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**BRIGHT ON GRAPE CULTURE.** Published in Philadelphia by the Author, and in New York by C. M. Saxton, Barker & Co.

A fresh, original work, is a great treat in these days of book making; and, had Mr. Bright effected nothing more by his efforts than this, we should have enjoyed it on that account alone. But the work is not by any means to be valued merely because it is not what is popularly and aptly known as "rehash;" it abounds with new and original ideas, for which Mr. Bright's contributions to the *Gardener's Monthly* have already become so noted.

The author of this little work has had one advantage as a "book maker," which all authors of practical works have not invariably possessed. He has been long known as a practical grape grower of the highest eminence, and his work has followed his deeds. The "sayings and doings" of many distinguished individuals have flooded the press. Mr. Bright has reversed the general order of such matters, as he has reversed many time-honored practices related to the subject of which he treats. The work is emphatically the "doings and sayings" of Bright on grape culture, and as such we welcome it. The work, though confined to 120 small octavo pages, covers the whole subject of vine culture—native and foreign—in pots, borders, vineyards and city yards; planting, training, pruning—as much, in fact, as is usually given in works double the size; and this conciseness of language in these railroad times is not one the least of its merits.

There are some things in the work with which we would not agree. The idea generally prevalent amongst the most scientific portion of agriculturists, that the most perfect system of manuring is that which applies to the soil those elements which chemical analysis shows the plant growing in that soil to contain, Mr. Bright also leans to. We honestly confess that we cannot controvert this belief, and yet our faith has been shaken occasionally by some cross-grained observations. There seems to be something in that mysterious and incomprehensible principle, which for want of a better name we call *vital force* which acts in the premises, and sets the best rules of science so far as yet known, at defiance, and produces results other than as they ought to do according as they are laid down "in the books."

But all this is natural. Far in advance as we regard the views held forth in this little work over present general practice, the future will no doubt produce still more perfect ideas; and probably Mr. Bright himself, with his naturally observant genius, will be one of the first to lay hold of and popularize them.

We cordially recommend the book to all any way interested in grape culture.

**THE ORCHARD HOUSE.** By *Thomas Rivers*, with an Appendix, containing additional directions, by *William Saunders*. C. M. Saxton, Barker & Co., New York.

This little work of Mr. Rivers is already familiar to many American readers, through having been reprinted last year in the *Horticulturist*. In the present pamphlet form it will come acceptable to many, and the enterprising publishers have conferred a favor on the horticultural community in preparing it for them.

Mr. Rivers is an enthusiast on the subject, and he has given an impetus and popularity to it, that, considering how slow communities are to adopt new ideas, is really surprising. As the past testifies, the *Monthly* has never been with those who believe the day for cultivating out-door fruits is gone by, and that we must look to the orchard house as a *dernier resort* for an occasional mouthful of fruit; but as a pleasant pastime for the amateur of leisure, a delicious luxury for the affluent, or even as a source of profit when the principles of management are thoroughly understood, and entered into with a thorough business spirit, we believe it will become one of the most popular branches of the gardening art.

**THE GERMANTOWN TELEGRAPH.**—This well known and widely circulated family and agricultural journal commences a new year about the present time. The horticultural articles are often of the highest excellence, and we hope it will continue to be like good wine, which they say improves with age.

**ORIGIN OF SPECIES.** By *Dr. Charles Darwin*.

As botanical knowledge progresses, the difficulties of classification increase. When Linnæus delineated his system, for a while it seemed perfect. Compared with the present list of vegetable forms, the number of plants then known was a mere trifle; and after the light of genius had once dawned on the mind of the great botanist, it was a comparatively easy task to arrange them into classes that seemed very well defined and perfectly satisfactory. But long before this great father of modern botany had passed away from us, difficulties gathered with the accumulation of new discovered species; variations that were deemed but exceptions became the rule, and he himself gave the first blow towards the destruction of the magnificent arrangement his brilliant genius had created, and which destruction the natural system of Jussieu afterwards so successfully completed. Jussieu divided the whole vegetable kingdom into one hundred orders or classes, and the classification seemed again perfect; but new discoveries soon showed its imperfections—natural though it was supposed to be; and after being



patched and tinkered by various clever hands, was entirely revolutionized by Endlicher and Lindley, the latter of whom came ultimately to the conclusion that nothing short of over three hundred orders would embrace the vegetable kingdom; and since his efforts scarcely any score of botanists can be found to agree as to the proper limits of any of these so-called orders, and clearly define what they mean by any one of them.

If they are not agreed as to what constitutes an order, so neither are they any more successful with genera or species. What are so considered by one, are rejected as such by others; and it has been found impossible to define what any one means by a species. The only agreement has been in a quiet assumption,—a sort of dreaming, indistinct idea, that they mean by a species something that was originally created independently separate and distinct from any other kind to which it may be allied. Each one adopts what he considers some character essential to a species, and when he discovers any other form, agreeing with his ideas of essentiality, but differing in other respects, he assumes that it is but a variety that has sprung from the species, and so classes it.

To any one with a mathematical turn of mind, this is an extremely unsatisfactory state of things. The idea that any study can be a science, the principles of which cannot be demonstrated, is unnatural, and the explanatory apologies about exact and unexact sciences afford no relief. To such a mind the doctrine of Cicero is law. So general a disagreement amongst men proves that the idea is *not* the voice of nature,\* and is an *argumentum veritatis* that the idea that all existing forms were independently and specifically created—the source of the existing disagreement—is not true.

And so the beautiful science of Botany, which from the instability of its principles, prove to be no science, suffers. There are not half the botanists there were twenty years ago, proportionately speaking; while chemistry, geology, anatomy, and other branches amongst whose votaries glimpses of the unity of nature have been more of a practical reality than of a delightful dream, have gained in popular appreciation and real scientific progress.

But it is easier to find fault with a system that is false, than to point out another which is true; and unsatisfied as every scientific mind must be with the independent theory, it asks for a better one before it abandons the other. Many daring geniuses have attempted it and signally failed. Lamarck's effort, recently vitalized by the "Vestiges of the Natural History of the Creation," was little more than still-born, and is one of the most noted of modern at-

tempts. This one of Darwin's is the most recent, and the most plausible of all.

Mr. Darwin goes to his task with the resolution of a David marching on Goliath. He has spent twenty years in the collection of facts bearing on his theory, and has so carefully collected and elaborated them in the present work, that though the mind of the reader will in the main remain unconvinced, it is almost impossible to review it with justice. As the book is one long argument, so is the struggle between what we feel and believe, and the facts as presented—one long continuous effort for predominance. The probability is that Darwin is on the right track; but whether his theory will sustain all that he claims for it, we think very doubtful. The very fact of his having made the subject one of such intense study, is an inference *a priori* that it has been pushed to extremes. We find in our everyday experience, that one closely attached to the study of Entomology is firmly convinced that most of the diseases of vegetation are attributable to the attacks of insects; the mycologist pleads as strenuously for the all-potency of fungi; the chemist and the electrician ride their hobbies as stately; and the physiologist accounts for all easily, without the help of any of the others. Mr. Darwin starts by handling the non-definability of species most unmercifully, and belaboring it most effectually. He shows that most of the domestic varieties of plants and animals, especially dogs and pigeons—which we happen to know are derived from one original parent stock, though we call them varieties—are yet, in the characters considered essential in the idea of a species, as different as the wild forms or species, the origin of which we do not know; and from this he starts with the *possibility* of his theory, which is that there is really no difference between species and varieties other than what has been stamped on them by the hand of time and circumstances. In a few words, all existing species have sprung from a few primordial forms. All scientists agree that striking variations do occur—the only difference between them and Mr. Darwin is in degree. He tries to prove that there is no limitation to this variation, but you must give him time—several millions of years; but they, on the other hand, assert that the variations are limited, and never occur in any *essential point*. "Thus far shalt thou come, and go no farther," they believe to be the fiat that governs these specific oscillations. Mr. Darwin takes issue with them on this *essential point*, that whenever it is found to vary it ceases to be considered essential, and this arguing in a circle naturally does not suit his system of reasoning. The classification of Linnæus was at one time considered as founded on essential points, until found so variable as to be worthless. Having proved, as he thinks, that variation is un-

\* "Quoniam vero in re omni consensus firma gentium omnium est vox naturæ, et argumentum veritatis." I *De legibus*.



limited, he goes on to show how these variations assume a specific character. He calls in a new principle—not new in itself, for we are all aware of its reality—but a new principle in its application—a new power, which he calls the “struggle for existence.” An oak in one season may produce ten bushels of acorns, which, with twenty thousand in each bushel, would produce a million of trees. A few hundred oaks in a forest would produce enough to stock the whole globe in a single season. And so on with other things: offspring enough from both the animal and vegetable world are annually produced to stock a score of such worlds as ours. They cannot possibly all survive, and only those do survive that crowd out the weaker individuals. This is what the author metaphorically calls the “struggle for existence.” As temperature, climate, and other circumstances change, only those “struggle through” which by the natural law of variation adapt themselves to the change; and this they do by a principle implanted within them by the Creator, which Mr. Darwin calls the principle of “natural selection.”

This he explains as a sort of instinct common to the whole organic creation, which leads the individual to select that which is best suited to its own preservation and the perpetuity of its own offspring. It is the principle of self-love applied to the whole organic world. And here it seems to us the horticulturist can step into the arena with great advantage, and take a position which may have a material influence on the subject.

We think Mr. Darwin has overlooked the fact that there are two principles in the individual which are diametrically opposite, namely, self-preservation and reproduction. Whatever tends to the vigor and luxuriance of a plant, is so much detracted from the reproductive principle. The most productive trees of the same variety are the shortest lived, and the most healthy and vigorous are those which bear little fruit. It seems to us that where two opposing principles exist, so long as they do exist there must be a barrier beyond which variation cannot go; and a limit to variation being a fair inference in one direction, why may it not be in another? That this limit is more than a mere hypothesis is shown in many things. The Pansy is an instance. About a quarter of a century ago, the only representative was the wild *Viola tricolor* of English corn-fields. The flower and foliage, in the hands of skilful florists, became larger, and—in a florist's sense—finer, until the flower reached two inches across; but there it stops: no skill has been able to make them finer. The same with the geranium and other flowers—the maximum of size is soon obtained, and improvement in that direction soon ceases. All this, however, is at the expense of the reproducing principle, for all these improved flowers

seed only with great difficulty. It may be argued that “natural selection,” working for the plant's own good, would not allow a plant in a state of nature thus to work to the injury of its reproducing principle; but the instance is only given to show that there is in some respects a limit to variation, and that the opposing principles of reproduction and preservation may have more influence on limiting the powers of natural selection than the author claims for it.

Altogether Mr. Darwin's theory captivates by its beauty, and if true, would throw a new light on many mooted points in Pomology and Horticulture. The wearing out of varieties of fruit perpetuated by grafting, for instance, receives strong corroboration in Mr. Darwin's views; and we can imagine with what delight the spirit of Thomas Andrew Knight contemplates the increased confirmation his theory receives from it. The raisers of seedling fruits will rub their hands in glee, and those who maintain that American seedling fruits are the best adapted to American latitudes, will look you in the face with “did not we tell you so?” expressed in every feature. And not only the practical, but the intellectual mind will enjoy Mr. Darwin's book, let his views be facts or unripe theory. The unity of type in vegetation, first revealed to us by the illustrious Goethe, and known as vegetable morphology, applied to all organic matter is a grand conception of the human mind; and should it be ultimately proved to be the fact, that instead of a single, and, compared with eternity, momentary act of creation, the whole universe is one perpetual manifestation of such a divine work, our reverence for that great, unseen, and omnipotent Author of all will only be increased by the discovery of such wonderful foreknowledge in the arrangement of all things.

Nothing but a careful perusal of the book itself will give the reader a good idea of its nature. As the author himself expresses it, the work is “one long argument.” It is one of the most original works published for many years, and it is impossible to foresee what revolutions it may yet make in botanical science.

THE CRANBERRY CULTURIST. By *W. H. Starr*.  
Starr & Co., New London, Conn.

Cranberry culture is just now exciting a high degree of attention, and this little work appears very opportunely. It embraces 32 octavo pages, and treats of varieties, soil, planting, pot culture, profits, and production. With this little work the merest tryo in the art of raising cranberries cannot go astray.

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