

**For the Scientific American,  
The Honey Bee.**

Where can we find so great a source of profit, without money and without price, as the little honey bee affords; yet we do not avail ourselves of her labors to the hundredth part of the extent that we might. And what is equally strange, no man in this country has ever thrown a ray of light, comparatively speaking, on this subject through the press.—It is *terra incognita* to all, save the traditional whims and notions in regard to the management of this insect, that have passed down from the days of Aristotle and Pliny (who were apiarians in their day) to the present time.

I am now making an effort to dispel the clouds of moral darkness that hover over the proper management of bees, and arouse the dormant spirit that exists on this subject generally, among those who are the most deeply interested in the advancement of apiarian science. This subject is so vast in all its ramifications that one can barely introduce it in an article like this; yet I will briefly refer to a few points of interest, in the economy and habits of this insect.

The relation of the *queen* to the family and facts pertaining to her, are, perhaps, the most wonderful of any branch of the subject. It is probably pretty well known, that every association of bees is composed of *one* queen, from 5000 to 10,000 *workers*, generally; and some 500 *drones*. The queen is the governess of the whole family, and is the alpha and omega—the prime mover—the all in all of every community. She produces all the eggs amounting to 30,000 annually in some cases. The most singular feature pertaining to royalty, is the manner in which queens are produced. The same egg that produces a worker, will also produce a queen, larger and differing entirely in her organic structure from a worker. There are only two kinds of eggs laid by the queen, viz. those that produce workers and those that produce drones. In the spring about the beginning of May, the first measures are taken to produce young queens to go off with swarms. The first thing done, is to construct several *royal cells*, which are always made to hang vertically; whereas, all other cells are placed horizontally, or nearly so.—The shape of a royal cell and its size is nearer to that of a peanut, with one end open, and the nut extracted, than any thing else that it can be likened to. When these cells are partly constructed, the egg is laid therein, and afterwards the cell is completed. As soon as the egg bursts its integument, and the *larva* or grub appears, the workers provide a different food for it, from that fed to other larvae, and which has been termed 'royal jelly.' The grub is fed with this jelly for the space of four days, when the cell is sealed over by the workers, and the grub then enters the *pupa* or *chrysalis* state, in which it remains about twelve days, and then emerges from its prison a perfect queen! This is no hypothesis, or visionary theory; but truth truly demonstrated. Now, the same egg, if placed in a worker cell, would have produced only a worker. As proof positive of this allegation, I will state what I have many times done with my own hands, and beheld the result with my own eyes. I have taken a piece of comb that contained nothing but worker-eggs, from hives where it was out of the question that there could be any want, or probability of raising queens, and I have placed such piece of comb in an empty hive—then forced bees enough into said hive to make a respectable family, every one of which were workers, and the workers at once commenced building a few royal cells (they build several to be sure of raising one queen,) and placed the worker eggs therein, and at the end of sixteen days I have witnessed perfect queens issue therefrom. This fact I have tested a great many times in the formation of artificial swarms, and it is upon this basis, that this valuable discovery, the art of producing swarms at pleasure, rests. T. B. MINER.

We noticed Mr. Miner's Manual on the Bee, last week. Full details of the system are found therein.

Great Britain produces annually 31,500,000 tons of coal; Belgium, 4,960,077; United States, 4,400,000; Prussia, 3,500,000 and Austria, 700,000.

**The Photographometer.**

This is an instrument invented by Mr. A. Claudet, of Paris, for indicating to the Photographer, the intensity of the chemical rays and the sametime the sensitiveness of his preparation, a full description of which was communicated by the inventor to the Paris Academy of Science.

The apparatus is very simple, and serves equally for processes on paper or on metallic plates. It indicates the intensity of the chemical rays at all moments of the day during atmospheric variations, and at the instant we may wish to operate. It serves also to compare the degree of sensitiveness of the different photographic preparations.

For an instrument of this kind, it is important in the first place to have a motion always uniform, without complicated or expansive mechanism. This is obtained by a means founded upon the principle of the fall of bodies sliding down an inclined plane. The sensitive surface is exposed to the light by the rapid and uniform passage of a metal plate having openings of different lengths which follow a geometric progression. It is evident that the exposure to light will be the same for each experiment, because the plate furnished with the proportional openings falls always with the same rapidity, the height of the fall being constant, and the angle of the inclined plane the same. Each opening of this moveable plate allows the light to pass during the same space of time, and the effect upon the sensitive surface indicates exactly the intensity of the chemical rays. The rapidity of the fall may be augmented or diminished by altering the inclination of the plane by means of a graduated arc, furnished with a screw, by which it may be fixed at any angle. The same result may be obtained by modifying the height of the fall or the weight of the moveable plate. The photographic surface, whether it be the Daguerreotype plate, the Talbotype paper, or any other preparation sensitive to light, is placed near the bottom of the inclined plane. It is covered by a thin plate of metal pierced with circular holes, which correspond to the openings of the moveable plate at the moment of the passage of the latter, during which the sensitive surface receives the light wherever the circular holes leave it exposed.

By placing beneath each series of holes a different sensitive surface,—each of these surfaces will, during the fall of the moveable plate, receive the same proportion of the same light, and thus their different degrees of sensitiveness may be compared. In this manner we learn the comparative sensitiveness of different preparations of the iodide, of the bromo-iodide and chloro-iodide of silver, and of the various photogenic papers; for it is indispensable, in making an exact comparison, to operate with the same light, and during strictly the same space of time, as it is known that the light varies from one minute to another.

M. Claudet announces a very extraordinary fact which this apparatus has furnished him with. He does not give it as the result of a calculation mathematically correct; but he cannot be far from the truth in stating, that the pure light of the sun modifies the bromo-iodized silver plate, communicating to it an affinity for mercurial vapor which produces, the white image in the Daguerreotype, in a space of time which cannot be much more than the thousandth part of a second. M. Claudet made the experiment in the following manner:—He let the light of the sun fall upon the plate through an opening of a millimetre, whilst this opening passed over a space of 350 millimetres in one quarter of a second, as near as he could judge; this light could not therefore have acted on the plate during much more than the 1-1000th part of a second, nevertheless an inconceivably short space of time sufficed to produce a decided effect.

M. Claudet suggests the following applications of his photographometer—to ascertain: What is the effect of the compound light, and that of the different separated rays of the solar spectrum? How much photogenic light is lost by reflection from parallel mirrors, prisms, and other substances, and by refraction through lenses? The proportion of photogenic rays in the lights obtained from various sources, including that produced by electricity? If the photogenic light varies with the height of the

atmosphere and with the changes of temperature? If it is affected by the electrical state of the atmosphere? In fine, what is the proportion of the photogenic rays at each hour of the day, and at different points in space at a given moment?

**The Charm of Cleanliness.**

A white-yellow shirt on a man, said William Cobbett, speaks at once the character of his wife; and be you assured, that she will not take with your dress, pains which she never takes with her own. Then the manner of putting on the dress, is no bad foundation for judging,—if it be careless, slovenly or if it do not fit proper. No matter its mean quality; mean as it may be, it may be neatly and trimly put on; and if it be not, take care of yourself, for, as you will find to your cost, a sloven in one thing is a sloven in all things. The country people judge greatly from the state of covering of the ankles; and if it be not clean and tight, they conclude that all out of sight is not as it ought to be. Look at the shoes; if they be trodden on one side loose on the foot, or run down at the heel, it is a very bad sign; and, as to slipshod, though at coming down in the morning, and even before daylight, make up your mind to a rope, rather than live with a slipshod wife. Oh! how much women lose by inattention to these matters? Men, in general, say nothing about it to their wives; but they think about it; they envy their luckier neighbors; and in numerous cases, consequences the most serious arise from this apparently trifling cause. Beauty is valuable; it is one of the ties, and a strong tie too; that, however, cannot last to an old age; but the charm of cleanliness never ends but with life itself.

**A Classical Rebuke.**

One evening a short time since Professor Wines advertised a gratuitous lecture at Newark, on the Theory of the Government. At the hour of commencement, the audience being very small, the Professor administered the following neat, classical, and pungent rebuke.

"Plato when delivering lectures in Athens, sometimes had Aristotle for his only hearer; on which occasion he was accustomed to proceed with his lecture as usual, remarking that when he had Aristotle, for a hearer, he had the better half of Athens. On the same principle, I may congratulate myself on my audience this evening."

It is a fact, that many of the best standard productions, were delivered to almost empty halls. When Handel was alive many of his pieces were performed before very thin audiences. On such occasions the great musician used good humoredly to observe "oh never mind, the music will sound all the better."

**The Folding of Newspapers.**

The rapidity with which newspapers are folded by lads in the large establishments of our cities, is a matter of wonder to those not initiated in the mysteries of newspaper life.—This astonishing speed is attained, by a spirit of competition, and the ambition to excel among the boys.

As a specimen of the speed of these youthful folders, the Boston Journal mentions the fact that a lad employed in that office, folds papers at the rate of thirty-five per minute with three folds; twenty-nine per minute with four folds, and twenty-six per minute with five folds. He was able to keep pace with the press which worked off from 1000 to 1200 papers per hour.

**American Oranges.**

The Mobile Herald says that since the destructive hurricane in Cuba a few years since, the Mobile fruit market had been supplied chiefly with Creole oranges raised in that neighborhood, Pascagoula and on the "coast" near New Orleans. These oranges are generally larger than those raised in the neighborhood of Havana, and much superior in flavor. The Herald contends that a number of locations might be selected on the bay and neighboring islands, where the orange would thrive admirably and scarcely ever be injured by frost. It instances the case of a person who realizes from \$800 to 1000 annually from about thirty orange trees cultivated in a garden some miles south of that city. The fruit is said to be delicious and of most exquisite flavor.

**Winter in Spitzbergen.**

The single night of this dreadful country begins about the 30th of October, the sun then sets, and never appears till about the 10th of February. A glimmering indeed continues some weeks after the setting of the sun; then succeed clouds and thick darkness, broken by the light of the moon, which is as luminous as in England, and during this long night shines with unfading lustre. The cold strengthens with the year, and the sun is ushered in with an unusual severity of frost. By the middle of March the cheerful light grows strong, Arctic foxes leave their holes, and the sea-fowl resort in great numbers to their breeding places. The sun sets no more after the 14th of May; the distinction of day and night is then lost. In the height of summer the sun has heat enough to melt the tar on the decks of ships; but from August its power declines, it sets fast. After the middle of September day is hardly distinguishable, and by the end of October takes a long farewell to this country; the earth becomes frozen, and winter reigns triumphant.

**Advice in Poultry Keeping.**

A correspondent of the Agricultural Gazette says that it depends upon the following plan for the successful rearing and keeping of poultry.

1. To have two breeds—a few to hatch and rear the chickens, and twice the number of everlasting layers, as eggs are more profitable than chickens;
2. To get a hatch as early as possible in spring, and to keep them well—these never cast their feathers like the old birds, and if they begin to lay in autumn, lay more or less all winter;
3. Never to keep old fowls, (none but favorite fowls ought to be kept more than two years;) old hens lay larger eggs than pullets, but not nearly so many;
4. To give them the best barley, and as much as they could pick up once a day in summer, and twice in the winter; they are not only more profitable, well kept, but the eggs are better. The two best breeds are the spotted Dorkings for sitting, and the Pheasant breed for laying.

**Population of the United States.**

From the report of 1848, submitted to Congress by the Commissioner of the Patent Office, it appears that the present population of the United States is estimated at 21,686,000. The number allotted to each State is as follows: Maine, 615,000; New Hampshire, 308,000; Massachusetts, 875,000; Rhode Island, 135,000; Connecticut, 340,000; New York 2,880,000; Vermont, 310,000; New Jersey, 425,000; Pennsylvania, 2,220,000; Delaware, 85,000; Maryland, 510,000; Virginia, 1,295,000; North Carolina, 780,000; South Carolina, 620,000; Georgia, 825,000; Alabama, 716,000; Mississippi, 670,000; Ohio, 1,980,000; Louisiana, 490,000; Tennessee, 980,000; Kentucky, 890,000; Indiana, 1,000,000; Illinois, 800,000; Missouri, 589,000; Arkansas, 290,000; Iowa, 150,000; Michigan, 420,000; Wisconsin, 250,000; Florida, 80,000; Texas, 150,000; District of Columbia, 48,000; Oregon, 50,000.

**Good Tools.**

It is a bad sign to see a mechanic sawing away with a bad saw, taking two hours to saw a plank that could be cut up in one, by simply spending twenty minutes in sharpening his tool. It is a bad sign to see a broken window mended with an old hat; so it is equally as bad a sign to see a mechanic hewing away with a broad axe sharpened with a rasp.

It is just about as pleasant to be shaved with a file, as to plane a board with a notched planing chisel. Good tools neatly arranged, are evidences of skill, wisdom and taste.

**A Fly's Speed.**

By fair comparison of sizes, what is the swiftness of a race-horse clearing his mile a minute to the speed of the fly cutting through her third of the same distance in the same time? And what the speed of our steaming giants, the grand puffers of the age, compared with the swiftness of our tiny buzzers, of whom a monster train, scenting their game afar, may even follow partridges and pheasants on the wings of steam in their flight as friendly offerings?

The navigation of the Hudson is now fairly open and the regular steamboats in full play.