

*INSECT LIFE.

A Lecture delivered before the Mechanics' Institute of Port Hope, Whitby, Newcastle, and Belleville,

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(From the Home Circle.)

The benefit of observing the habits of insects may be illustrated by the fact related that when Mohomet, exposed to the wrath of his enemies, fled from Mecca in company with Alubekar, they took refuge in a cave three miles from the city, called the cave of Ther, where the two fugitives concealed themselves for three days. His pursuers coming to the cave found that a spider had woven a web across the entrance, from which circumstance they judged that no one could have recently entered it. They accordingly retired without examining the interior. Mohomet and his companion afterwards escaped in safety. But for that spider's web Mohomet had then lost his life, and all the wide spread influence of his conquests would never have existed.

The celebrated Damonlin effected his escape from the massacre of St. Bartholomew by creeping into an oven, over the mouth of which a spider immediately wove a web. When the murderers inspected the premises, they passed by the oven without looking in, saying that it was plain no one could have been there for some days.

The weather has been accurately foretold by observing the habits of the spider: and deliverance from prison effected thereby. Quatremér Disjonvol, a Frenchman by birth, was adjutant general in Holland, and took an active part on the side of the Dutch patriots, when they revolted against the Stadtholder, and on the arrival of the Prussian army, under the Duke of Brunswick, he was immediately taken, tried, and having been condemned to twenty-five years imprisonment, was incarcerated in a dungeon at Utrecht, where he remained eight years. Spiders, which are the constant, and frequently the sole companions of the unhappy inmates of such places, were almost the only living objects which he saw.—Partly to beguile the tedious monotony of his life, and partly from a taste which he had imbibed for natural history, he began to seek employment, and eventually found amusement in watching the habits and amusements of his tiny fellow-prisoners. He soon remarked that certain actions of spiders were intimately connected with

approaching changes in the weather. Farther observation confirmed him in the belief that they were in the highest degree sensitive of approaching changes in the atmosphere, and that their retirement and reappearance, their weaving of their webs, and their general habits were a true and a real intimation of what kind of weather might be expected. Disjonvol, in the course of his eight years' imprisonment, pursued his enquiries with so much industry and intelligence that he was able to prognosticate, from the movements of the spiders, the approach of severe weather, from ten to fourteen days before the change set in. This knowledge eventually led to his release from prison, which occurred in the following manner: When the troops of the French Republic overran Holland in the winter of 1794, and kept pushing forward over the ice, a sudden and unexpected thaw threatened the necessity of the troops' withdrawal. The French generals were seriously thinking of retreating, when Disjonvol, who hoped the success of the French would lead to his release, succeeded in getting a letter conveyed to the French general, in which he assured him, from the peculiar actions of the spiders, of whose movements he was now enabled to judge with perfect accuracy, that within fourteen days there would be a severe frost. The commander of the French forces believed his prognostication, and persevered. The cold weather made its appearance in twelve days, with such intensity that the ice in the rivers and canals became capable of bearing the heaviest artillery. On the 28th Jan., 1795, the French army entered Utrecht in triumph, and Disjonvol, who had watched the habits of his spiders with so much intelligence and success, was, as a reward for his ingenuity, released from prison.

Spiders are not the only insect that practice the art of spinning. Many caterpillars aid themselves in moving from place to place by this process, especially in their progression over smooth surfaces, and also in descending from a height through the air. The caterpillars of the cabbage butterfly are thus enabled to climb up and down a pane of glass, for which purpose it fixes the threads that it spins in a zig-zag line, forming so many steps of a rope ladder. Other caterpillars which feed in trees, and have often occasion to descend from one branch to another, send out a line, which they can prolong indefinitely; and thus, suspend themselves in the air, or let themselves

down to the ground. They contrive, while walking, to spin a thread as they advance, so that they can always retrace their steps, by gathering up the clue they have cast, and re-ascend to the height from which they allowed themselves to drop.

How remarkably adapted are the organs of all creatures for the uses they require. We find that insects destined to move in the water, have, sometimes all their legs, but occasionally only one pair lengthened and expanded into broad triangular surfaces, capable of acting as oars, and these surfaces are farther extended by the addition of marginal fringes, of hair, so disposed as to project and set upon the water every time the impulse is given, but to bend down when the leg is drawn up preparatory to the succeeding stroke; thus producing the same effect as what is called "feathering the oar."—Whoever could adopt such an arrangement to the paddle of steamboats will soon make his fortune. The insect called the boatman, is so shaped as always to swim on its back, which resembles somewhat the bottom of a boat. Its long pair of legs, extending at right angles to the body, are remarkably similar to the oars of a boat, and act in the same way.

The feats of agility and strength exhibited by insects have, often been the theme of admiration with writers on natural history; and offered incontrovertible proofs of the enormous power with which their muscles are endowed.—A remarkable instance of the force and permanence of muscular contraction is exhibited by those caterpillars which frequently remain, for hours together, in a fixed attitude with their bodies extended in a partly horizontal position from a twig, to which they cling with their hind legs alone. Ants will carry loads 40 or 50 times heavier than their bodies. Linnæus has computed that the *chaffer* is, in proportion to its bulk, more than six times stronger than the horse. And he has asserted, that if the same proportional strength as the stag beetle possesses, had been given to the elephant, that animal would have been capable of tearing up by the roots, the largest trees, and of hurling huge works against his assailants, like the fabled giants of the ancient mythology.

Great as the power is which insects possess in proportion to their size, the imagination of those who had not knowledge enough, to enable them to search out facts, has far outstripped the surprising reality, and has clothed insects with all the terms of supernatural might. It has been truly