

## ECHOES.

The ear cannot distinguish one sound from another, unless there is an interval of one-ninth of a second between the arrival of the two sounds. Sounds must, therefore, succeed each other at an interval of one-ninth of a second in order to be heard distinctly. Now, the velocity of sound being eleven hundred and twenty feet a second, in one-ninth of a second the sound would travel one hundred and twenty-four feet.

Repeated echoes happen when two obstacles are placed opposite to one another, as parallel walls, for example, which reflect the sound successively.

At Admath, in Bohemia, there is an echo which repeats seven syllables three times. At Woodstock, in England, there is one which repeats a sound seventeen times during the day, and twenty times during the night. An echo in the villa Smionetta, near Milan, is said to repeat a sharp sound some thirty times audibly. The most celebrated echo among the ancients, was that of the Metelli, at Rome, which, according to tradition, was capable of repeating the first line of the *Æneid*, containing fifteen syllables, eight times distinctly.

Dr. Birch describes an echo at Roseheath, Argyleshire, which it is said, does not now exist. When eight or ten notes were played upon a trumpet, they were returned by this echo upon a key a third lower than the original notes, and shortly after upon a key still lower. Dr. Page describes an echo in Fairfax county, Virginia, which possesses a similar curious property. This echo gives three distinct reflections, the second much the most distinct. Twenty notes played upon a flute are returned with perfect clearness. But the most singular property of this echo is, that some notes in the scale are not returned in their places, but are supplied with notes which are either thirds, fifths, or octaves.

There is a surprising echo between two barns, at Belvidere, Alleghany county, N. Y. The echo repeats eleven times a word of one, two, or three syllables; it has been heard to repeat thirteen times. By placing oneself in the centre between the two barns, there will be a double echo, one in the direction of each barn and a monosyllable will be repeated twenty-two times.

A striking and beautiful effect of echo is produced in certain localities by the Swiss mountaineers, who contrive to sing

their *Rans des Vaches* in such time that the reflected notes form an agreeable accompaniment to the air itself.

The Killarney notes are quite famous, and resound with marvellous clearness to the notes of a bugle, as the traveller rows from point to point in the beautiful lake.

—*Prof. Silliman.*

"LEADING MEN."—It is customary to speak of sundry men in the Church of Christ, as "leading men;" i. e., they go before others, and make and second the motions which others vote for. It should not be forgotten, however, that a man in a Christian Church, who really deserves the name of a "leading man," serves the Church. He moves and goes in the right direction; and determines others in that direction. As Baxter well remarks, "Church greatness consists in being greatly serviceable."

## AFRICAN DISCOVERIES.

It is said that a Mr. Chaylion, now in London, has penetrated across the African continent on the line of the equator and has there discovered, in a densely wooded region, of lofty mountains (one peak calculated by him at 12,000 feet) which contain, according to his conviction, the sources of the four great rivers of the African continent—the Nile, the Niger, the Zambesi, and the Zaire or Congo.

THE OFFICE OF GRACE.—When the house is on fire, if a man should only pray or cry, he may be burnt for all that; therefore he must be active and stirring; he must run from place to place, and call out for help, and bestir himself as for life in the use of all means whereby the fire may be quenched. So grace must be acted on; it is not all a man's praying and crying that will profit him or better him; grace must be exercised, or all will be lost—prayers lost, strength lost, time lost, soul lost.

THE HIGHEST GLORY.—The highest honor and glory that earthly princes can put upon their subjects, is to communicate to them their greatest secrets. Now this high honor and glory the King of kings hath put upon his people. "For his secrets are with them that fear him, and he will show them his covenant."

The finest composition of human nature, as well as the finest china, may have flaws in it; though the pattern may be of the highest value.

VA BABY'S EFFORT.—A bright little girl just beginning to talk, was very observant of all that passed around her.—She saw a gentleman, with a dog, enter a house on the opposite side of the street. He shut the door, and left the dog without, who, by various canine movements of whining and scratching, manifested painful impatience. Moved by his desolation and complaining, she thrust her small face through the bars of her nursery window, and cried in a clear, earnest tone, "Ing 'e bell, doggie!—ing 'e bell!"

Very touching and beautiful were the words of the old schoolmaster, as life passed away.—"It is growing dark—the school may be dismissed." Down to the very gates of an unseen world he carried his love for the children whom he had trained.

—Plato observes that the minds of children are like bottles with very small mouths; if you attempt to fill them too rapidly, much knowledge is wasted and little received; whereas with a small stream they are easily filled.

A beautiful thought is suggested in the Koran:—"Angels, in the grave will not question thee as to the amount of wealth thou has left behind thee, but what good deeds thou hast done while in the world, to entitle thee to a seat among the blest."

A new asteroid was discovered by Mr. H. P. Tuttle, of Harvard College, on the night of the 10th of April. This is now the 66th small planet that is known to exist between the orbits of Mars and Jupiter.

Two comets are now looked for by astronomers—the De Vico comet, which appeared in 1855, and the celebrated comet of Charles V.

The policy that can strike only while the iron is hot, will be overcome by the perseverance that can make iron hot by striking.

There is many a man whose tongue might govern multitudes, if he could only govern his tongue.

Eloquence consists in feeling a truth yourself, and making those who hear you feel it too.

—Children are sensible of the slightest injustice.

Learning makes a man fit company for himself.