

whose clang wakes the weaver and machinist; the bell at the stern, which sounds the monotonous flight of hours at sea, and those whose merry click, on arm and ankle, times the Egyptian dancing-girl's gyration; there is the diving-bell, and the "all-ashore" bell of the parting steam-packet; there are the tinkling alarms on the necks of browsing kine, the gay jingle of sleigh-bells over the white, fleecy plain, and those which cheer the patient mule's steps amidst the mountains of Spain. The falcon worn his little bell; "bell, book, and candle" were the old instruments of exorcisms; and a "cap and bells" the badge of court fools. The bells of the household, which startle with expectancy the domestic circle as heralds of the favored guest or the stranger's coming; the silver bells of the greyhound's collar; the brazen bell of the crier; and so on through all the economies of life wherein bells enact a utilitarian part as far removed from the ancient and the poetic service associated with the cathedral and the rites of humanity as are her aspirations from her drudgery. There have been memorable superstitions connected with little messengers of sound; mysterious voluntaries, inexplicable monotonies, identified with some catastrophe, or prophetic thereof, as warnings or summons made their echoes portentous. Ere the wreck of a steamer, plunged forever in the trough of the sea, a few years ago, in Long Island Sound, her brave company all gone, some beneath the waves, and others frozen or suffocated, above the surging and desolate waters, with the fitful rush of the gale, still clanged the bell, swung by the tempest like a dirge over its victims. "Silence that dreadful bell!" exclaims Othello, when the isle was roused from its propriety." And how often, on sensitive brain and quivering nerves, do the ill-timed jar of these intrusive messengers wake the same impatient protest of invalid and mourner! A popular novelist, alluding to those of London as heard in a house of sorrow on Sunday, well calls them "exasperating." On this side of the water the church-bells often, and especially in villages, lack the tone so mellow across the sea; they are often hung too near the earth, and rung by inexperienced hands; their accents are business-like and commonplace, even in their call to prayer; herein, as in other interests, art and sensibility to the beautiful lack volaries. Yet are there notable exceptions. Whoever has found himself in Wall Street on a Sabbath morning, and heard those deserted precincts of financial excitement resound with old Trinity's harmonious chiming, must have felt, with all the zest of contrast, the solemn poetry of bells. In front of Lafayette's portrait in Independence Hall, Philadelphia, is a bell which, even mute, appeals to every American heart by this inscription: "The ringing of this bell first announced to the citizens who were anxiously waiting the result of the deliberations of Congress (which were at the time held with closed doors) that the Declaration of Independence had been decided upon; and then it was that the bell proclaimed liberty throughout the land to all the inhabitants thereof!" In that city, also, is the oldest chime of bells in the land; they hang in Christ Church. One in Boston, long endeared, once drew crowds to the North End to listen. "Within the sound of Bow-bells," was long the cockney way of claiming nativity in London. The note of a bell is, of all sounds, that which comes nearest home to the local spell of a habitation. In cities, where rural sights and sounds are wanting, imagination insensibly clings to these aerial and familiar tones: perchance they breathe over the ashes of the loved, or have mingled with the labor and the pastime of years; above the hum of trade and the voices of the thoroughfare their clear, deep, prolonged refrain is perchance the only sound that whispers to the brooding heart of higher interests than the work and the pleasure of the hour. There is to the forlorn a greeting, to the remiss a charm and to the meditative an inspiration in their music; it pulsates through the air at dawn, noontide, or midnight; "above the world while in it;" the pen or pencil is self-arrested as it at a friendly voice; the book is closed; the head turns on the pillow; and thoughts of responsibilities maturing with the hours, of hopes blasted in the past, or that "wander through eternity," come as the last vibration slowly expires. Even the ambitious and absorbed Napoleon would pause in his rapid promenade, and grow pensive and thoughtful at the sound of bells, and often was seen arrested and touched by the sound of those at Malmaison, so fraught with memories of love and remorse.

It is marvellous how the ear discriminates congenial sounds. "Ceux," says Balzac, "qui passent habituellement les nuits sans sommeil, et qui ont observé les différents effets de l'acoustique par un profond silence, savent que souvent un léger retentissement est facile à percevoir dans les mêmes lieux où des murmures égaux et continus n'avaient rien de distinctible."

Nature's daintiest products are the model of bells. How many flowers wear their shape, and might be imagined to have hinted their creation to Adam! Horace Smith, in his exquisite hymn to

these evanescent and graceful forms, speaks of the "floral bell that swingeth;" and the delicate song in the *Tempest* says, "In the cowslip's bell I lie." Bells signalize to consciousness the most hallowed associations of travel. We seem to hear a voice from the far-past in the re-echo of cathedral bells in Europe. Near one of the wonderful old churches on the Danube, in Germany, Spain, Italy, and English cathedrals towns, what a panorama of history, what memorable personages and pensive retrospection, the sound of ancient bells awaken in the mind of the imaginative stranger! At Oxford and Rome, at Rouen and Nuremberg, what martyrs, reformers, saints, bards, kings, and artists, whose names blend with the local memories of the place, reappear to the fancy, as the bells, which announced their advent or rang their knell, fill the air with echoes from the long dim "corridors of time," and connect them with the wants, aspirations, and fragilities of this "shoal of time" on which we stand and listen with awe and love! All over the Continent are famous bells—that of Erfurt, for instance: some for antiquity, others for size; this because of its exquisite tone, and that on account of a saintly tradition; and many as intimately associated with the fortunes and the fame of the church or town, wherein they have so long rang out the chimes of human vicitude and faith.—*Harper's Magazine*.

SCIENCE.

On the Generation of Sounds by Canadian Insects.

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Among the most striking peculiarities associated with the study of insect life, which very early attracts the attention of the young entomologist, are the various musical or other sounds and notes which are emitted by many of the genera among the different families of this division of the animal kingdom. In my youthful days I used to listen with an exciting interest to the tuneful song of the Tree-hoppers, *Cicadæ*, in the extensive gardens of Mr. James E. Campbell, my maternal grandfather, situated at the foot of the Current St. Mary, on the beautiful island of Montreal. I watched whence the music proceeded, and stopped not until my curiosity was ultimately rewarded with the capture of one of these insects, which have been celebrated from time immemorial, and described by Virgil as rendering the bushes with their song:

"Et cantu querulæ rumpunt
Arbusta cicadæ."

The insect sang as it was held between my fingers, and it was from the possession of this specimen that my taste for collecting insects at an early period was formed. It was not long subsequently to this that a fine large beetle of a fawnish-drab colour, the *Monohammus confusus* (1) rewarded my efforts, and the utterance of a very delicate, but still quite audible squeak like that from a mouse, only not so loud, astonished me very much. This sound continued for hours, whenever the beetle was disturbed, notwithstanding a pin had been passed through one of the elytra. As my collection increased, many other beetles were discovered to emit similar sounds of varying intensity. But the loudest and most striking note of this kind given forth by an insect, was from a very beautiful and rare species of sphinx, the *Sesia pelagus* or Humble-bee Hawk-moth, and although my collection numbered but one similar specimen given to me, I retained the one which was captured by myself for some time alive to hear its murmurs.

The sounds generated by Canadian insects were never disregarded in my entomological rambles, and it is with a view of drawing the attention of my younger readers to this interesting subject, that I venture to put together a few remarks, which shall embody a brief description of the sounds, and an enumeration of the principal insects which produce them. And here I must be excused for a moment, if I refer back to that period of youth, when all is sweet and joyous, when neither thought, nor care troubles the mind, and nought interests for the time but the ardent pursuit after the studies of nature. It is with feelings of ever cherished recollection that my mind dwells upon my rambles and their connecting incidents over the various parts of my native island, which, perhaps,

(1) Common in August about the Wood-yards of the city.—Eds.