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expressions of the most touching sensibility, and ending with an attestation, that his last vows on leaving Europe were for the prosperity of the Institute.' The attention of this body is also, from time to time, directed towards the latter end of all things, if we may judge by no less than two reports of committees appointed to inquire into the proper form of funeral for the members. The Institute orders, that black crape shall be worn round the left arm, and complains loudly of want of accommodation in the burial ground. In short, the whole memoirs of this society attest, that the members act and think with a certain *esprit de corps*; and entitle us to conclude, that nothing is published in their volumes which is repugnant to the general opinions of the acting fellows. Had there been any belief in, or concern for the truths of political economy, among those who compose the moral and political class, nothing could have prevented the rejection of the paper which we have described to our readers, by a short sketch of its contents. The conclusion is inevitable,—that this science is gone down in the first circles of France. The application is obvious. Let it find a refuge in our free and enlightened country; and may we be assured that its progress will be in proportion to the attention, not the favour, with which every new work is received, and the impartiality with which all new doctrines are scrutinized, by whatever names they may be recommended, or with whatever confidence they may be advanced.

ART. XI. *Voyage dans les Quatre Principales Iles des Mers d'Afrique, fait par ordre du Gouvernement, pendant les années neuf et dix de la Republique* (1801 *et* 1802), *avec l'Histoire de la Traversé du Capitaine Baudin, jusqu'au Port-Louis de l'Ile Maurice.* Par J. B. G. M. Bory de St Vincent, Officier d'Etat-Major; Naturaliste en chef sur la Corvette *le Naturaliste*, dans l'Expedition de Découvertes, commandée par le Capitaine Baudin. Avec une collection de 58 Planches, grand en 4to, dessinés sur les lieux par l'Auteur, et gravées en taille-douce. 3 tomes en 8vo. A Paris. An XIII. (1804).

A TRAVELLER who 'compasses sea and land' that he may sleep on the top of a burning mountain, and singe his great coat on the brink of a crater, may be allowed to dispense with the ordinary formalities of writing. M. Bory, accordingly, takes an early opportunity of asserting his privilege, and boldly inverts the vulgar relationship of book and title-page. The customary office of the latter, it is pretty generally known, is to announce the

the subject of the former. But, in the present instance, by one of those simple and beautiful expedients which bespeak true genius, he has contrived to render all the subsequent pages of the work subservient to the explanation of the first, and thus to keep alive the curiosity and attention of the reader to the very end of his performance. Ladies and country gentlemen have not the names of 'the four principal islands of the African seas' always ready at call: and even we hoary critics, who recollect to have read in our gazetteers and other oracles of geographical intelligence, that Madagascar is one of the foresaid principal islands, have been fairly at fault in our conjectures concerning this mysterious title. A diligent perusal of the whole narrative, however, warrants us to assert with certainty, that our naturalist never touched at Madagascar, and to conjecture that Teneriffe, the Isles of France and Bourbon, and our own little rock of St Helena, are *probably* the islands in question.

To denominate the same place by the same combination of vowels and consonants, is a practice, no doubt, which has the apology of vulgar example; but it argues, in our apprehension, great poverty of taste in the writer, and is apt to fatigue the reader, by the tameness and monotony of the repetition. Hence, the compounder of these volumes dexterously rings the changes on the *Isle of France* and *Maurice*, and on *Bourbon*, *Mascareigne*, and the *Isle of Reunion*.

The extraordinary length of the author's own name, and his laudable spirit of enterprize, naturally prompted our curiosity to learn some particulars of his history. These, however, he deals out when and where he pleases. Thus, we find some general notices of his early life and conversation, at page 190th of the third volume, forming an agreeable relief to a long Latin catalogue of plants, and dreary descriptions of volcanic dross.

'Educated,' says he, 'for the sciences, by a well-informed and very prudent parent, the revolution soon dragged me from those peaceful occupations for which he formed me. Forced into the army, because I had attained the marching age, I became a soldier. The greatest obligation which I owe to the education which was bestowed on me, is a certain degree of philosophy, which has always enabled me, as the old adage expresses it, *to take courage against fortune*. When fairly placed in the ranks, and convinced that I neither could nor ought to quit them, I struggled with all my might for favourable distinction, that I might no longer be blended with the crowd.'

We may observe, in passing, that we do not perfectly comprehend the consistency of this narrative. M. Bory neither *could* nor *should* quit the ranks: yet he makes every effort to quit them, and *succeeds*.

'When

'When the expedition of discovery sailed from France, the prospect of approaching peace induced me to convert to my profit and instruction the years of tranquillity which, I then presumed, could not be very numerous. I had the assurance of the minister, that, on my return, I should be permitted to rejoin the army, on producing a certificate that I had not quitted the expedition; and that my time should be counted as service at sea.'

Notwithstanding the eagerness with which he had solicited to be a member of the expedition, it is certain that our author quitted his associates in the midst of their perils, accepted of some secret mission from General Magallon to the French government, and returned home in a neutral vessel. He has not condescended to inform us how he was received at the court of Napoleon; nor whether he still perseveres in his adventurous scheme of visiting Madagascar, India, the Asiatic Islands, and the heart of Africa, (into which he is determined to penetrate, or die), 'when France shall have compelled her enemies to grant her a long and glorious peace.'

For other biographical particulars, we must turn to the commencement of the first volume, where we find him, under the designation of *chief zoologist*, expressing his decided passion for voyages and travels, and his entire approbation of the details of an equipment so admirably adapted for the promotion of science. The officers and naturalists with whom he became particularly acquainted at Havre de Grace, and in whose society he was on the eve of exploring foreign countries, were all endued with the requisite talents, professional skill, and perfect urbanity. 'A harmony which time was destined to confirm, soon reigned among us all. I reckon among the most fortunate periods of my life, that in which I formed so many precious connexions.' We know not how M. Bory can reconcile this charming description with the strictures which occur in other parts of his relation, particularly with the want of scientific books, the alleged incapacity and misconduct of his commander, and the insignificance of *Petitin*, a nominal secretary, who deprived Depuch, the mineralogist, of a comfortable bed.

Among the thirty-three persons, who composed the staff of the two corvettes, and who are celebrated as paragons of perfection, we distinguish few of name. M. Michaux, indeed, the author of travels in Persia and in North America, was on board the Naturaliste, though only as a passenger. We are sorry that we have not the honour of being acquainted with M. Peron, who embarked in the capacity of *anthropologist* to the expedition, and who, being specially charged with the 'study of man,' ranks at the *tail* of the *zoologists*. For the honour of human nature, we trust that M. Peron will assert his claims to stand higher on the

Etat

Etat-Major, by publishing a few quartos on the anthropology of the Isles of France and Bourbon.

But, to return to the hero of our present lucubrations, it is worthy of remark, that, after duly commemorating the complete appointment of the expedition, he bitterly deplores the paucity and injudicious selection of books. This, again, rather startles us: for, in his preface, he seems to hold books very cheap, and talks of the 'luxury of quotation,' as suitable only to works of a very different description from his own. We greatly respect his motto, *J'ai vu*; but few naturalists, zoologists in chief though they be, will do much justice to themselves, or their publications, without consulting the writings of others, especially of the systematists. Indeed, after all this gentleman's high pretensions to independence, we conceive that he is materially beholden to various tomes of nomenclature and description; and his performance would have acquired a more pleasing variety, and additional interest, from more extensive reading, both on the principal and collateral matters which he has condescended to discuss. A mind gifted with more than ordinary activity, and equally ready to combat armies, or hunt butterflies, may, unquestionably, achieve much in virtue of its own energies; but no talents, or versatility of disposition, can justify a total disregard of those writers who have preceded us in any department of inquiry. Whether their notices may supply useful hints, or lye open to animadversion, they have claims on our attention; and the public expect that we should be equally disposed to profit by their information, and to correct their mistakes.

During the two or three first nights of the passage to Teneriffe, M. Bory became sentimental, and slept ill; not, however, from sea-sickness, but from thinking of his dear country. To compensate for this 'moral situation, which was truly afflicting,' he enjoyed, during the day, 'a most voracious appetite.' Nor is this the only occasion on which we find a violent desire for food conjoined with delicate emotions and the enthusiasm of science. The exalted company of Peron, the anthropologist, and Bernier, the astronomer, appears not to have repressed the solvent virtues of the gastric juice. 'When we returned to town,' says the journalist (vol. I. p. 22.), 'we had a furious appetite.' And sorry we are to add, that, for the sum of five livres, these sons of science could only procure a dinner, which would hardly be tolerated, even at the frugal board of a Scotish reviewer. Again, the enchanting lectures of Broussonnet on the beautiful productions of the forest of Laguna, were instantly deserted, when the voice of Monsieur Legros summoned the audience to a comfortable meal. The narrative, moreover, sets forth (I. 64.), that 'this dinner

dinner was well received, but better devoured; and such was our appetite, that it was not till we had made a wide breach in the repast, that we missed Michaux, whose zeal had drawn him to a distance. 'He was not seen again till evening, when he returned to Laguna late, and *fasting*.' Alas! poor Michaux!

The appearance of a broken mast floating on the waves, made little impression on any of the crew except on the susceptible heart of M. Bory. His sorrowful reflections, however, 'fortunately vanished with the object which suggested them.' On the 8th of Brumaire, his journal reminded him, that it was exactly a month since he had taken leave of Paris, and every thing that he held dear. He therefore exclaims, 'When will it be three years?' Yet, on the whole, we are happy to learn, that his mind was tolerably tranquil during a run of fourteen days from Havre to Teneriffe, though his head, to be sure, was somewhat embarrassed; and he felt less inclined to active pursuits, than in the subsequent stages of the voyage. 'My departure,' he adds, 'had not affected me with a lively sorrow, nor did my arrival inspire me with excessive joy. They who know me will be surprised at this; for I am by no means indifferent, or insensible.' Such is the writer who quotes with approbation *le Je est haïssable*, and who, from his declared antipathy to *egotism*, had been strongly tempted to suppress the publication of his voyage.

The account of Teneriffe with which we are here presented, is, in some measure, eked out by extracts from, or references to a former work, entitled, 'Essays on the Fortunate Islands.' We confess, however, that we did not expect to find the following flippant remark among the reprinted passages.

'In general, the most wealthy inhabitants of the port have adopted several English fashions; yet the men dress like the French, because they are convinced that taste is inseparable from our nation: and in this respect they have done us more justice than Mr Cooke. This navigator never allows an opportunity of criticising us to escape him. We read, in his third voyage, that *the inhabitants of St Croix are sufficiently decent, if we except their dress*, which is that of the French. Had any person but Mr Cooke penned this sentence, it would be reckoned at least inapplicable. But the time is not yet arrived, and the British navigator still passes for infallible. Yet, certainly, if it be ridiculous to follow the fashions of Paris, London is more obnoxious to the imputation than all the world beside.'

From such a pitiful trait of nationality, we pass to M. Broussonnet, member of the Institute, who resided on the island as agent of commercial relations, and who is advantageously known by his proficiency in different departments of natural history. Should this gentleman ever complete his intended Flora Canariensis,

sis, he will contribute not a little to the promotion of botanical science. Mean while, the first volume of the present voyage will be found to contain some interesting and novel particulars relative to the indigenous vegetation of Teneriffe. Several rare plants, as *Saccharum Teneriffæ*, *Semper vivum Canariense*, *Lobelia Broussonetia*, &c. are particularly mentioned; and we are agreeably surprised to find some of the humbler tribes introduced in the course of the following important remark.

'The cryptogamy of the forest of Laguna is not less rich. It is a prejudice to suppose, that the timid plants of this class are more appropriate to cold countries, and that few of them are to be found in hot climates. We shall have occasion to observe, that in the Isles of France and Bourbon, which are situated in the Torrid Zone, mosses and ferns are the fairest portion of Flora's domain. We shall mention here, as belonging to Teneriffe, *Blechnum radicans*, which should constitute a separate genus, *Trichomanes Canariensis*, a beautiful fern peculiar to the Fortunate Islands, *Asplenium adianthum nigrum*, *A. latifolium*, *A. hæmionitis*, *A. trichomanes*, two or three species of Pteris unknown to our climates, a new *Polypodium*, several European mosses, two non-descript *Hypna*.' &c.

Although the naturalists remained eleven days on the island, and the weather was extremely favourable for scaling the Peak, the commander seems to have interfered in preventing the attempt. Something of an awful mystery, however, is mingled with the regrets expressed at the disappointment.

The ichthyologist may derive entertainment and some instruction from the notices of different species of fish which occurred to M. Bory's observation as he proceeded southward. His remarks on the luminous appearance of the sea in the night, though they present little that is new, are likewise deserving of perusal. After exposing them with some degree of affectation and complacency, he pretends that he only states facts and doubts, and leaves it to the learned to draw conclusions. Yet we shall afterwards find him boldly theorizing on subjects of greater magnitude, and more remote from the sphere of human intellect.

From sharks, molluscæ, flying fish, &c. we return to the leader of the expedition, who certainly does not appear in the amiable and interesting relations which we associate with the name of Cooke, a name which the author affects to treat with contempt. When the two corvettes had nearly got entangled by the yards, the commander expressed his displeasure by *throwing his hat on the deck, and giving it* TWO KICKS.

'An able astronomer of the expedition related to me, one day, when we were talking of the commander's apprehensions about the near approach of the vessels, a very singular fact, which officers have since confirmed to me, though confirmation, in this case, be superfluous, as my original

original authority is a man of honour. Having occasion for a magnetic needle, to replace that of an azimuth compass which had been injured, the astronomer applied to the commander, who had several in the drawer of his mahogany bureau. M. Baudin, who happened that day to be in a pleasant humour, intreated him to enter his cabin, and searched for the box of magnetic needles. By the accidental admission of moist air, the steel was somewhat rusted, and the magnetic virtue sensibly impaired. Observing the astronomer's serious disappointment, "What else can you expect?" (said the Captain, to comfort him); "all the articles provided by Government are shabby beyond description. Had they acted as I could have wished, they would have given us silver, instead of steel needles."

The Captain's journal is afterwards described as an immense and splendid volume, filled with *beautiful drawings* by a sailor lad, and containing nothing else worthy of notice.

After encountering a severe storm, which he very prudently declines painting in the romantic style, and after feeling the unequivocal symptoms of declining health, our jaded navigator and his learned associates arrived at the Isle of France. Here they were strictly scrutinized at the health office, in consequence of the ravages which the small-pox had made among the islanders. These colonists resist the introduction of variolous and vaccine inoculation with unaccountable obstinacy.

In the then distracted state of the settlement, the expedition was at first received with coldness and ambiguity: nay, it was even suspected, that, under the cover of a scientific voyage, was concealed the design of chastising the recent disaffection of the greater part of the inhabitants. We impute no such intention to the members of the expedition, or to their employers: at the same time, from various hints and circumstances, we are warranted to surmise, that something more than the advancement of physical knowledge was included in the secret plans of the enterprise. We no where find a copy of the instructions; M. Bory is reserved with respect to the particular objects of this ostentatious equipment; and his book promises to be the only result which the public have to expect from a roaming college of the arts and sciences.

A few remarks relative to the Isle of France, are accompanied with strictures on the haughty and interested deportment of the commander, and on some evident symptoms of the disorganization of the party. The author, in a reduced state of health, and much irritated at the conduct of his superior, takes leave of his brethren at the harbour, retires into the country, and finds sentimental consolation in contemplating the plains of Willems, and in wandering, as a botanist, over hill and dale. His speculations

on

on volcanoes, and on the organic remains of former times, suggest some obvious and pertinent geological reflections, which, however, he spins out into ludicrous refinement. We admit, that while vestiges of frail leaves and insects are visible on calcareous and schistose strata, no such traces are found of the lord of the creation. But who would believe that this fact gave rise to the pyramids of Egypt? 'The pyramids are, perhaps, the work of a people as much advanced in the sciences as ourselves, and who were mortified not to find, in any calcareous substance, convincing proofs of the antiquity of our species.' In all probability, the founders of the pyramids never inquired if a human femur or tibia had been detected in a lime-quarry.

Our *sentimental* traveller appears to have derived much amusement from the *hunting of apes*, though even his redoubtable appetite shrunk from the flesh of those lovely creatures, from the conviction that a roasted ape must resemble a *roasted child*. A reason not less satisfactory is added, namely, that apes' flesh is a detestable morsel.

From the pleasures of the chase, and the prosecution of his botanical pursuits, M. Bory was suddenly diverted by the appearance of Commodore Elphinstone's squadron. General Magallon, who seems to have treated him with more marked attention than Captain Baudin, not only accepted his offer of military service, but attached him to his staff. With all the versatility and national vanity which characterize his countrymen, the naturalist exchanged his herborizing box for a knapsack, and expected to see the English 'reap only disgrace.' On the disappearance of the Commodore, however, he undertook a commission for General Magallon, to be executed in the Isle of Bourbon.

Although the account of this last mentioned island forms the most extended, and, perhaps, the most interesting portion of the work, our readers will pardon us if we forbear to dilate on its contents. Even an abridged view of the various qualities and configurations of the volcanic products, which are here recorded, would greatly exceed our limits, without being very intelligible to any but professed *Plutonists*, while their forms and fashions are incident to such sudden and frequent changes, that different dispositions may present themselves to the next adventurous traveller. Some of the best descriptions, too, admit not of compression, and others will be better understood by comparing them with the plates. If, on many occasions, the descriptions of particular portions of lava appear to be heavy and superfluously minute, we must nevertheless acknowledge, that they form a valuable supplement to the writings of those geologists who have most accurately examined volcanic countries. They likewise demonstrate,

monstrate, that the four islands in question have been formed by the agency of subterraneous fire; that the immense tracts of basalt and trap which occurred to the author's observation, are decidedly of igneous formation; and that the columnar ranges do not assume their prismatic character, as has been generally supposed, from their fused materials coming into contact with the sea. These are important facts, which have been seldom placed in a more luminous point of view. But for the details which so copiously illustrate them, we must refer to the work. The physical map of this volcanic island appears to be executed with much care and diligence; and the exhibitions of basaltic columns in vertical, horizontal, inclined, and curved directions, are strikingly delineated in the plates.

M. Hubert's experiments relative to the increased temperature of the spadix of *Arum cordifolium*, during the impregnating process, will arrest the attention of the botanical reader. We shall notice only a few of the results. Five of these spadices, which had unfolded during the night, being applied at sun-rise to the tube of a thermometer, elevated the mercury from 19 to 44. At eight o'clock, the standard thermometer marked 21, and that employed in the experiment 42. The heat of the spadices gradually diminishing, at length indicated only seven degrees of difference. The same trials, seven or eight times repeated, gave the same results. The maximum of temperature produced by entire spadices, was 49½. According to different degrees of mutilation, the maximum varied from 37 to 42. The contact of atmospheric air, though not of light, is necessary to the developement of this vegetable heat, which seems to be confined to the outer surface of the spadix. From the observations of M. Lamark on *Arum Italicum*, and those of the author on *Arum esculentum*, it is manifest, that this singular property of giving out heat is not peculiar to one species of the genus. M. Bory even suspects that it may belong to most vegetables in a greater or less degree.

The frequent occurrence of detached descriptions of natural productions will be apt to repel ordinary readers from the perusal of these volumes. Yet painting of a higher cast, and views of large and striking portions of scenery sometimes animate and embellish the monotonous air of the work. From several passages which might be quoted in confirmation of this remark, we select the following, on account of its brevity.

'When arrived at the top of the Piton Rouge, we enjoyed a most august and solemn spectacle. Behind us, the calm sea and serene sky were blended in the distance. On our right, rose the Piton Rond, exhibiting a truncated aspect towards the sea. Before us a mountain shot

aloft in majesty, and concealed the sun, which still shone on the other side of the island. Over its dark and wooded ridge, were scattered elevations resembling unequal waves. On the left, the vast volcanic district, whose sombre and fuliginous aspect fills the mind with gloom. A huge dome of surprising regularity, surmounted by a prominent truncation, crowns and commands the prospect. This dome is the furnace of the volcano, or vent, by which the subterranean fires seem to communicate with those of heaven. Its enormous sides are marked by shades of a more livid hue and metallic tints. Those are extinct currents of a yellow, greyish, or bronze colour, which had forced a passage through the scorious crust of the volcano.

'But when night had wrapped these silent abodes in the thickest shades, a new species of horror fixed us in admiration. The crested summits and the mass of mountains were still depicted under a dark sky. The crater of the furnace exhaled a column of blazing smoke, which was dissipated in the air, but coloured with fire some clouds which floated in the higher regions of the atmosphere. Amid distant and confused peaks, lightened by a bloody gleam, a burning river, whose source was concealed from view, slowly conveyed its glowing waves over a black soil, rendered still more dark and dismal by the glare of the liquid lava.'

We are likewise pleased with our indefatigable journalist, when he traces the progress of former eruptions, and calculates the quantity of incandescent and fluid matter ejected at particular periods. We applaud that dauntless perseverance which physical obstacles and friendly remonstrance could not shake, and which conducted the adventurer to the summit of a volcano, which has been seldom contemplated by scientific eyes, and which we are now enabled to compare and contrast with Etna, Vesuvius, and Hecla. At the same time, we must confess, that we have more frequently yawned over relations of cheerless solitude, and 'stumbled on the dark mountains,' than felt ourselves carried along the diversified route with smoothness or enthusiasm. Nor must we dissemble, that in the course of our arduous and painful peregrinations, an extravagant fancy has sometimes crossed our path. We have alluded above to the author's extravagant theory of the foundation of the pyramids; and we have now to be informed of the origin of the *fiery dragon*. Near the top of the volcano, the various streams and streamlets of lava have assumed multiplied and fantastic configurations, exhibiting coarse representations of cables and brains, snails and intestines, rolls of wet linen and tortoises, turbans and large concentric cakes, &c. Frequently they shoot into long projections, with palmated extremities, and a scaly incrustation.

'But one of their most ordinary and complete similitudes, is that of the sinuous tails of monstrous serpents,' &c. In fact, the manner in which the dragon has been described, would tempt us to believe, that this emblem

blem, so little understood, was neither more nor less than that of volcanoes.'

Delighted with this happy conjecture, our traveller fondly pursues it through all the windings of the monster's tail, and appeals, with ludicrous confidence, to the mythology of the Chinese and Egyptians, of the Greeks and Peruvians. Again, the livery of demons and furies is thus accounted for.

'Black and red are on our theatres, in our pictures, and in the writings of our poets, the appropriate colours of demons and furies. This idea is mythological, and is certainly borrowed from Italy: for Italy, filled with volcanoes, so much resembled the abodes of the infernal deities, that we have every reason to believe, that these burning mountains have been assumed as the prototype in *the religions which recognize a hell*.'

To return from the regions of fiction, it is worthy of remark, that Bourbon is obnoxious to more frequent eruptions than any one of the European volcanoes. Since the discovery of the island, its craters, in constant activity, have never ceased to harass the inhabitants. M. Hubert, who has attentively watched the volcano since 1785, assures us, that this mountain ha discharged lava at least twice every year; and that eight of its fiery streams continued their progress to the sea.

At page 388, of volume second, it is stated on the joint testimony of the author, and the accurate M. Hubert, that, in very calm weather, the flexible leaves of the palm trees, viewed over a large extent of ground, have a perceptible direction to the centre of the island, attracted, as it is conjectured, by the mountainous regions. We could wish, however, to see this singular assertion more distinctly verified.

Few studies, it will be readily admitted, have a more direct tendency to expand the mind and to generalize its ideas, than that of natural history. In contemplating those astonishing operations which are daily taking place on the grand theatre of the physical world,—in speculating on the production and the ruin of islands and continents,—in meditating on the countless generations of organized beings, which pass away and are forgotten in the lapse of ages, we smile at the petty passions and prejudices of individuals, who breathe their little hour, and are so soon to give place to others. Such striking considerations are powerfully calculated to annihilate the spirit of party, and the animosities of nations. It is therefore with peculiar regret that we are compelled to advert to the *nationality* of Messieurs Bory and Hubert. We have already given a sample or two of 'the sin which most easily besets' their countrymen; and if we can make room for it, we may, perhaps, adduce a notable instance of that figure of

speech termed *gasconade*. In the mean time, these strictures were suggested by the following extract of a letter from Hubert. Though his friend's *modesty* has banished it to the margin, it is not, on that account, the less precious.

'I was really anxious about you, my dear friend; for I was apprized of your determination to scale the volcano on the side next the sea. I can scarcely believe what I heard concerning the accomplishment of such a design; but your letter has convinced me, no less than the relation of your man, George, who especially remembers, that you continued a whole day without drinking, and two days with scarcely any food. I pity the servants of such enthusiastic naturalists as you. In fact, you travel as *the French make war, I mean like those who are deterred by no obstacle, and who banish the word* IMPOSSIBLE *from their language.*'

A little farther on, we are treated with an animated account of the process of world-making *à la Française*. This luminous hypothesis blazes over many pages; but its import may be conjectured from this single, though pompous and eventful paragraph.

'Let it be granted, that the planets and their satellites are the result of a premeditated design to organize additional worlds; or that, abandoned to the general laws impressed on the elements, the principles destined to compose the totality of their masses, had, in the lapse of time, and according to those laws, sufficed to effect the creation, of which we form a part, we may then propound the following hypothesis. To determine the birth of planets fated to exist, a heavenly body precipitated into the sun, detached masses from it, or, in consequence of breaking its own fragments, impelled nearly in the same plane, and projected by such a violent impulse, formed in space the nuclei of the globes of our system.'

Though we should concede to the framer of this hypothesis, or rather to his celebrated precursor the Count de Buffon, this gratuitous concourse of heavenly bodies, this frittering of a large world into so many small ones, what do we gain? If we remove the difficulty which attends every attempt to explain the formation of a planet one step, we adopt a very clumsy and disorderly mode of multiplying the objects of creation, without increasing the quantity of matter already existing. The production of the sun itself, and of the comet destined to impinge on its mass, is just as mysterious as ever. That the several fragments dispersed in space, should be in a high state of *ignition*, and that the central fires of our globe are gradually augmenting, are positions by no means proved. On the contrary, the sun, so far from being an immense world of conflagration, is, probably, opaque and habitable, and merely surrounded by a luminous atmosphere, so that fragments driven off from its substance might perform

perform their march with the utmost *coolness*. That the interior of our globe is replete with combustion, is a mere assumption; and, if proved, the increase of such combustion is not warranted by fact. But it is really wasting time to confute this *réchauffé* of a theory, which, like others, has had its day, and which, with the thinking part of mankind, has had a place assigned to it among the numerous monuments of human ignorance and presumption.

The infrequency of earthquakes, and of thermal waters in a country so decidedly volcanic as the Isle of Bourbon, is mentioned as matter of surprise. We feel some hesitation in acceding to the opinion that earthquakes are most frequent and violent about the commencement and extinction of volcanic combustion; but it is impossible to object to the reason alleged for the paucity of mineral waters, viz. the scarcity of springs of any description.

The first vegetation of a new soil, remote from continents and the intercourse of man, is a botanical problem of difficult solution. The present writer objects, with much plausibility, to the received notions of winds, water, and birds conveying an adequate and sufficiently varied supply of seeds in a state fit for germination. But his hypothesis of *temporary* and *partial* acts of creation, adapted to *existing circumstances*, is, according to our conceptions, unphilosophical, and by no means countenanced by fact. What, we would ask, have these supplementary acts effected for the island of Ascension, a volcanic ejection of comparatively recent date? 'Its immense distance from land,' observes the late Dr Walker, 'renders its acquisition of seeds difficult and precarious. I know but of two ways of supplying it with seeds, one by the water of the ocean, the other by birds. By one or other of these ways, it has got possession of three species of plants, and only three, a singularity no where else known.' Many existing islands are, probably, only portions of continents, and received their quotas of vegetable germs in periods of high antiquity. Others, which owe their present appearance to the agency of subterraneous fires, may have previously existed at no great depth under the surface of the sea, and in such a state as to preserve the rudiments of future plants from the contact of air or other causes of corruption. Amid the physical convulsions which may have agitated various tracts of the earth's surface, some of the many sources of vegetable reproduction may have been kept alive, while the fortuitous movements of wind, water, and birds, may have also contributed their aid. In reasoning, however, on such a subject, we may truly say, that 'we are of yesterday,' and that 'we know nothing.' History, eager to keep pace with the busy, but fleeting events, which

harass the successive generations of rude and of civilized society, presumes to disdain the silent yet majestic march of nature, who steadily observes her course, heedless of the clamours of contending factions, and of the miseries which man inflicts on his brother. And thus, since the days of Theophrastus till those of Linnæus, the flower, which has not ceased, with the return of spring, to disclose its beauty, or dispense its fragrance, and the more homely herb, which has continued to minister to the shelter or sustenance of animated beings, have, as subjects of inquiry, been condemned to peculiar neglect. The affinities and migrations of the vegetable families, in the early and subsequent ages of the world, it is now impossible, from want of proper documents, to ascertain. Either they never found a place in the registers of man, or, if they did, their history has for ever perished. What given tract of land can, at this day, exhibit the uninterrupted genealogy of its vegetable tribes? Impressions of races, long since extinct in the colder latitudes, are still visible in various strata of schistus, coal, and iron stone. Their prototypes have, perhaps, perished, or, perhaps, they exist in Africa or Indostan. These remarks, by the way, would lead us to infer, in opposition to the author's sentiments, that the heat of our planet is gradually diminishing.

The nonage of creation, if we may so speak, is a favourite notion which M. Bory endeavours to confirm, by the varying aspects of some plants, and the former existence of the shapeless *dronte*. These, he would persuade us, are the first essays of creation, and not yet reduced to their permanent and specific distinctions. But why suppose that the very first act of creation is less perfect than any subsequent one? Why not perceive, that, in every country, there are hybrid and accidental varieties, which belong not strictly to any species noted in a scientific nomenclature? or, why not discern that our most accurate distinctions often insensibly glide into one another, and that nature smiles at our artificial arrangements?

We have to remark, however, that the botanical research manifested, in these volumes, is highly creditable to the author's diligence. Besides various rare and nondescript plants, he has carefully noted those kinds which are also indigenous to Europe. Among these last, we notice several cryptogamics, as *Equisetum hyemale*, *Lycopodium clavatum*, *L. denticulatum*, *Pteris acquilina*, *Asplenium adiantum nigrum*, *Polypodium aculeatum*, *Adiantum capillus veneris*, *Trichomanes tunbrigense*, *Sphagnum cymbifolium*, *Polytrichum commune*, *Bryum alpinum*, *B. striatum*, about twenty *Lichens*, four *Confervæ*, with various *Fuci* and marine *Ulvæ*. The descriptions of plants in the margin are generally distinct and

and elegant; and several of the more striking species are figured in the plates. It is, moreover, intimated, that the collections of dried specimens are varied and abundant, and that their contents will shortly receive illustration from the pens of professed botanists.

We cannot close our account of the physical information contained in this peformance, without noticing the despised fragments of an atmospheric stone, which had alighted on the *Isle aux Tonnetiers*, a short time before the arrival of the expedition. We certainly could have wished that the circumstances of its fall had been more minutely stated. At the same time, we are fully disposed to believe in its celestical origin, at least more so than in M. Bory's theory of the general phenomenon, a theory which emulates the oak of the Latin poets, and knows no limits but heaven and hell. With professions of much deference to the hypothesis of La Place, which ascribes these *outlandish* stones to the projecting force of lunar volcanoes, M. Bory very modestly states his own doctrine in several pages. From these, it appears, that in ancient times ignivomous mountains were endued with mighty force, though, like the race of mortals in Homer's day, they have sadly degenerated from their ancestors. Without staying to examine the causes of this deplorable degradation, or to reduce to consistency, the expiring energies of volcanic projection, with the accumulating intensity of the central heat; it appears not at all improbable, to our fiery champion, that from the said mountains, masses of matter were propelled from an immense depth, to such a height, as to perform spiral circumgirations, somewhere within the limits of our planetary system, till, in the course of ages, they came to pop down, and take their rest on the surface of mother earth.

But, as 'such knowledge is too wonderful for us,' as 'it is high,' and 'we cannot attain to it,' we willingly pass to '*one of those historic meteors*,' to 'one of those brilliant moments in the annals of every people, moments which vanish with the authors of their splendour.' The establishment of a line of naval stations, from the Cape of Good Hope to Ceylon, including the isles of France, Bourbon, and Madagascar, with the relinquishment of the French territorial possessions on the continent of India, are pompously held out as the infallible means of crushing the overgrown power of Great Britain in the east, and thus striking at her very vitals!

At St Helena, this bold speculator was not permitted to explore the natural productions of the island. He seems, therefore, to have considered himself as particularly called upon to

make the governor and his guests the subject of his observations.

'The governor was a man of sixty years of age, thin and ruddy, with a full-bottomed wig, highly powdered and curled, like that of Quipotis, which gave him a very comical air. He addressed several sentences to us, which no doubt were very polite; and he prevailed on us to go up stairs, and partake of the repast. As I did not well understand what he said, his aid-de-camp told me, in a jargon hardly intelligible, that *the governor had been speaking French to me.*

'At a moment when France had just compelled Europe to grant her a glorious peace, but had yet scarcely breathed from those revolutionary commotions which had tarnished her reputation in the eyes of her enemies, I knew not well what countenance to assume among men who the least regard us. I was desirous to appear neither humble nor haughty; and yet to maintain a character among those who believe they have one, and who judge of every thing by appearances. Though I suspected that my acceptance of the governor's obliging invitation might be reckoned unseasonable, I was nevertheless curious to see the English at one of their great dinners. My companions freed me from this dilemma. They mounted; and I followed.'

The governor's party consisted of forty persons! With the exception of his two daughters, one of whom seems to have half captivated our *combustible* journalist, the circumstances of the entertainment are described with more sarcasm than pleasantry. *Two hundred* crystal bottles of wine, of which poor M. Bory was *compelled* to drink liberally, though he gave the go-by to a multitude of toasts, flourished in the fore-ground of the dessert; and we are left to infer, that British hilarity and inebriety, are synonymous terms.

'As it was whispered at table, that I belonged to General Magallon's Staff, two tall gentlemen came near me; and one of them, a Colonel of Engineers, who spoke passable French, began to converse with me. He asked me a multitude of questions concerning the Isles of France and Bourbon, their resources, their population, and the means of their defence. I was almost tempted to treat him in the *English style*, by *exaggerating* on every topic of his inquiries. However, I gave him such answers as I thought proper, and conformable to truth. The other gentleman, who had been silent for an hour, then took his turn of the conversation, and, after having again interrogated me, informed me that he was Commodore Elphingstone.

'Commodore Elphingstone enjoys a certain degree of reputation in the English Navy, and had served, it seems, with distinction in India. On receiving accounts of the peace, he had left his ship, and taken his passage for England on board an Indiaman. The Commodore had frequently cruized before the Isle of France. He had a high opinion of the talents of General Magallon; and he told me, that had not the peace

peace taken place, his government had projected an attack on the Mauritius. He added too, that he was to have directed the execution of it. As he talked to me of all the formidable resources which would have been employed, I told him with politeness, that had the attack taken place, I should have been glad that it should have been conducted by him, because his good offices to the prisoners whom he had frequently taken, had secured him the affection of many people. The Commodore, interpreting my words quite differently from what I meant, thanked me heartily, and, after having frequently repeated, *you are too polite*, he added, *Indeed, after the reduction of the island, I should have done all in my power to have secured good treatment to every body.* Here I stopped him short. "Commodore," said I to him, "you have misunderstood me; my only reason for wishing that you should attack us rather than another, is, that the governor might have it in his power to return to you, when a prisoner, all the civilities which you have shewn to the seamen whom you have taken on different occasions." On this the conversation broke off. My two Englishmen turned their backs on me, and have never seen me since.'

M. Bory may thank his stars that the separation was followed by no *ignivomous explosions:* and, on taking leave of him, in our turn, we have only to observe, that, with all his talents and acquired information, with all his readiness to engage in bustling or in plodding occupations, and with all his facility in composition, we hope he is still *young*, and are afraid he will always be a *Frenchman.*

ART. XII. *Memoires d'un Temoin de la Revolution: ou Journal des faits qui se sont passé sous ses yeux, et qui ont preparé et fixé la Constitution Française.* Ouvrage Posthume de Jean Sylvain Bailly, Premier President de l'Assemblée Nationale Constituant, Premier Maire de Paris, et Membre des Trois Academies. 8vo. 3 Tom. Paris, 1804.

AMONG the many evils which the French revolution has inflicted on mankind, the most deplorable, perhaps, both in point of extent and of probable duration, consists in the injury which it has done to the cause of rational freedom, and the discredit in which it has involved the principles of political philosophy. The warnings which may be derived from the misfortunes of that country, and the lessons which may still be read in the tragical consequences of her temerity, are memorable, no doubt, and important: but they are such as are presented to us by the history of every period of the world; and the emotions by which they have been impressed, are in this case too violent

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