having literally bruised, contunded, and mortified, skin, flesh, and bone.

To prove the unsuccessful nature of the Slave-trade, at times, the case of Signor Alvarez, the captain of the "Minerva," might be cited. He was the commander, previously, of both the "Andorinha" and the "Julia;" but when these vessels were captured, had contrived to make his escape. He was not so fortunate on the present occasion, having been taken with a large complement of slaves, whose value at the Brazils, had he succeeded in conveying and selling them there, would have amounted to a considerable sum. This "Minerva" herself was a very respectable vessel for a slaver, and might be valued at a few hundred pounds. When we take into consideration also the loss that Signor Alvarez must have sustained by the capture of the "Andorinha" and the "Julia" by the British cruisers, the Julia being full of slaves, and most of them belonging to him, we must conclude that there exists some very great attraction in the business; else, after so many misfortunes, he would not have been easily tempted to embark again in such ruinous speculations. The attraction, however, which the trade presents is very great, and consists in the holding out of enormous profits, if successful. Signor Alvarez was considered to be still a rich man, in spite of his losses; at least such was his reputation at St. Helena, where he experienced no difficulty in obtaining an advance on his bills on Rio de Janeiro. Nothing daunted, either, by what had taken place, he expressed his determination to continue the traffic, assuring us that one successful voyage would be a compensation for all he had lost by the late captures. To have judged the man by his appearance and manners, no conception could have been formed that he was the instigator of the horrible scene of drowning on board the "Julia," and the author of the wholesale suffocation on board the present vessel, allusion to which shocking circumstances has already been made in the third chapter.

After being detained three days, not at Old Woman's Valley, as heretofore, for the purpose of purifying infection, but on board the "Minerva" in the midst of the smallpox there, the British crew, together with Signor Alvarez, who by some means or other had become a great favourite with the English sailors, and his Portuguese cook, were allowed to land at James' Town directly from the vessel, without even their clothes being required to be previously washed. From the *libre pratique* accorded in this instance, it might be imagined that the station had ceased to be in quarantine; but not so—for, about the same time, the three days' separation at Old Woman's Valley, as will be described, was exacted from several of our officials, who, annoyed at different circumstances that had happened, had sent in their resignations: besides, the confinement to which we who remained at the station were subjected was as close and severe as ever, and ceased not until six weeks after the perfect cure of the last case of smallpox on board the "Minerva." This was another instance, and a most glaring one, of inattention on the part of the Colonial Authorities to quarantine regulations—and this instance too, most luckily, was unattended with any evil consequences.
In the mean time, Richard Mallet, a sailor, who had just been discharged from the civil hospital, after ten months' detention there for the cure of a loathsome disease, was sent to take charge of the "Minerva." Most of the Portuguese crew were remaining on board when Mallet arrived. The British captors, it appears, had not taken the precaution to dismantle the slaver. The spars and sails were still on board, there was plenty of provisions and water, and the vessel was in a fit condition in every respect for continuing the voyage to the Brazil. Thither, it seems, the Portuguese had determined to take her. There were none on board who could have opposed their undertaking, but a weak and sickly being, whom it would have been an easy affair to overmaster. The chain cable detached or cut, and the sails bent, during the darkness of night, before dawning light they might have been many a mile away out of sight of the island. Some of the negroes, who understood Portuguese, had overheard, however, the plot which was brewing, and on the night it was to have been put in execution informed Mallet of it. Still, had the Portuguese been resolved to carry through their plans, there was nothing to have prevented them. Mallet could not have left the ship to announce their escape, for the only boat belonging to the station was on shore, and the vessel was too far off for him to have swam to land, or to have been heard had he endeavoured by shouts to give alarm—besides the liability of his cries, if heard, being mistaken for the uproarious songs of the negroes, as they often danced and sang during a large portion of the night. So intimidated were the Portuguese, however, at this unexpected discovery of their intentions, that they had not the heart to make the attempt at escape, easy as it might have been; and as a boat was despatched for them the next morning, they left the "Minerva," much to our satisfaction, if not their own.

About a week after the arrival of the "Minerva," when sufficient time had elapsed to enable the Africans to recover from the surprise created by their late capture and the novelty of their present situation, it was highly diverting to witness the gaiety that seemed to animate them. Drawn up in rows, they would sing for hours together without moving, beating the cadences of the music with clapping of hands, or the shaking of calabashes half filled with sand. At other times, they would follow each other in long files, and promenade and march round the deck, dancing and capering like young goats. Towards evening they would indulge in their favourite figures; the fandango, and the war-dance would then be the principal source of amusement, and these gay, thoughtless creatures were the same who but a month ago were exposed to the tortures of suffocation in the hold, and lost so many of their companions in that catastrophe, perhaps amongst them the fondest relations and the most esteemed friends. Well may the race be accused of insensibility. These occupations, however, were not the only means at the disposal of the Congos for the purpose of enabling them to pass the time pleasantly. In the billets sent for firewood, as they consisted of timber from broken-up slavers, they discovered a number of copper nails, and from these they made fish-hooks to catch
mackerel with, and very passable rings for the decoration of their females.

The deck of the "Minerva" was converted into a smithy, and round the galley fire, might be continually seen bands of sable Cyclops, heating bars in the fire or beating them out to the required shapes; the copper bolts serving for anvil, hammer, and likewise material from which the articles were manufactured. The rings constituted not merely ornaments, for being worn on the wrist and ankles in pairs, and sometimes larger numbers, they served likewise all the purposes of castanets, and made really not inharmonious music with their jingling in the different steps of the dance. Their hooks being made of different sizes, they were able to catch with them fish of all sorts and dimensions, from the small fry to the full-grown sandspear. Many a wholesome dish their industry thus procured them. At that season the fish were schooling in myriads in the bay; after the fry the bonitas would come skipping and bounding, the albacores would rush with the speed of lightning after the mackerel, and the porpoises dart on the flying fish. Numbers of sea-birds, attracted to the place, would catch the flying fish—started from the waters by their finny pursuers, or wheeling round and round to watch their prey, would dart with uncirring precision, and secure their share of the spoils. The sea and sky seemed alive with animation; the whirring of the flying fish, the scream of the cormorants, the splash of the albacores, and the puffing and blowing of the porpoises, all betokened the desperation of the actors in the terrible game of life and death.

One of the most pleasant and successful piscatorial excursions I ever made was alongside of the "Minerva," fishing for bonitas. A rod and line are used for the purpose, the former made out of a stout bamboo, and the latter of a hard twisted cord, not above six feet in length. Some fry are dipped for with a hand-net, and one of the fattest and liveliest being selected for bait, is hooked through the dorsal fin, and drawn over the surface of the water, in the same manner as you play the fly in angling for trout. Presently, the bonitas, attracted by the motion, will come dashing and leaping at the fish. When hooked, the bonita is thrown into the boat by a jerk of the rod. In this manner I caught two dozen in less than an hour one day; and as several of them weighed more than 20lbs., some idea may be formed of the boatload that is occasionally procured by a few hours' toil. The sport is excellent, and was always highly relished by the negroes, who were provided by it frequently with the means of feasting and revelling for days together afterwards.

I have already alluded to the resignation of their situations by several of the overseers. Lieutenant Matthew O'Connor, who was clerk and chief overseer, and his wife, who was matron, were the first to give up their berths. As they always lived in Lemon Valley, they did not require to suffer the penance of a three days' pilgrimage to Old Woman's Valley. On the present occasion, Fuller, Ross, and Welsh were the persons who emigrated to that delightful "El Dorado." They were followed shortly afterwards by five out of the nine Portuguese who had
been put upon the establishment. The others preferred remaining to accompanying their comrades; Joseph, Marco, and Manvel stopped at Lemon Valley, while Theodore was removed to the station at Rupert’s. The third party who visited Old Woman’s Valley on the same errand as the others consisted of Young, Blake, and Mason. Such were the changes that took place among the officials of the establishment in the interval that elapsed between the arrival of the “Minerva” and the expiration of the quarantine.

That day so ardently wished for at length arrived. By the beginning of April I was enabled to announce to the authorities the disappearance, for the fourth time, of the smallpox. That disease had been extremely mild on board the “Minerva,” as, indeed, it had been among the people of the “Louisa” and “Marciana;” very few deaths were occasioned by it, and the last case having been cured, it was with much pleasure I indited the epistle that intimated the welcome intelligence. It was received with as much delight as communicated. The inhabitants were relieved of a great oppression; the terror which bad seized them was now fled; they felt as if awoke from a slumber that had been long troubled by a hideous nightmare; in fact, they now felt secure, and therefore happy. A probationary period of six weeks was ordained as the term during which every chance of infection might be supposed to be extinguished, and the cessation of quarantine was appointed to take place on the 23d May. Without any further incident worthy of narrative, that day at last came, and quarantine ceased, to the inexpressible joy of us all—Colonial Authorities, natives of the island, and inmates of the establishment, whether officials or Africans.

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**Exports of Van Diemen’s Land.**

A comparative statement of the principal articles exported from Hobart Town and Launceston:

1843.

<table>
<thead>
<tr>
<th></th>
<th>Hobart Town</th>
<th>Launceston</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wool</td>
<td>6093 bales</td>
<td>7899 bales</td>
</tr>
<tr>
<td>Oil</td>
<td>949 tuns</td>
<td>279 tuns</td>
</tr>
<tr>
<td>Whalebone</td>
<td>45 tons</td>
<td>17½ tons</td>
</tr>
<tr>
<td>Bark</td>
<td>266 tuns</td>
<td>344 tuns</td>
</tr>
<tr>
<td>Flour</td>
<td>817 tuns</td>
<td>1723 tuns</td>
</tr>
<tr>
<td>Wheat</td>
<td>14345 bush.</td>
<td>221547 bush.</td>
</tr>
<tr>
<td>Barley</td>
<td>3133 bush.</td>
<td>8440 bush.</td>
</tr>
<tr>
<td>Oats</td>
<td>1330 bush.</td>
<td>51285 bush.</td>
</tr>
</tbody>
</table>

1844.

<table>
<thead>
<tr>
<th></th>
<th>Hobart Town</th>
<th>Launceston</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wool</td>
<td>6829 bales</td>
<td>8746 bales</td>
</tr>
<tr>
<td>Oil</td>
<td>1742 tuns</td>
<td>221 tuns</td>
</tr>
<tr>
<td>Whalebone</td>
<td>57 tons</td>
<td>7½ tons</td>
</tr>
<tr>
<td>Bark</td>
<td>78 tuns</td>
<td>852 tuns</td>
</tr>
<tr>
<td>Flour</td>
<td>1129 tuns</td>
<td>1926 tuns</td>
</tr>
<tr>
<td>Wheat</td>
<td>18292 bush.</td>
<td>272905 bush.</td>
</tr>
<tr>
<td>Barley</td>
<td>1198 bush.</td>
<td>8654 bush.</td>
</tr>
<tr>
<td>Oats</td>
<td>3246 bush.</td>
<td>33895 bush.</td>
</tr>
</tbody>
</table>

—H. T. Observer.
COMPARATIVE PRODUCTION AND CONSUMPTION OF COFFEE.

We are indebted to a commercial house in New Orleans for the following:

COMPARATIVE PRODUCTION AND CONSUMPTION OF COFFEE IN THE YEARS 1832, 1841, AND 1845.

<table>
<thead>
<tr>
<th></th>
<th>1832</th>
<th>1841</th>
<th>1845</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil</td>
<td>80'6</td>
<td>156'8</td>
<td>180'0</td>
</tr>
<tr>
<td>Java</td>
<td>40'3</td>
<td>112'0</td>
<td>100'0</td>
</tr>
<tr>
<td>Cuba and Porto Rico</td>
<td>56'0</td>
<td>56'0</td>
<td>25'0</td>
</tr>
<tr>
<td>St. Domingo</td>
<td>44'8</td>
<td>33'6</td>
<td>30'0</td>
</tr>
<tr>
<td>British West Indies</td>
<td>24'6</td>
<td>13'4</td>
<td>12'0</td>
</tr>
<tr>
<td>Sumatra</td>
<td>44'8</td>
<td>11'2</td>
<td>10'0</td>
</tr>
<tr>
<td>Mocha, Bourbon, &amp;c.</td>
<td>6'7</td>
<td>6'7</td>
<td>10'0</td>
</tr>
<tr>
<td>Ceylon and British India</td>
<td>17'0</td>
<td>6'7</td>
<td>6'0</td>
</tr>
<tr>
<td>French and Dutch West Indies</td>
<td>13'4</td>
<td>22'4</td>
<td>20'0</td>
</tr>
<tr>
<td>Laguayra and Porto Cabello</td>
<td>329'1</td>
<td>432'2</td>
<td>408'0</td>
</tr>
</tbody>
</table>

Increase of produce from 1832 to 1841 (nine years) 103'1, or 3½ per cent. per annum.

Suppose the increase to be the same to 1845, the produce would be 492'7.

In 1832, 1841, 1845,

The stocks in Europe were 123'2, 111'8, 165'8

CONSUMPTION.

<table>
<thead>
<tr>
<th></th>
<th>1832</th>
<th>1841</th>
<th>1845</th>
</tr>
</thead>
<tbody>
<tr>
<td>Holland and Netherlands</td>
<td>90'7</td>
<td>112'0</td>
<td>125'0</td>
</tr>
<tr>
<td>Germany and North of Europe</td>
<td>71'7</td>
<td>89'6</td>
<td>100'0</td>
</tr>
<tr>
<td>France and South of Europe</td>
<td>78'4</td>
<td>89'6</td>
<td>95'0</td>
</tr>
<tr>
<td>Great Britain</td>
<td>23'5</td>
<td>33'6</td>
<td>40'0</td>
</tr>
<tr>
<td>United States</td>
<td>45'9</td>
<td>100'0</td>
<td>120'0</td>
</tr>
<tr>
<td>British N. American Provinces</td>
<td>310'2</td>
<td>436'8</td>
<td>495'0</td>
</tr>
</tbody>
</table>

Increase from 1832 to 1841 (nine years) 126'6, or 4½ per cent. per annum.

Increase for four years 58'2, or 3½ per cent. per annum.

Stock in Europe, January 1st, 1845 165'8
Ditto in United States 40'0
Production for 1845 409'0
Supply for 1845 613'8
Consumption 495'0

Probable stock, January, 1846, for world 118'8
Or about three months' consumption.

In addition to the above we might add, that the import into New Orleans this season is 3,800 bags Cuba, and 167,000 bags Rio, against 52,800 bags Cuba, and 161,000 bags Rio, last season.

The whole export of coffee from Rio to the United States is 150,000 bags less this season than the last, and the import from Cuba almost entirely cut off.

VOL. VI.—NO. 24. DECEMBER, 1845. 2 k
ON THE VEGETABLE ORIGIN OF BASALTIC COLUMNS.

BY CAPT. CHARLES MORTON, R.N.

(Resumed from vol. v. p. 269.)

Astronomy displays to our wondering minds, the myriads of stars, suns, worlds, a million times bigger than our earth, which, at the Almighty command, revolve in endless space; we are irresistibly impressed with a conviction of the unlimited extent of His creative powers. Globes seem to have issued from His hands with all the facility and rapidity with which the happy child commits to the winds his brilliant but evanescent soap-bubbles. Were it not as vain for the human mind to speculate upon the origin and nature of the nucleus around which our visible globe is formed, as to imagine a beginning or an end to matter, time, or space—we might, from the nebulous appearance of some of the heavenly bodies, be disposed to fancy that our own earth in its embryo state was merely an inflated bubble; that, receiving the divine command or stimulus to consolidate and expand to perfect maturity, imbued with the property of maintaining and appropriating to its own growth the accumulations which the luxuriant animal and vegetable kingdoms of remote ages had absorbed from the vapour of the atmosphere and ocean, and fixed in their own structures, it had, like the mighty cotton tree, the giant of tropical forests, expanded many hundred million times beyond the bulk of the original seed, or atom, from which it sprung. For, where the lowest coal formation now is, there, most assuredly, the surface of the earth once was; and in all the works of creation yet unfolded to human research, we invariably find the most stupendous results produced by the most simple means. Minute seeds expand to mighty trees—the gigantic iguanodon, a lizard sixty or seventy feet long, was once a fluid confined within an egg-shell. How then shall vain man, seeing where the surface of the earth once was, presume to deny its obedience to the general laws of expansion which we find so universally in operation?

However this may be, it is evident that in endowing human nature with powers adequate to trace causes from effects, the Almighty intended those faculties should be exercised, as well in the contemplation of the wonders of creation as of other matters. It is, in fact, by the contemplation of His works that we arrive at the best knowledge of our Heavenly Father. With this conviction, and the belief that we are all, according to our abilities, bound to assist in unravelling those mysteries which still shroud subjects susceptible of rational solution, I attempted, in a former article, to procure for regularly-jointed and articulated Basaltic Columns, now pronounced by geologists to be of volcanic formation, the admission of a vegetable origin. I have, as yet, confined my
ON THE VEGETABLE ORIGIN OF BASALTIC COLUMNS. 447

remarks to regularly-jointed and articulated columns, more particularly to those of Staffa and the Giant's Causeway, which I have endeavoured to show are the petrified relics of the enormous bamboos of a far-distant age. This fact accorded, as I conceive it ultimately must be, I shall perhaps be prepared to claim for the vegetable, as well as the animal kingdom, still more important features in fixing the vapours and waters of the atmosphere and ocean, than hitherto accorded to them. I may hereafter attempt to show the propriety of tracing the stupendous basaltic columns of continuous, instead of jointed shafts, to the various tribes of cocoa-nut or palm trees of ancient worlds. Instead of conjuring up central or submarine volcanoes for the origin and upward protrusion of the basaltic columns which ascend the steep cliffs and crown the summits of the most lofty mountains in Scotland, perhaps it might be more easy and rational, more in accordance with the beauty and simplicity of the means usually pursued by the Almighty, to conceive those mountains to have been formerly clothed with enormous trees of the cocoa-nut or palm tribes, the luxuriant vegetation of those remote ages when Scotia, through the greater obliquity of the ecliptic, glowed beneath the verdure of a tropical sun. For, however we may differ as to the cause of a tropical climate, none can deny the fact of a high temperature having once prevailed, even in the polar regions, where ice and snow now reign. The remains of palm trees, of elephants and crocodiles, attest the fact; and it is certainly more consistent to extend to remote ages a cause we know to have been in operation for these last three thousand years, than to attribute the greater temperature to central fires or volcanoes, which have failed to produce such effects since history could be relied on, and to which no rational man now attempts to ascribe the high temperature of the present tropics.

Where unequivocal evidence of igneous influence presents itself, spontaneous combustion, the lightnings of heaven, the electric fluid might furnish, in the absence of positive proof of volcanic agency, abundant sources of heat to account for the charred or igneous appearances recorded.

The same power which is known to have converted the haystack into a mass of flint, which fuses metals, converts vapour into hail, and generates meteoric stones in the clouds, might surely, without any great stretch of the imagination, be admitted to have reduced the luxuriant foliage and cabbage tops of these enormous palms to the matter which, under the title of Basaltic Columns, crowns with a dome or cap the summits of many columnar mountains.

The Basaltic Whindykes which traverse the coal-measures imagined by geologists to have been protruded upwards by volcanic agency, through the coal formations, and other strata, are perhaps equally attributable to a vegetable origin—to extensive ranges of luxuriant trees of tropical growth, which, by the agency of water and electricity, have been converted into enormous mineral ramparts, dams, or breakwaters, in comparison with which those of Cherbourg and Plymouth, the pride of France and Britain, sink into pigmy insignificance.

The vegetable, as well as the animal kingdom, has evidently per-
formed important functions in the construction of the mighty natural
dams, locks, and flood-gates with which the waters have been alternat-
ely pent up and shut out, till the full amount of strata requisite to
render the earth a suitable habitation for man had been deposited.

These are, indeed, wonders to contemplate with religious veneration,
to exalt the mind of man. The whole work of creation excites our
most intense surprise and admiration; the unity and design, the good-
ness, power, and wisdom of our Heavenly Father pervade the whole,
and impress us with the greatest gratitude and awe. The smallest in-
sect, and the largest animal, while partaking the luxuries of life—the
most diminutive plant and the most stupendous tree, have evidently
been alike employed as chemical laboratories, in fixing the exhalations
from the earth, the vapour and waters of the atmosphere and
ocean—perhaps in condensing, consolidating, and expanding the em-
broyo world into the present beautiful arrangement of strata, so admirably
adapted by a bountiful Providence to disclose to the view, and
render its mineral treasures available to the industry and happiness of
man.

The present crust of the earth has been formed by the successive
accumulations of past animal and vegetable kingdoms, the chemical
laboratories employed by our Heavenly Father, in condensing and conso-
lidating an atmosphere once perhaps, like the comets, of almost im-
measurable extent.

I now return from these speculative digressions, to the immediate
object of my labours, to endeavour to dispel the mystery which, from
the creation of man, has hung around the magnificent columns of the
Giant's Causeway, and other similar formations, by disseminating the
simple fact, already alluded to, that in these extraordinary structures,
"rivaling in their articulations, the work of the most skilful mason,"
we behold the petrified relics of the stupendous bamboos of a far-distant
age!—I am not unconscious that in these renewed attempts to establish
this simple, yet beautiful truth, I incur the risk of drawing upon me
showers of ridicule—for I am not ignorant that what the most dis-
stinguished philosophers but a few years back maintained to be produced
by water! is now, with still less reason, attributed to fire! that the
most splendid authorities of the day ("all living geologists, according
to Buckland") now maintain, that the columns of the Giant's Cause-
way, and other similar basaltic formations, are of volcanic origin.

With the deluge, minor floods, central, submarine, and superficial vol-
canoes at command, the geologist sweeps away at pleasure whole moun-
tain districts, to leave a solitary hill, a column, or even a stone—or if
this seem too arbitrary, he is armed with the unlimited powers of vol-
canoes, not only for the upward protrusion of isolated hills and columns,
but whole mountain ranges are thus upheared. In vain do the vertical,
or beautifully-bending columns of Scotland, Italy, Ireland, and France,
in silent eloquence maintain their vegetable origin—however gracefully
curved and beautifully articulated the columns, however vertical or
highly inclined the strata, they have, according to the geologist, been
thus upheared from the horizontal position, in which they were origi-
ally deposited, or vomited forth in torrents of molten lava from volcanoes! To convey some idea of the abrasive violence of antediluvian vaters, and the prodigious ejecting powers of volcanoes, which geologists summon to their aid, to account for basaltic formations, I may emark that the Isle of Sky, 50 miles long, and 20 broad, covered with basalt in many places a thousand feet deep, and Mull, with its enormous mantle of the same material, are represented as the two foci, from which the antique lava has spread over the whole district of the Trap Isles; thus assuming that instead of islands, the land was once so continuous, that the lava from these imaginary volcanoes could freely spread itself around. The basaltic group of hills in Ireland occupy an area of 100 square miles, at an average depth of 545 feet; a solid mass, geologists remark, of magnificent dimensions. Such prodigious vomitings forth of molten lava, in these small districts, would indeed have been errible to behold; and yet they form but fragments of the extensive asaltic formations of the globe. Those who wield such mighty power, therewith to astonish and amuse their readers, leave the poor humble advocate of simple nature but little chance of being heard, or heeded; yet some secret power urges on my pen, and bids me not despair of ultimate success.

It is true that basaltic columns are sometimes found in the neighbourhood of volcanoes, and that the lavas which have flowed in streams amongst some of those in France resemble, in chemical composition, the columns from the fused debris of which they were in all probability formed. But the excrements scattered amongst our fields are in chemical composition allied to the grass on which the cattle fed, and yet we do not, on this account, attribute to grass an animal instead of a vegetable origin; nor should we, because volcanoes have in some instances burst forth in the neighbourhood of basaltic columns, ascribe to them a volcanic instead of a vegetable origin.

Accordingly, though deeply impressed with a conviction of the gratitude and respect due to our distinguished geologists for the numerous beautiful truths they have revealed to our view, I am nevertheless tempted to doubt the correctness of their conclusions, to deny the volcanic origin of regularly-jointed, and bamboo-articulated, basaltic columns.

I am not aware that any traces of volcanoes have been found near the Giant's Causeway; nor do I believe, as already remarked, that one single stratum of such articulated joints has ever been formed from any of the numerous torrents of molten lava ejected from Mount Etna, or from any volcano of which we have authentic records. The fact stated by Sir William Hamilton, of having found the fragment of such a joint ejected from the crater of Vesuvius, may merely prove that volcanoes feed upon the vegetable kingdoms of former worlds. I am, however, sufficiently acquainted with the terrible effects of volcanoes to know that they may readily destroy such columns, upheave coral reefs or islands, which the myriads of pigmy architects employed could only build to a level with the ocean which furnished them with the means of existence, and materials for construction; but however high the autho-
rieties which recognise such destructive agents, as the means employed in
the formation of these beautifully-articulated columns, I dare not add my humble assent to what appears to me so perfectly in-
comprehensible. Buckland and Cuvier, those bright ornaments of
science, of England and of France, might with equal propriety have
maintained the volcanic origin of the fossil remnants of the monstrous
antediluvian animals, as that of the magnificent columns of the Giant's
Causeway; for the most colossal of these mighty relics of a former
world do not bear so great a disparity in size to the bambooos of the
present day, as the gigantic antediluvian lizard, the iguanodon, sixty
or seventy feet long, does to our diminutive reptiles of similar tribes.

The articulations of the columns are as precisely similar to those
of the bambooos (semispherical tenons, with corresponding sockets, or
mortices) as the bones of the iguanodon are to those of our lizards.
Besides, the general laws of crystallization are, in this instance, opposed
to the Platonic theory. If torrents of molten lava had, on cooling, shot
into such enormous crystals, immense spaces would necessarily have
been left between them; for instead of crystals forming in close contact,
they are, from obvious necessity, known to diverge more or less from one
another. And no crystal from any matter upon earth, which now crys-
tallizes, ever assumes the form, much less the magnitude, of these joints.
Under any circumstances, it appears to me utterly impossible that enor-
mous crystals of such varied diameters and size, as the joints or blocks
of which the columns are formed, present to our view, crystallized from
successive torrents of molten lava, ejected during a series of years, could
have been endowed with the instinct and locomotion necessary to select
their fellow joints of corresponding diameter, with corresponding tenons
and mortices, and to arrange themselves so closely and exactly one
above another till stupendous columns were formed, several hundred feet
in height, presenting all the relative disparity of diameter and length of
the joints in contiguous columns, which marks a field of sugar-canes,
or forest of bambooos: spreading out above (to follow the descriptions
of philosophers) and diverging in all directions, like enormous fans; the
separate joints being sometimes, as in the famous Cyclops rocks, hol-
low like cannon, and the columns occasionally forming distinct groups,
bending towards one another at the tops, so as to present the appear-
ance of gigantic fluted pillars and arches of Gothic architecture. By
supposing, in accordance with my theory, already published, that the
stupendous bambooos of former worlds, adapted from the beginning to
the functions they were designed by the Almighty Architect to perform
in the structure of our globe, were petrified as they grew, or, by some
subsequent overflowing of petrifying waters or vapours, or through the
united agency of water and electricity, the mystery will vanish without
violating or distorting the simple and beautiful laws of nature, to account
for their appearance; for there is now, in Texas, a forest of living
petrified trees! The bambooos of Jamaica contain large portions of silex,
the most prominent component part of basaltic columns; while amongst
the several varieties existing in India and China, some secrete within
them, solid nodules, or masses of flint.