

be secured, and in the way of show  
to the cultivation of inexpensive  
plants. The plants are grown in three distinct  
colours, white, blue, and pink, and a charming  
display is produced by the association of these three  
colours alone, to say nothing of the additional pleasure  
that may be derived from a more elaborate  
arrangement with other plants.

— HALL DECORATIONS IN GLASGOW.—The  
Bachelors' Hall, given in St. Andrew's Hall, Glas-  
gow, on the 14th inst., seems to have been a very  
successful affair, from a moral point of view, if we  
may judge from the glowing descriptions of the handi-  
work of Messrs. J. & R. TAYLOR given in the local  
papers. "A greater profusion of plants has not been  
seen in Glasgow at any similar gathering."

— SIR HENRY COLE.—The death of this able  
and devoted public servant will bring home to the  
nation very forcibly the value of the services this truly  
remarkable man rendered to the cause of progress in  
art, science, and literature. If not the architect, at  
least for many years the chief guiding spirit of under-  
takings such as the Great Exhibition of 1851 and its  
successor ; the foundation and management of the  
South Kensington Museum—a wonderful testi-  
mony to the ability and perseverance of the  
man ; the establishment of the Science and Art  
Department, which is doing so much excellent  
work to promote special education and general  
welfare ; and a very numerous other service for the  
improvement of the nation and the man deserves  
to be held in the highest honor. It is not the time to  
call to mind the way in which he sometimes  
passed his ends ; nor can we doubt either their  
extreme importance, his own disinterestedness, or his  
wonderful success. His splendid success, indeed,  
will remain—the memory of his method of work will  
be forgotten, as it ought to be. Few things, indeed,  
with which he was associated have not prospered ; an  
exception may be mentioned in his connection, years  
ago, with the Royal Horticultural Society—a  
connection by many supposed to be the begin-  
ning of the disease that have befallen that  
institution, and whether that be so or not Sir  
Henry Cole remains as a good example to us  
that potency will not fail to mark him as one of  
the greatest benefactors to the nation that the  
century has produced. Sir HENRY was at one time  
a frequent contributor to literary undertakings, and in  
past years was an occasional correspondent of this  
journal. In 1851, after fifty years of varied and  
exciting work, he retired from the public service ; but  
rest for so active-minded a man was an impossibility.  
He came into the land to occupy himself with  
schemes designed to promote the welfare and comfort  
of his fellow-citizens, and died, after a short illness,  
on the 14th inst., in the seventy-fifth year of his age.  
Besides, no time will be lost in making known  
adequately to the nation the work of one of the  
most distinguished public servants of whom the  
country could at any period boast.

— THE WATCHER.—General remarks on the  
temperament, mind, and character of bright individuals,  
for educational and sanitary purposes, during the week  
ending April 17, issued by the Meteorological Office, London.—The weather has been very dry and un-  
settled ; much rain has fallen in the south and south-  
west, and heavy snow and sleet in the north, while a  
thundershower was experienced in the north-east on the  
15th. Temperature has been below the mean in all  
districts except "England, S." and "England, S.W.", where it was about equal to the average. In  
Scotland the deficit was as much as 4° in 6°. The  
variations were generally registered either on the  
14th or 15th, and ranged from 4° in "Somerset, W." to 6° in "England, S.E." and "England, N.W.". The range was 2° in "England, S.W." and 4° in "England, S.E." and 6° in "Derbyshire, Cheshire, Douglas, and Stockport", while at many other stations the  
thermometer fell between 5° and 3°. Rainfall has been more than the mean in all districts, the excess being considerable in all parts of the kingdom except "Ireland, N." Bright sunshines has been  
much less prevalent than during last week, the per-  
centage ranging from 30° in "England, S." to only  
5° in "England, S.E.". Depression observed.—  
The distribution of pressure during this period has  
undergone sudden and considerable alterations, several  
depressions having advanced over our islands from  
the westward or north-westward. The wind has con-  
sequently been much more frequent during the earlier  
part of the period, and between south and south-west (except over Ireland) on the 15th and 16th, while by  
the 17th it was southerly or westerly over England and Ireland, and southerly to easterly in Scotland.  
In fact it was light to moderate on most days, but  
on the 15th, 16th, and 17th, a strong breeze or fresh  
gale was experienced.

## DEATH OF CHARLES DARWIN.

The insignificance of the death of Mr. Charles Darwin is his 79th year, on the 19th inst., will be noticed with the greatest concern. To few, com-  
paratively, was it privileged to have personal  
acquaintance with this remarkable man, or, owing to  
his always feeble health and retiring disposition, Mr.  
Darwin, though he became world-famous, yet entered  
life into public society. He was born at The  
Mosse, Shrewsbury, in 1809, and was the son of  
Dr. Charles Waring Darwin and a grandson of Dr.  
Erasmus Darwin, several of whose speculations, as  
published in the *Naturalist's Guide*, were, as it were,  
revised and confirmed by his grandson. Charles  
Darwin was educated at the Grammar School at  
Shrewsbury, whence he proceeded to Edinburgh and  
afterwards to Cambridge, which has thus the glory of  
having a Newton and a Darwin among its many  
illustrious pupils. At Cambridge Darwin became a  
pupil of the late Professor Horace Mann, to whom and to  
Professor Sedgwick he owed much as regards the  
development of his scientific tendencies. Mr.  
Darwin, long before he became known to the general  
public, had achieved renown among his scientific  
brethren. His services as naturalist on board the  
*Simpson*, during its five years' voyage round the world,  
and the results of which were given in his *Journals* of  
researches into the geology and natural history of the  
countries visited—gave him a place amongst the  
foremost of living naturalists, a place which was  
confirmed by his labours at the Geological Society,  
and by his numerous papers and works on coral-reefs,  
the natural history of the ciliopods, &c. It was not,  
however, till his *Origin of Species* appeared, in 1859,  
that he became known to the public at large.

That work—a masterpiece of lucid argument and  
convincing evidence—has suffered, in less than a quarter  
of a century, to revolutionise natural history. At first it  
was received with suspicion even by many naturalists,  
and with open hostility by those larger public who,  
unable to appreciate the line of argument, and unable  
to estimate the enormous body of facts upon which it  
was based, made it the subject of the grossest mis-  
representations, and looked upon the work as an attack  
on their cherished偏見和prepossessions.  
Gradually, however, as the arguments began to be better  
understood, and the consummate genius with which  
the facts brought together were marshalled and brought  
to bear on the theory became recognised, the tide of  
feeling, especially among naturalists, turned in favour  
of Mr. Darwin—a circumstance largely aided by the  
personal character of the author, the perfect manner  
of his statements, and his resolute avoidance of  
potential controversy.

The steady support from the  
time of such men as the late Sir Charles Lyell, of Sir  
Joseph Hooker, Professor Huxley, Mr. Bentham, and others—the more valuable as it implied the abandonment  
on the part of many of opinions formed and crystallized  
on for years by men whose authority was known  
to be equal to their sagacity—helped greatly to the acceptance  
of the new theories or the new development of old ideas,  
and they were also most materially assisted by the  
writings of Wallace, whose experience as a naturalist  
in the tropics had led him to similar and independent  
conclusions. The two volumes on *The Variation of  
Animals and Plants under Domestication*, which contain  
the justification of the new famous theory, form an  
encyclopedia of facts relating to animal history  
the value of which, quite apart from any theory, can  
hardly be too highly estimated. Nowhere else  
can such a body of facts be found, and, as we  
have said, the way in which they are disposed, and the perfect fairness with which they are set forth, are  
such as of themselves stamp the genius of the man.  
Personal observation and extensive research did not  
suffice Mr. Darwin. The most elaborate actual exper-  
iment was brought to bear with a sagacity in conception  
and a patience in carrying out which have  
never been surpassed, and rarely equalled. These  
experiments related to the fertilization of Orchids and  
of numerous other plants, the movements exercised by  
growing plants, the curious phenomena of diges-  
tion carried on by the leaves of certain so-called  
conscious plants, the action of worms on the soil, and  
other subjects now so well known, that the mere  
mention will suffice. These manifold researches have  
raised Darwin to the highest rank among naturalists and  
experimenters, a rank accorded to him by universal ac-  
ceptation, that not only in this, but throughout the  
civilized world, Universities and Academies have been  
proud to enshrine him among their members.

We regret to learn that Mr. Darwin, laid low by a  
disease of evolution, has passed away. If not in  
detail, it is now almost universally accepted ;  
and what was received with hostility and ridicule has  
now become so generally accepted as true that the terms evolution, inheritance, variation, the law of life,  
survival of the fittest, have become household words, and are applied to circumstances and conditions  
never dreamt of by Darwin himself. The  
origin of living beings from a common stock,  
their divergence according to circumstances, the  
force of competition in moulding their forms and  
other circumstances, upon which the theory of evolution  
is founded, are now accepted, in principle if not in  
every detail, by almost all naturalists ; and the proof  
of their underlying truth is shown in the vast advances  
that have been made in every department of natural  
history consequent upon the application of the theory  
to the solving of the problems of life and organiza-  
tion. This mighty and varied development never  
could have arisen from a theory that was intrinsically  
false. Things before inexplicable fall into their  
place, heretofore isolated facts come into one harmonious whole. Classification becomes arbitrary because  
truly natural. The significance of morphology,  
the meaning of radiosity and new useless struc-  
ture, becomes apparent ; the adaptation of the  
organism to the work they have to do, the  
influence from generation to generation of partic-  
ular forms, the variation according to circum-  
stances—all these, instead of being isolated facts  
—curiosities—become welded in one sys-  
tematized theory by which the structure of the universe  
and its inhabitants, and their relations one to the  
other, become clear and harmonious to a degree that  
was hardly conceivable a quarter of a century ago.

As to the bearings on what, for convenience sake, is  
called the Darwinian theory, we may be allowed to  
repeat here what we said on a former occasion. We  
might add greatly in points of detail, but that is not  
necessary for our present purpose. Writing in 1855  
we said :—

Comparatively few among practical horticulturists  
have duly considered the extent of Darwin's service  
to horticulture. Successive generations will, it may  
be, apply his principles to their daily work quite  
unconsciously, but even now physiologists will admit that, since the days of Thomas Andrew Knight, no  
physiologist has done so much to extend the basis on  
which successful culture, whether of animals or of  
plants, depends.

We have, however, much more direct reasons for  
claiming him as the physiologist who has done the  
most in our time to advance the science of horticulture.  
The intelligent reader needs but to consult the headings of the chapters in the *Origin of Species* or the  
*Variation of Animals and Plants*, to find ample  
justification of our remarks.

Let any one who knows what was the state of  
botany in this country at least, even so recently as  
fifteen or twenty years ago, compare the felling  
between botanists and horticulturists at that time with  
what it is now. What sympathy had the one for the  
purists of the other ? The botanist looked down on  
the varieties, the names, and names raised with so  
much pride by the patient skill of the florist as on  
things unworthy of his notice and study. The  
horticulturist, on his side, knowing how very impor-  
tant plants could be studied from the mounted  
specimens in Nevada, which then constituted in  
most cases all the material that the botanists of this  
country considered necessary for the study of plants,  
naturally looked on the botanist somewhat in the  
light of a laborious trifler. Both classes shrank  
from their investigations in a narrow spirit of suspicion,  
uncertainty or unbelief of the assistance that either  
might give to the other.

The investigations of Gaertner, of Kolkwitz, of  
Sprengel, of Vosseler, had been allowed to remain by  
British naturalists as so many dead letters. It was a  
chance if a page or two were devoted to them in text-  
books ; rarely, if ever, were they mentioned in  
lectures, and more rarely was their bearing on  
horticulture alluded to. Darwin, by his renewal and  
extension of these experiments, and especially by his  
deductions from them, altered all this. He made the  
dry bones live ; he invested plants and animals with  
a history, a biography, a genealogy, which at once  
conferred an interest and a dignity on them. Before,  
they were as the stuffed skin of a beast in the glass

use of a study in their Regency, and that effect can be like feelings of depression. If he had done nothing more than this we might still have claimed Darwin as a heretic; but, as we shall see, he has made direct claims on our gratitude.

The apparently trifling variations, the variations which it was once the fashion for botanists to overlook, have become, as it were, the keynotes of a great theory. The variations which the florist sees, indeed, as, perhaps, "imperfections," furnished the suggestion for the theory of "natural selection." It is quite unnecessary to go into explanations now-a-days on this point; suffice it to say that an apparently trifling variation may be (it has not been proved absolutely that it is), may be—probably the first stage in what will, under favourable circumstances, eventually develop into what we call a species. From this point of view a new variety raised by man, as Darwin himself says, is a more interesting subject for study than one more species added to the crowded world. Darwin borrowed the idea of "natural selection," as, as it is more accurately termed, "the survival of the fittest," from the gardeners. The gardener or the florist selects, causes to survive, and propagates varieties showing one particular quality or tendency which he may happen to desire; but it is Nature's selection or the survival is not so simple as this. If it were a mere question of strength, "the weakest would always go to the wall." If of speed only, the hare must outrun the tortoise; but we all know how diverse and complicated are the conditions under which living beings, plants as well as animals, exist, and we admit with Solonos that "the race is not always to the swift, nor the battle to the strong, but time and chance happeneth to them all." We may safely interpret the word "chance" here as the equivalent to our "circumstances."

Passing from this question of selection, in which, if Darwin has taken much from the practical man, he has repaid him with abundant interest, we may adduce to one of the great elements in the consideration of the aforesaid circumstances, viz., the "interdependence of living organisms." We all know and admit this principle to some extent, but it is probable that few of us realize how greatly and of necessity one species is dependent upon another. Almost every gardening book will take up has a chapter or a paragraph on the insects injurious to this or that crop, but we do not find, at present, in our theories of horticulture and books of the garden, any but the slightest reference to the insects that are beneficial to the plants we cultivate. We ought to have learnt something about this from Spengel, from Gaertner, and others. Herbert did learn and did teach somewhat of this, but his lessons never took much effect. Surely the laborious researches of, and the important practical results obtained by, Darwin will open our eyes to this matter, and fix our attention a little more closely and firmly on what is of such vital consequence to us. We must remember that this is no visionary theory; if we want facts let them study the "Record of Darwin's labour and Darwin's patients" in the *Journal of the Linnean Society* and in our own columns, in which Mr. Darwin has consolidated from the first, those labours and those facts establish beyond controversy the manifold and intricate way in which living beings are tied together, and the extreme complexity of the conditions under which living beings have to make out their struggle for existence.

Space would fail us if we attempted to give further illustrations of this: it must suffice to mention the great subjects of fertilisation by insects, of cross-fertilisation, of hybridisation, of dimorphism, on all of which Darwin has experimented patiently and written lucidly. While the flowers have for years been distinguishing their plain-spod and three-cynd varieties of *Anemone*, selecting the one and rejecting the other, it seems never to have occurred to them to inquire what was the meaning of the differences. Here was a difference brought prominently under their notice, they regulated their course accordingly, they acted from motives of mere fancy or fashion, without troubling themselves any further about the motive. "Why should we?" they might well have asked, in pre-Darwinian days. "Of what good would it be to us? We know what we want and how to secure it—why concern ourselves further?" And the pre-Darwinians boasted, if he considered the

in Darwinian questions. How altered is the state of things now! Thanks to the intensive experiments of Darwin—thanks in the example, he has set, the question of this, as of many other curious points of structure, passed over before as merely curious, has been made apparent. No mere perfunctory specie of natural history, indeed no mere powerful advocate of the argument presented by design and adaptation, ever lived than Charles Darwin.

We cannot now go into further details of physiology, important as they are. If the florists now and the botanist the meaning of the pin-cytel and three-cy whole flowers and other similar variations they will learn something very much to their advantage. They require improved varieties, fully of force, abundance of seed, and robust constitution in the seedlings. Let them study the chapters on cross-fertilization and diaphoresis which Darwin has written, and they will see how they may attain their ends. So with such cases as "bad-heretics" among Vines or Cactaceae, such things as blind Strawberries, the great physiologist of our day has supplied the thoughtful cultivator with innumerable facts, careful observations, and suggestive inferences. It is impossible for us to do more than indicate these sources, nor can we do more than allude to the many other subjects elucidated by the genius of Darwin, and which here, or may have, a direct practical bearing on the pursuits of the gardener and agriculturist.

Enough for us now if we have shown that to Charles Darwin, setting aside, as beside the question we are at present concerned with, all direct reference



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to his theories as to the origin and progress of species, are due grateful homage and reverence from every thoughtful horticulturist of the present, from every careful practitioner of the future.

At the meeting of the Linnean Society on Thursday evening, the President, Sir John Lubbock, alluded in fitting terms to the loss which the Society and natural history in general had suffered by the death of Mr. Darwin. He alluded to the fact that the loss of Mr. Darwin's papers, on the action of ammonia on roots, was and quite recently before the Society, as reported in these columns. Mention was also made of the excellent persistis-  
ence of the great naturalist by Mr. Collier, recently presented to the Society, and after a fitting tribute to Mr. Darwin's personal qualities as a friend and neighbour, Sir John proposed the adjournment of the Society as a slight tribute of respect to the memory of one of the greatest naturalists of our time.

We learn that preliminary arrangements are being made by the Presidents of the Royal and of the Linnean Societies with a view to the interment of the illustrious biologist in Westminster Abbey, subject to the wishes of the members of the family.

**TACCA ARTOCARPOIDEA.**—At Kew this striking and curious Malcoyacodon is now in flower. The leaves are about three or four inches, with petioles about 3 feet or more in length, surmounted by a compound leaf about 2 or 3 feet in diameter. The lower part of the leaf is silvery, and bears a head of numerous stalked greenish flowers, the stamens one being reduced to brown pendulous threads one foot long. The flowers are very fragrant, especially at night, and can be recognized by the strong odour, the colour of the leaf and in shape. In form it makes well with growing in my choice collection of stove plants. A native of Madagascar and Bourbon Islands.

**African Tuberoses.**—Based upon the above, the subject of the culture of these bulbs have taken rather diverse views as to the cause of their failure in producing blooms in our subtropical woods. Whether this is due to the short supply of daylight at that time of year, as held by many, or because large bulbs make but few roots, as assumed by J. M. Kew (*ibid.* 474) is very difficult should be, if possible, determined. For ourselves we should be disposed to think that a large production of roots must be attributed to undue heat and lighting, other than is specially demanded in the development of the large bulb. Hence we err in cultivation. Should however, "J. M. Kew" view it correct it will corroborate our opinion we have often expressed, that the centre on the part of growers to always obtain the largest bulbs, irrespective of other qualities, is not supported by knowledge. We have still, it appears, much to learn respecting the management of these bulbs, and at this time we can only specially like to be informed of any of your readers who have successfully grown these African in the autumn, last observed the development of their flower-stems well February or March. If such experiments have succeeded they will, at least, form a valuable addition to the American or European bulb, which cannot be brought in so soon. The vigorous and healthy growth of the African Tuberose leaves nothing to be desired, and the quantity of flowers in one culture is one of commercial as well as scientific interest. We are glad therefore to see that it is being publicly discussed, *Hortus et Cœns. Floræ.*

"Folium" appears to be the epithet that may appropriately be written over the departed *Afghan* *Tulipanum*, as neither through the columns of the gardening papers nor from private sources have I heard of scenes being realized in a single instance although they have been grown by the thousand. In contrast with these accounts of such and laudable low, yet without hopes and blighted expectations, I was gratified to the greatest gratification to learn that I had had them also since March 20, notwithstanding I only recently count by the dozen instead of the thousand. For reasons which I need not explain, I wished to blanch a portion of them by the end of January or beginning of February. These failed. The remainder I did not aspire until the end of March and during April. These have succeeded. I judge from this either that the plant requires sufficient constitutional stamina to stand the forcing process to bloom them at the earliest period named, or that the middle of day is too short between November and February to bring about. This is a question that may be determined ultimately by the aid of the electric light. Meanwhile, however, it will be seen that there is a possibility of blanching them, and that they may be in the market in quantity by Easter. They throw up a flower-stalk about 4 feet in height, with from twelve to twenty blossoms at the top, and are very strongly perfumed. They are delicate as well as any lady or gentleman would care to have in the drawing room. H. C. Williams.

Tulipa sylvestris.—I was much obliged for your reply about the Tulipa sylvestris. The answer in which it grows was however used as gardens made no sense to me, and the ground was soon covered by the bulbs (in five different patches) representing part of at least four different gardens as they were some years ago. Can these Tulips sylvestris have been cultivated originally in these gardens? I observe that in last week's "Gardener's Chronicle" Mr. Hillier also had an account of the same plant, growing up to 15 miles from this place in the Valley of the River Tees, and asked whether the reason why I could see few blossoms may be owing to the flower being cut early in the season, before the foliage and bulbs had time to ripen. In fact, one patch has already been so treated this spring, before I knew what mischief was being done. If the bulbs were killed later in the season, and placed in a border, would they be likely to do better, and bloom more? And, if so, ought I to select a sunny or sheltered spot? [The Name, etc.] At M. H. Woodward,

*Galeandra nivea*. — This beautiful and rare Orchid was shown at the meeting of the Royal Horticultural Society on March 15, by Sir Trevor Lawrence. The Galeandras are tropical American Orchids, with slender erect fleshly jointed stems, the joints 3-4 inches; the two-ranked sheathing leaves are narrow lanceolate. From the apex of the stem proceeds a nodding raceme of flowers, each about 2 inches in length with narrow reflexed rich olive-coloured segments with a large funnel-shaped white lip, marked with a central pinkish blotch.