. As the sectors were rather too long for the eye to surely cover at a glance, I undoubtedly missed some movements on every occasion. Partly on this account and partly for the convenience of using round numbers I will accept 50 movements per minute among 50 persons, or an average of 1 movement per minute in each person, as nearly representing the true state of the case. The audience was mostly elderly; the young would have been more mobile. Circumstances now and then occurred that roused the audience to temporary attention, and the effect was twofold. First, the frequency of fidget diminished rather more than half; second, the amplitude and period of each movement were notably reduced. The swaying of head, trunk, and arms had before been wide and sluggish, and when rolling from side to side the individuals seemed to "yaw"; that is to say, they lingered in extreme positions. Whenever they became intent this peculiarity disappeared, and they performed their fidgets smartly. Let me suggest to observant philosophers when the meetings they attend may prove dull, to occupy themselves in estimating the frequency, amplitude, and duration of the fidgets of their fellow-sufferers. They must do so during periods both of intentness and of indifference, so as to eliminate what may be styled "natural fidget," and then I think they may acquire the new art of

giving numerical expression to the amount of boredom expressed by the audience generally during the reading of any particular memoir. F. G.

RECENT EARTHQUAKES

THE shocks of earthquake in Cashmere continue with unabated violence and even appear to increase in frequency and force. Three severe shocks occurred during the night of the 13th and a smart convulsion on the morning of the 14th. It is now ascertained that 2281 lives were lost in the Muzafferabad district, where at first it was thought there had been no casualties. The earthquake was also felt in Gilghit. Another very severe shock at Baramulla on the 17th demolished all the buildings which escaped former shocks. At Skardo on the 14th and at Srinugur on the 17th, 18th, and 19th, shocks were felt. In the Kamraj district the loss of life exceeds 2700. The Jheelum Valley, from Srinugur to Dopatta, appears to have suffered most. It is stated that both sides of the river from Sopur to Baramulla have been seared with cracks, as also the low alluvial hills in the vicinity. The available data fix the centre of the disturbance in the vicinity of Gurais. It thus appears that in extent and amount of destruction the Cashmere earthquake must rank amongst the great seismic catastrophes of the century.

On Thursday morning last (June 18) a portion of Yorkshire was visited by an earthquake shock. The reports from outlying districts show that the shock extended from the east coast through the Wolds and westwards as far as Headingley, near Leeds. Signalmen on the North-Eastern Railway speak positively as to the vibration and noise. Crockery and glass rattled on the shelves of houses, and at Knottingley and Ferrybridge persons ran from their houses from fear. At Easingwold desks and tables were seen to move, and there was a rumbling noise as of thunder. In some cases there was a severe shaking of houses, and doors were moved. The various reports concur as to the time being 10.50, and it is said there were two shocks. It is a curious coincidence that about an hour previous to this on the same day and in the same region the frightful explosion at the Clifton Hall Colliery took place. Unhappily our knowledge will not permit us to connect seismic disturbances with disasters or mishaps in mines, but we have here a violent and unusual disturbance in the crust of the earth in Yorkshire and an almost simultaneous mining catastrophe in Lancashire.

We have received the following communications with reference to the Yorkshire earthquakes:—

A SLIGHT shock of earthquake was felt here yesterday morning in the favourable stillness of the "Friends'" meeting for worship. The time was observed to be about 10.47 a.m. I was seated with my back to the north, when a rumbling sound appeared to be swelling onwards for about two seconds from the south or south-west. I then noticed that the hanging leaf of a small table in front of me (its plane lying east and west) was rattling very distinctly, and immediately I became aware that the back of my seat was shaking me perceptibly. Others heard some of the windows rattling on both the east and west sides of the house, and were shaken by their seats moving slightly; these seats were some of them at right angles to mine. Some of these persons thought the rumbling came from the east; others from the west. One gentleman, sitting in a corner, thought that his right shoulder, against a north partition, was shaken more than his left, against the east wall. He also thought that the rumbling came from the south end of the house. The place of worship is about two-thirds of a mile to the north-east of our observatory, which is in lat. $53^{\circ} 38' 40''$ N, and long. $1^{\circ} 20' 32''$ W. Nothing was noticed at the time by a man and a boy working in our garden. It is reported in

to-day's *Leeds Mercury* to have been felt at York, Leeds, and Driffield.

WILLIAM SCARNELL LEAN
Flounders College, Ackworth, near Pontefract, June 19

CAPT. STAVELEY, at whose house the recent earthquake of June 18 was felt in a marked degree, gives me the following information respecting it. His house at North Dalton (seven miles south-west of Driffield) stands on a slight elevation surrounded with undulating hills common to the Cretaceous formation of the Wolds. The shock occurred between 10.30 and 10.45 a.m. (the exact time was not noted), and lasted about three seconds, travelling from west-south-west to east-north-east. Mrs. Staveley, who was in her bedroom at the time, felt a slight shock, then a rumbling sound as of thunder, and after that another stronger shock. The servants downstairs felt a distinct rocking, and the bricklayer's boy, on a ladder level with the roof, saw the whole roof heave up and down three times. In the dairy some dishes firmly placed on a high shelf were thrown down and broken, and at the inn on the other side of the road the walls trembled perceptibly, and the bottles and glasses were shaken and knocked against each other. The inhabitants of this and neighbouring villages felt the vibrations more or less distinctly, but the shock seems to have been greatest at, and in the direction of, Capt. Staveley's house. The colliery explosion near Manchester happened about an hour earlier; is it possible for there to be any connection between the two?

J. LOVELL

Driffield

The following extracts are from the *Hull Express* of June 20:—

Information which reached us yesterday shows that the earthquake-shocks experienced on Thursday in York and Market Weighton were also felt in more or less degree in other parts of the great shire.

Mr. W. Botterill, of Parliament Street, Hull, writes:—"On returning home (Newland Park) from business last evening, my wife informed me that during the morning she had for some seconds very sensibly felt a vibratory motion in the house, which she fully believed to be caused by a slight shock of earthquake, and added that she should confidently expect to find in this morning's papers notices in confirmation thereof. It was, therefore, no surprise to learn from your current issue, and other papers of to-day, that similar effects had been experienced at York, Market Weighton, and elsewhere, about the same hour of the day."

A North Cave correspondent says that at about eleven o'clock in the morning nearly every house was subjected to a slight shaking.

A Driffield correspondent says that at the village of Hutton several residents felt a severe shaking of their houses, and at the same time the inner doors were suddenly moved, crockery upset, and other signs of disturbance were observed. People were so terrified that they cannot very accurately describe the shock, but state they felt a "reeling" sensation.

Another correspondent writing from Driffield says:—"Yesterday morning a somewhat severe shock of earthquake was felt at North Dalton, a village about eight miles from Driffield. The shock appears to have been the most distinctly felt at the residence of Capt. Staveley, which stands in an isolated and elevated position, and the house vibrated from basement to roof for several seconds. A bricklayer's apprentice who was repairing the roof had a narrow escape of being thrown down, and the greatest alarm was felt by the villagers, who 'ran out of their houses in fear for their lives.'"

The shock was also distinctly felt in Leeds. In Delph Lane, Wood-house Ridge, the occupants of three houses which adjoin each other noticed it. It resembled the effect which would be produced by the violent shutting of doors, the windows rattling, and there being a perceptible