

**The complete indigo-maker. Containing an accurate account of the indigo plant ; its description, culture, preparation, and manufacture. With oeconomical rules ... how to manage a plantation ... To which is added, a treatise on the culture of coffee / Translated from the French.**

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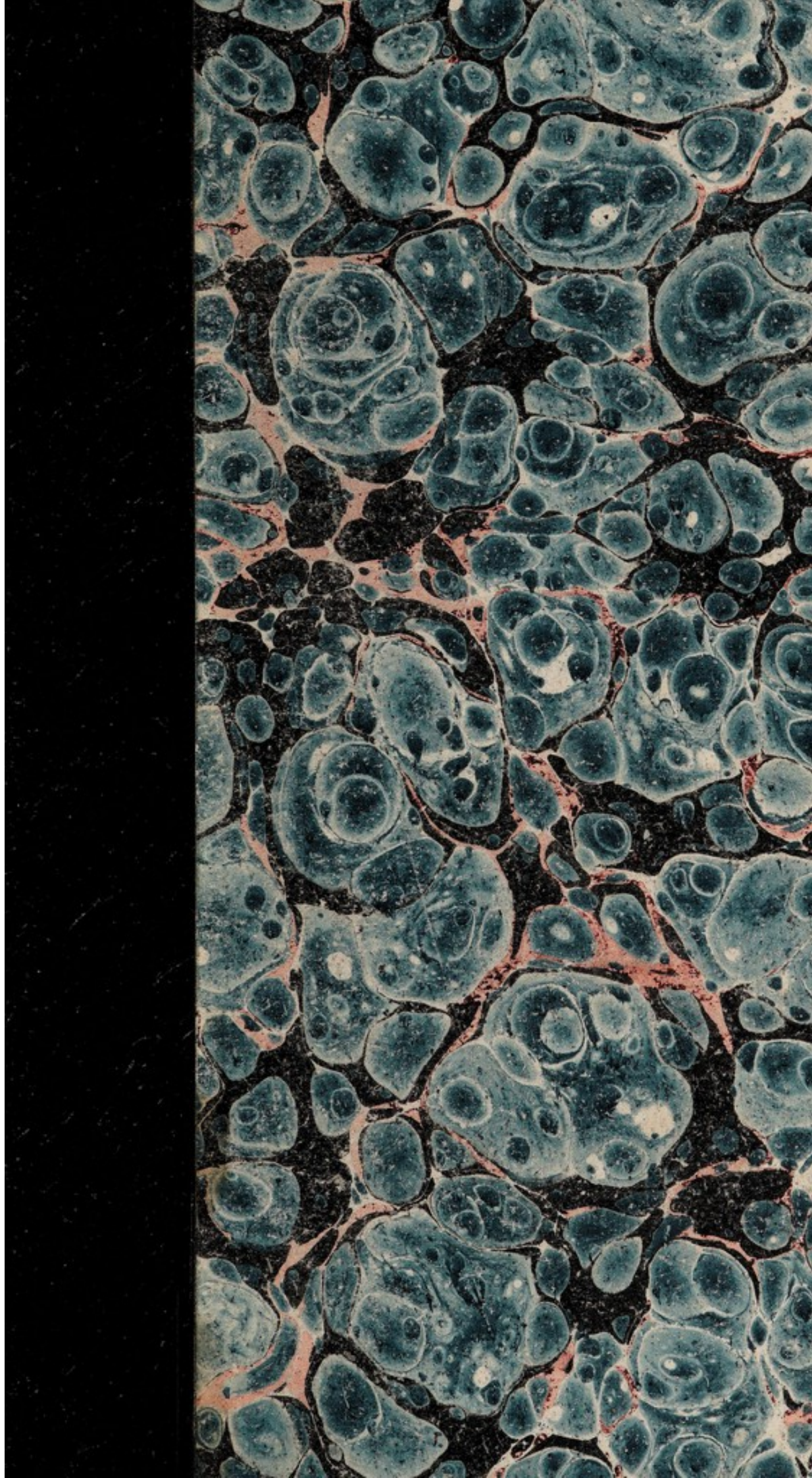
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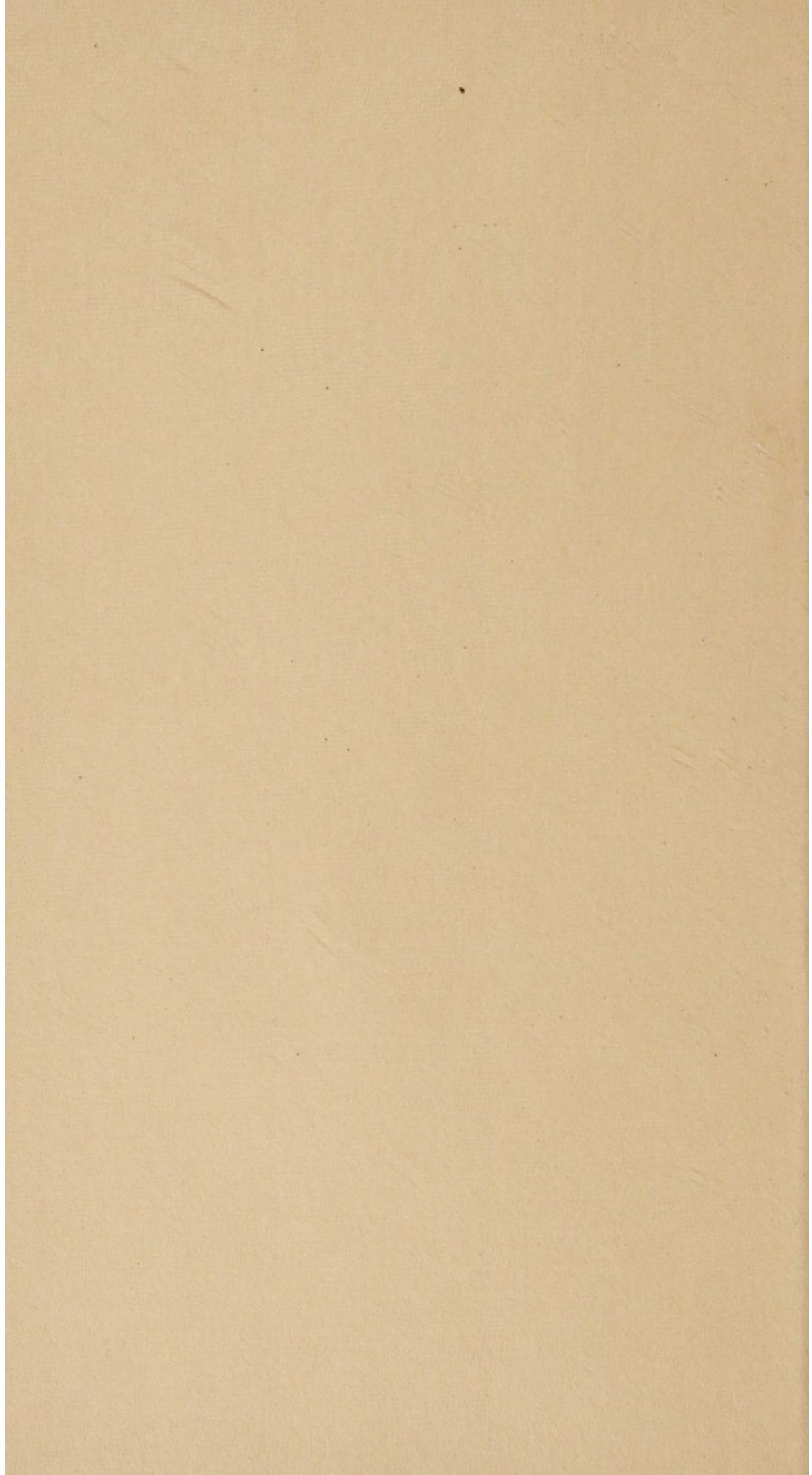




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THE COMPLETE  
INDIGO-MAKER.

CONTAINING,

An Accurate Account of the INDIGO PLANT;  
Its Description, Culture, Preparation, and  
Manufacture.

WITH

Œconomical RULES and necessary DIRECTIONS for a  
Planter how to manage a Plantation, and employ his  
Negroes to the best Advantage.

To which is added, A

TREATISE on the CULTURE of COFFEE.

---

Translated from the FRENCH of  
ELIAS MONNEREAU,  
PLANTER in ST. DOMINGO.

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LONDON:

Printed for P. ELSLEY, in the Strand.

MDCCLXIX.



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TRANSLATION  
OF THE  
COMPLETE INDIGO-MAKER,  
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## P R E F A C E.

**O**F all the species of folly that fall to the lot of man, says M. De Claville, perhaps the *Cacœthes Scribendi*, the itch of writing, is the most pointed. But, he adds, why do men pursue this phrenzy; or rather why have I, conscious of my own incapacity, followed the example of others? To the critics I shall answer in the words of Boileau:

“Ecrive qui voudra, chacun à ce metier,

“Peut perdre impunément del’encre & du papier.”

Upon this principle I have commenced author; I impose the reading of my works upon no one; nor is this assertion founded in vanity, or the high opinion I entertain of myself. Indeed this were scarce possible, as I never had any idea of learning—what then can be expected from me? I do not write for fame: my sole ambition is limited to being useful to my countrymen, in committing to paper those observations I have made upon the Indigo manufacture. Some friends, who entertain too high an opinion of my merit as an Indigo-maker, having requested me to publish my remarks, that they might be serviceable to those who are engaged in the same fabrication; my zeal inspired me with emulation, and I have exerted my endeavours to communicate the best idea of it I was able. Let who will treat me as a visionary, it is not the less certain that there is something curious in my little project, which our colonists will profit of, after they are acquainted with it.

I shall enable them to form a judgment. If my good wishes have any merit, I hope the public will



approve of my work ; and if even I have not succeeded, I shall, at least, have the satisfaction of having intended it.

I have learnt that many persons have been shocked at the hideous portrait, in appearance, which I have drawn of the genius of the negroes ; imagining that I would thereby insinuate there were none good. But if they had considered that I was there giving instructions to a steward, not yet initiated into the mysteries of his profession, to whom I was setting forth the vices of this race of men, that they might guard against them, I am convinced that they would think very differently. Had I wrote as an historian, I might, in displaying their vices, set forth at the same time their good qualities : but this is an object but of little consequence to a pupil, who only wants instruction. I am sensible there are some of good dispositions among them (though they are but very thinly strewed) who would freely sacrifice their lives for their masters ; but in this case, there is generally some secret interest that prompts them. There are, nevertheless, some who, when they have a real affection for their masters, testify a tenderness that is truly filial. But would it be proper for me to write a panegyric upon the negroes ? No, this was not the object I had in view at setting out. Besides, if we were to depict our own vices and imperfections, without displaying our virtues, would our portrait be less hideous than that of the negroes ? Alas ! it is with regret that I dare aver there would be no kind of comparison, and that the faults, vices, and imperfections of the negroes, would appear only as trifling errors, mere peccadilloes ; particularly if attention were paid to their perverse inclinations, and their very confined genius ; for a negro without education is unacquainted with the extent of the fault he is committing, though he is not ignorant



ignorant that it is one ; and if he pilfers any thing, he scarce reflects upon the injury the proprietor sustains ; this never enters his mind. If he were to steal a calf to-day, he would suppose it would be easily replaced the next day by the birth of another : his morals are as limited as they are loose : he fancies all the whites are rich ; or at least that with their industry they should be so. The negroes imagine that this opinion is the more certainly founded in truth, as they observe daily examples among an infinite number of people, whom they have seen arrive in the colonies with very little, (or perhaps nothing) and acquire immense riches. This makes them consider all the whites as their masters, though they are assured and even certain, that sooner or later, they would change, by the heirs of some who usually and incontestibly succeed to others.

I could easily dispense with answering such an objection, having the approbation of connoisseurs ; but as I would willingly satisfy all the world, I imagined that those who had not sufficient light and discernment to judge for themselves, should be disabused.



## PRELIMINARY DISCOURSE.

ALL those who make a voyage to the French American islands know, or ought to know, that Indigo is fabricated there. It is also made in the East Indies, and the empire of the Great Mogul. The last is even esteemed the finest; but this is mere partiality, to enhance its value, because it comes farther. But as I know the consequences, I shall not, with my eyes open, adopt this error, having the most convincing proofs to the contrary, and having worked with almost equal success for many years; in which period I have paid attention to every thing that could perfect a work of this kind.

As order should prevail in my little plan, it will not be improper to begin by a detail of the Indigo-works; it has too much connexion with the sequel of this work, not to be admitted. Besides those who have never seen them, will not be completely satisfied should I omit them. In imitation of Father Labat, who has given a very circumstantial account of them, I thought it necessary to follow nearly the description he has given, less from necessity, than to shorten the time required for making another arrangement, which would come to the same end. The truth of this will be evinced in the sequel of this work, which could not have preserved that perspicuity, had I copied from different travellers, whose relations are usually very much confused, without being acquainted with the subject treated upon, and are guided only by the testimony of others. Supposing even that these historians had been eye-witnesses to  
what



what they advanced, this would not be sufficient to enter into an exact faithful description of all that relates to the Indigo. Wherefore the matter does not depend upon having been a mere spectator, it requires practice for a succession of years to treat it judiciously.

It is therefore, upon consummate experience that I undertake this work, without troubling myself about repeated details already given of this manufacture, by various authors, who, being ill-informed, have fallen into the most absurd mistakes, not only destitute of common sense, but even probability.

For this reason, with my extensive practical groundwork, I imagined I could go upon a new plan; my design, intention, and view centered not only in satisfying the curious, but also to instruct, upon principles supported by incontestable authorities, a pupil who is ambitious of becoming a complete Indigo-maker.

Unassisted with those talents acquired by literature, I can offer nothing in my writings but great simplicity, which I may urge as a proof of my sincerity. The useful is more to my purpose than the agreeable; wherefore the reader may console himself beforehand, that if he does not meet with that salt which gives a relish to the most trifling production; I can offer nothing to him but the naked truth, without paint or disguise; being quite opposite to several authors, who, with an imposing style, often vend us a shadow for a substance. I would willingly believe that they err through ignorance; but even involuntary ignorance does not always afford a just apology. It is incumbent upon a writer to be sincere, and to make himself a master of the subject which he proposes treating. For my part, I, who write with the proofs in hand, have nothing to fear but from the sterility of  
of



## x PRELIMINARY DISCOURSE.

of my stile. The subject is dry of itself, and I will frankly acknowledge, that it requires a more florid pen than mine to make it agreeable. But let us expatiate no longer upon this subject; lest it should be imagined that I affect an extravagant modesty, in order to obtain adulation, I shall therefore terminate this vague discourse, to return to what I proposed.

The subjoined plate, whether real or imaginary, will furnish a more perfect idea than words, of the Indigo manufacture; and being a tolerable draftsman, it was easy for me to give the reader this satisfaction. I have introduced all the necessary tools and instruments, and explained the use of each particular, in order to remedy any omission in a simple narration.

CON-



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# THE COMPLETE INDIGO-MAKER.

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## PART I.

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### *Description of the INDIGO Manufacture.*

**T**HE Indigo-works consist of stone cisterns\*, in the shape of vats, plaistered over, and strongly cemented, which contain the plant called Indigo, whilst it is preparing, in order to extract the colour. There are three of these vats, which are placed above each other, and form a kind of cascade, in such a manner that the second may receive the liquor from the uppermost, through an aperture therein made, and that the undermost may afterwards receive the contents of the middle vat.

The first of these vats, which is the largest and the uppermost, is called the steeper. It is usually ten or twelve feet in length, by eight or ten in breadth, and three in depth, a declivity being made at the bottom, towards the aperture, that the liquor may drain through it. The second is called the beater, which is narrower and much deeper than the first, in order that none of the liquor may be spilt by the agitation of the beating, as the loss of any quantity

\* Where stones are not to be had, the vats are made of wood, and the joints caulked, like the seams of a ship.



would be of considerable importance: and it has the same gentle declivity at the bottom towards the aperture as the former. The third, which is much less than the second, is called the receiver.

The names of the two first vats are perfectly agreeable to their use. The steeper, is thus called because the plant is steeped in it, to ferment and rot, after its substance is dispersed in water by the fermentation occasioned by the heat. In the second, this same water, impregnated with the salts of the plant, is stirred and beat, till having sufficiently blended and coagulated them to form a body, the particles that compose this tincture appear. The third vat derives its name from its receiving the liquor after it has passed through the necessary operations in the other two.

This third cistern contains the Indigo, after passing through the fermenting-vat, and being improved in the beating-tub. Here it unites, and becomes a solid mass, being drained from the water; and it is after taken out and put into little linen sacks, about eighteen inches in length, and afterwards in boxes.

#### *A Definition of perfect Indigo.*

Indigo, composed of the salts and substance of the indigo plant, is produced by the effects of fermentation, dissolving the salinous particles of the leaves, which are afterwards coagulated by the violent motion of the beating, which gives it a sufficient consistence to blend into a mass, and form that kind of paste, which the sun by its heat dries and brings to perfection.

But as there is something marvellous in the course of its dissolution, being the extraordinary effects of fermentation, I shall give an idea of the successive changes it undergoes.



*The marvellous Effects of the Fermentation.*

The first effect of the fermentation is a little bubbling, somewhat resembling that produced by a small phial falling into water, which on entering the narrow neck of the phial produces small bubbles of a greenish tincture, gradually increasing so much, that at length the water is all impregnated with a very deep green, which then changes into a very fine copper colour\*, and this in turn is changed into a deep violet: then the terrible effects of the fermentation appear; the cistern having acquired the necessary degree of heat, boils on all sides with so much violence, that it casts up pyramids of froth, that resemble flakes of snow. The expression terrible is not hyperbolical in this case; for the fermentation hath been so violent as to force away the bars, six inches square on each side, and even tear away the keys, which are between five and six feet in circumference, half of which are sunk into the earth: but as the cistern is not long heated to this degree, it must be acknowledged these accidents do not often happen.

*The erroneous Opinions of some Authors refuted.*

Before I go any farther, I shall take notice of an error into which some authors have fallen, by ignorance, or rather for want of experience. These gentlemen maintain, (physically without doubt) that the Indigo is not formed of the leaf, which, according to them, is only a viscous colour, or tincture, diffused by the fermentation of the plant in the water. What likelihood is there that the branches and the bark should produce so sudden an effect on about 300

\* By this I only mean the surface, as the body of the water always continues green.



pails of clear simple water, as to thicken the same in less than ten or twelve hours, in which time a vat often ferments? It is an evident contradiction to say, that a plant which is hard and brittle, should thicken it to a degree beyond the consistency of the white of an egg, which in effect it is, and as those who have seen the fabrication are sensible.

Can there remain any doubt, upon viewing the herb that is immersed, which after being fermented hath only a leaf, very soft and fine, remaining, instead of being strong and plump as before? What then becomes of its substance? It is, doubtless, dissolved, and from this dissolution the Indigo is formed. If any more obvious proofs are necessary to convince these gentlemen of the truth hereof, I shall desire them to observe, that when the caterpillars have devoured all the leaves, the Indigo-tree is never cut. If then the stalks contained all the salts necessary for the composition of this tincture, the ravages of the caterpillars would no more injure our incomes than depress our spirits.

*The Indigo Plant of Sarqueffe, the leaves only of which are used, according to M. Tavernier.*

Mr. Pomet, author of the History of Drugs, tells us, upon the authority of M. Tavernier, that the Indians of the village of Sarqueffe, use only the leaves, and throw away the plant; and that the most esteemed Indigo comes from hence. This would corroborate my opinion in the strongest manner, if the fact itself did not appear doubtful; wherefore I shall not found my assertion upon such weak authority. Is it probable that men, whose indolence is equalled only by their stupidity, should amuse themselves in culling the leaves of each plant? What time would it not take to fill a cistern with small leaves, not larger than those of our European box? But supposing the thing  
could



could be put in practice, could they be certain of the success of the dissolution? Would not all the leaves heaped upon one another, produce a gum of such a texture as to prevent the water's penetrating? Could a thousand Indians cut and cull a sufficient quantity to fill a cistern? I will not allow it to be objected that instead of one day they may take three, as the first leaves cut would be scorched with the sun, that they would pulverize upon the slightest touch. If upon these principles the East-Indian Indigo has the preference to ours, I cannot help joining with the proverb, "Opinion is every thing with the world."

Experience has convinced me, that we may carry the quality of Indigo to its greatest perfection, by properly manufacturing it. People who study nothing but their interest, are not emulous of any improvement, as it will not bring a better price; for I have long since observed that the planter does not fix the price of the commodity; but he must, on the contrary, conform to that which the captains of ships chuse to pay. For my part, without regarding so whimsical a custom, I have endeavoured more to bring it to perfection than increase the quantity: but as people differ in opinion, and as the majority have always their interest most in view, it must always happen that there will be as much bad as good Indigo.

Add to this the quality of the soil, and the pureness of water, which have a great influence upon the lustre of Indigo, which requires a black light soil, and clear running water,\*; there are, however, some planters who heat the water by the sun in stone

\* The Indigo that grows upon hills, is preferable to that which grows on plains, on account of the lightness of the earth on their declivity, which is not baked by the driving rains as land on a level is.



bafons, made on purpose for this use, in order to produce an earlier fermentation, which it effects, but often at the expence of the quality, which suffers by it; but the Indigo thus prepared is specifically heavier than when made of fresh water.

*A Description of the True Indigo Plant.*

Of all the writers who have treated of the figure of this plant, none have acquitted themselves better than father Labat: he had an amazing genius for giving a natural description of things. I have met with several authors, who have written upon Indigo, but none of them have equalled him. Francis Piccard says it resembles Rosemary, which it is as much like as an ozier-tree is a vine. Mr. Tavernier compares it to hemp, without giving it any other description. But I will not tire the reader's patience, by any more such useless quotations, but give Father Labat's description of it, which is perfectly just; I shall only observe, it is the true Indigo he means; the others I shall take upon myself to describe. "Indigo is a plant  
 " that would grow two feet and upwards in height,  
 " if it were not cut, as soon as it appeared upon  
 " the surface of the earth. It divides itself into several slender knotty stalks, and has various small  
 " branches or sprigs, each bearing about eight couple of leaves, terminating with one leaf at the extremity. These leaves are oval, and somewhat  
 " pointed, pretty compact and strong; they are  
 " plump and soft to the touch; the branches bear  
 " small reddish flowers, nearly in shape like those of  
 " our broom, but smaller, which are succeeded by  
 " pods or shells, of about an inch in length, and  
 " very small, which inclose grains or seed that resemble in size, consistency, and colour, our radish  
 " seed."

Such is the description of the real Indigo plant; but there are various kinds, which are not all in use. I shall



shall begin with those which I have manufactured, and are of three different sorts, viz. the real, the bastard, and the gatimalo, or guatemala, which derives its origin from that coast under the dominion of Spain of the same name.

The first produces the greatest tincture, and is made with the greatest facility, but its success in planting is very doubtful; its tender delicate stalk in growing is subject to many accidents: the wind, rain, the sun, all conspire to destroy it; and even the earth where it grows seems to deny it assistance. If the earth be somewhat worn, it languishes, producing nothing but weak stalks, which perish almost as soon as they appear: the sun's scorching is another accident as fatal as the former; to this it is very liable during the first month of its growth, whereby the planter is constantly divided between fear and hope.

It is not difficult to explain the cause of these scorplings; the rays of the sun darting upon the rising Indigo after frequent showers, communicate to the earth too great a heat, which coming suddenly upon the earth, cooled by the quantity of water which it had imbibed, heats the plant so greatly, that it lies bent like a faded root, and is consumed by heat; this accident is very detrimental to the planter, who, in order to have an early crop, begins to plant early in the season; and in this respect his vigilance is necessary.

It is again subject, during this hot time, to a small insect, which we call the burning-fly; this little animal, which in figure resembles a small caterpillar, incloses itself in a cobweb, which covers and entwines its slender stalk, and burns and destroys it\*.

To

\* It is not the animal that burns the stalk, but properly speaking the web, which receiving the night dew, and  
B 4 being



To these accidents may be added that of the common caterpillars, which will devour, in less than forty-eight hours, whole beds of Indigo: this loss is followed by another still more considerable, occasioned by another kind of caterpillars larger than the first, which incessantly gnaw the stocks and buds as soon as they appear: these insects have a peculiar instinct, they bury themselves in the earth, to avoid the most violent heat of the sun in the day-time; and they issue forth in the cool of the evening, to begin their work afresh the remainder of the day and the following night: this plan they follow for near two months successively, at the end of which time the stocks of the Indigo appear quite dead, and some never recover; after which, they convert themselves into Chrysalides, to become butterflies and inhabitants of the air. This misfortune is the more to be lamented, as it always happens in the finest part of the season, and when the Indigo produces the most. The bastard Indigo is less subject to these insects, which are much more greedy of the real: this, in its turn, is easily stript of its leaves by the smallest shower of rain, which leaves nothing but the stalk; whence arises, that double the quantity of the plant is necessary to fill the cistern, and the planter sustains a loss of one-half. When all these losses are considered, which it is impossible to prevent or avoid, it is not surprising that this manufacture should have declined so much, as to be nearly extinct\*. The truth is, that far the greater

being filled with it, and afterwards heated by the rays of the sun, it produces the same effects as boiling water.

\* Mirbalais, Genaives, and Artibonite, are the only places where these manufactures now flourish; in this last country there are a sufficient number to occupy annually six or seven hundred negroes. In the Department of the  
Cape



greater number of planters have discontinued the raising of Indigo for sugar-works.

*A Description of the Bastard Indigo Plant.*

The bastard Indigo, which differs from the other by its height, is a plant that grows in all soils, less in height indeed in an ungrateful soil; its leaf is longer and narrower than that of the real Indigo, of a clearer green, somewhat whiter underneath; less plump, and rougher to the touch, even so far as to prick; it grows to six feet high, if not prevented, which is a matter of importance, in order to work it with success, whilst it possesses the necessary qualities; for when it hath attained its greatest natural height, it is impossible for the best Indigo-makers to succeed in working it: wherefore care should always be taken to prevent it, by cutting it as soon as it begins to blossom; it is then about three feet high. There are some cases in which it is proper to defer cutting it; this is when the Indigo, by a great fall of rain, has grown all on a sudden, and when there is a likelihood of fine weather: in eight days of favourable weather it obtains a body, and the obstacles that might arise in the fermentation are prevented; and without this precaution the most skilful artist would be embarrassed. It often happens, from an abundance of rain, that we are obliged to throw aside a whole crop, (the plant having no kind of body, dissolves with the bucket) when, not to occupy the negroes fruitlessly, the herb is cut, that the next crop may not be retarded. This most commonly happens in the first crop, when the weather is the moistest.

Cape there are scarce any, except at Limbé, Port Margot, and Plaisanne; but their greatest produce is but small, compared with the others.



*The good Qualities of Bastard Indigo.*

If the bastard Indigo is more difficult to manufacture than the real, it hath many advantages the other has not. 1st. Bastard Indigo grows in all soils, and at all times. 2dly. The Indigo produced by it is more solid, finer, and of a higher copper colour; it resists much longer the ravages of insects, and even rain cannot spoil it, except it be very violent and uncommon. It doth not produce so much Indigo as the other, but this is balanced by the size of the herb, of which one-third less will do to fill a vat: so that upon a fair calculation, we shall find they are pretty near equal; and as it seldom perishes in its infancy, we continue planting it incessantly in all kinds of soils, particularly old grounds, reserving however the best grounds for the real; but it becomes very delicate when it is upon the point of maturity, which must be carefully watched, to prevent its feeding; for in that case it is very difficult to make: and if the manufacturer is skilful enough to succeed, it produces so little Indigo (except it be during the greatest heats), that the trouble exceeds the profit: but when proper care is taken to prevent this, and the rotting and beating are duly attended to, it produces excellent Indigo.

This sort of Indigo is a long while growing; for which reason many prefer the real, when the soil is proper; the latter may, if the season is favourable, be cut in two months, and sometimes six weeks. As to the bastard, it requires upwards of three months; a mixture is sometimes made of both; and although the bastard does not grow so soon, they are nevertheless cut together, when either of them is fit. The stem of the bastard puts out as vigorously as the other, and in six weeks they are cut, as if the two species were blended. The advantage hereby produced is,  
that



that the Bastard embellishes the lustre of the real, and the texture of this being finer, the manufacturer finds it easier to produce the degree of rotting required.

*The Quality of Gatimalo.*

The Gatimalo is a kind of Indigo, that so much resembles the Bastard, that it would be almost impossible to distinguish the one from the other, but by the pods, which inclose the seed, and are of a brownish red, as well as the seed; that of the bastard is yellow, and the seed as black as gunpowder, which it greatly resembles. As the Gatimalo is very difficult to make, and as it yields much less than the Bastard, it is seldom used; but the seed being sometimes mixed with the other, it cannot always be destroyed, notwithstanding all the endeavours that may be used.

*Wild Indigo.*

There is a kind of Indigo, which grows spontaneously in the savannahs (or meadows) and which resembles a shrub, having a short bushy trunk very thick, its branches issuing from the root; the leaves are more round, and smaller than those of the real Indigo, but very thin, and therefore of no use.

*Indigo Marry.*

The Indigo Marry, whose leaves resemble those of the real, though not so plump, is seldom met with. Some affirm, that it produces a great deal of Indigo; but there is great reason to think the contrary, as no person has yet thought proper to plant it. There is also another species of it, which grows very high, and its branches extend above six feet.



in circumference, the pods of which are a foot in length, and resemble in figure a packing-needle.

*Much Practice constitutes a good Indigo-maker.*

Great practice is required to attain a thorough knowledge of the making of Indigo, for the same circumstances do not always occur; it is even very difficult to give a just idea of it, unless the reader is acquainted with the practice. In a good season the difficulty is nothing; but in a bad season the most skilful Indigo-maker is likely to be baffled. It is true that Indigo is not every where of the same delicate texture; the more temperate the air, the more it is difficult to bring to perfection; and as I possess land that requires much attention for the production of this commodity, I flatter myself, from my great assiduity and exactness, that I have made some discoveries, perhaps beyond all those who have been engaged in this manufacture before; having increased my care in proportion as difficulties arose.

*The Herb must be inspected, to judge of its Fermentation.*

A skilful Indigo-maker should, before he cuts the herb, examine it, in order to form as true a judgment as possible of the time it will require to ferment; this may in some measure be concluded from the dryness or humidity of the season. It requires no great skill to comprehend, that Indigo which grows in fine weather rots better than that which has shot up on a sudden from heavy rains. In this manner an Indigo-maker should reason; and he should examine his vat eight or ten hours before the Indigo has acquired its necessary quality.

*At what Season Indigo is planted.*

The planters (at least those in the department of the Cape) who will not risk their seed, begin to  
plant



plant their Indigo after Christmas-holidays, which they may continue till the month of May ; this last sowing is even the most favourable, not being liable to scorching : but as the season is too far advanced, it produces only two or three cuttings ; after which, the north winds setting in, the stocks die, but the first planted is cut five times. The bastard Indigo is sown from All-saints day, to the end of the month of May.

However improper this term of planting seed may appear, I shall abide by it, to conform myself to the usage of the country, which I am not entitled to alter : nor do I think it so ridiculous as some consider it ; for it cannot be said to be absolutely sown, as it is dropped into every hole made by the hoe, whereas the sowing of ground is, properly speaking, scattering the seed promiscuously, without being certain where it will rise. I shall therefore agree with the other planters, that before the planting of Indigo, the old stocks should be removed with the hoe ; after which, the earth should be cleansed as much as possible ; to which end a rake is used, to break the stocks in pieces, that they may be burnt. This rake is formed of a piece of a barrel head pierced in the middle, with a handle of about six feet long. The earth being thus prepared, the Indigo may be planted during the first rain, and which is performed in the following manner.

#### *The Manner of planting Indigo.*

The negroes who are to work at it range themselves in a line, at the head of the ground, and keep marching backwards : they dig holes the breadth of their hoe, about two inches deep, and five or six inches asunder, and in as straight a line as possible ; and that they may not be interrupted whilst they are planting, the divisions are marked out upon a line before-



beforehand, that during the first rain, nothing need be done but planting ; for as there is no certainty of the continuation of the rain, such precious moments should not be lost. As the negroes dig the holes, the negro-women, having a gourd-rake, divided in two, filled with seed, they pour it into the holes just made, whilst others follow with rakes, and cover these holes, with about an inch or more of earth. Seven or eight grains of seed are sufficient of the real Indigo, and less of the Bastard, but they are not reckoned, as P. Labat avers, who says eleven or thirteen grains are necessary, seeming to place a mystery in the uneven number. The time is too precious in our islands to attend to these niceties, when the rainy weather invites the planter to sow ; for the earth being once dry, he can no longer plant.

*Dry-planting.*

We are sometimes obliged to have recourse to dry-planting, that is to say, when there has been no rain for a considerable time, in order to forward the crop ; a little sprinkling of rain not being sufficient to plant a large extent of ground ; but this kind of planting is only ventured upon, at a time when rain is probably expected. Holes are dug in this dry earth, which is sown and covered over immediately, in the expectation of speedy rain : this greatly forwards the planter's views, when success crowns his expectations. He sees this seed rise all at once, whilst he has time to plant more during the opportunity of the rain ; but if, on the other hand, dry weather continues, he runs the risk of losing all his seed, when it is scorched and hardened by the heat. At this season sometimes slight showers fall, which only sprinkle the earth, and make the seed shoot, but not strong enough to force its way above the surface ; whence a rot must necessarily take place, which is a considerable loss to the planter,

on



on account of the time his slaves are unemployed, the retarding of his returns, and, in fine, the price of the seed, an object more or less worthy of his attention, according to the quantity which he had planted. A computation has been made in the district of Leogane, (now called Port au Prince) whereby it appears half a million of livres have been lost by these fatal miscarriages.

*In how many Days the Seed comes up.*

With respect to real Indigo, it comes up the third day, but the bastard seed is sometimes upwards of eight days; in proportion as it is more or less ripe, it is forward or backward, but it never appears all at once; every drop of rain brings up some; and it is not an uncommon thing to see it come up the year after, when it is too ripe: wherefore great care must be taken to prevent this over-ripeness, which is known by the shell: its beginning to dry is a proper notice that it is time to cut the crop.

*The Cultivation of the Plant.*

This plant, as I have before observed, requires a good soil; it greatly impoverishes the land where it grows, and must be alone. Too much attention cannot be given to prevent any other herb intermingling with it; and whatever care has been taken to cleanse the earth, a fortnight or three weeks should not elapse after the plant appears, before the ground is cleared of all weeds that may surround it, and which will stifle it, if not removed; and this weeding should be repeated every fortnight till the Indigo is sufficiently grown to cover the earth with its shadow, and thereby prevent the weeds growing: they do not stand in need of rain to raise them; the heat of the country, joined to the plentiful dews, bring forth enough to make the Indigo perish, if this weeding is omitted.



*Cutting of the Indigo.*

Large curve knives, resembling sickles in all but teeth, are used to cut the Indigo; the herb is cut within something more than an inch of the ground; and bundles are made of it, of such weight as a negro can carry, which are wrapt up in coarse cloth, about an ell square, tied by a string at each corner, that the weed may be carried in the greater safety without dropping any of the smaller parts. One negro is employed in laying out the weed, whilst the others put it into the steeper: to prevent any vacancy that there would otherwise be, if it were thrown in all together, and that it may not stick together, the negro strews it lightly, an armful at a time: thirty or forty of these parcels are sufficient to fill a vat, of the size above specified.

After having filled the vat, it is railed over, and barred, to keep the weed under; it is then filled with water, and the whole left to ferment, in proportion to the heat, or rather according to the substance of the plant. This fermentation is not always of the same duration\*; sometimes it continues twelve, fifteen, twenty, thirty hours; and even fifty hours; but this is the longest time known, or at least is seldom exceeded; and in this case it must be a first vat-full and the vat not used for a considerable time. I had worked upwards of six years with success in the Indigo manufacture, when I made a discovery in regard to the beating, which astonished many Indigo-makers, who were not ignorant in the profession. I met with a woman, (for women are very skilful in the profession of Indigo) who told me the same thing had happened to her. In the beating I was obliged to refine so much,

\* We have seen some that would not rot but six hours; but this is extraordinary, and is a certain proof that it will produce very little Indigo.



as to entirely dissolve the first grain, to make another come ; for the first was so imperfect, that it dissolved like Indigo fermented too much : I was at first deceived, and did not dare to continue the beating, finding the weakness of the grain, and I was upon the point of concluding that the vat was really too much rotted ; when, considering the opposite marks that were visible from the lightness of the scum, which remained clear from the moment I discontinued beating ; I found there was a mystery which I was willing to investigate : I resolved to let the vat rest an hour or two, in order to obtain some new lights from the quality of the water. I did not fail to return at the time mentioned, when I found the water impregnated with the salts, which made me conclude I had not extracted all the substance. In order to be convinced, I sent for my negroes, and ordered them to renew the beating : after they had done this, for about half a quarter of an hour, I saw a second grain arise, much larger than the first, but very flat ; it received a circular form by dint of beating ; and this Indigo was very fine in quality, and drained \* off very well from another red like beer. The whole cutting turned out the same. One of my neighbours, to whom I communicated this affair, was as much astonished as myself, and assured me he should have been deceived, as he never should have thought of destroying one grain, in order to produce a second.

*The necessary Degree of Beating.*

To beat a vat properly, the Indigo-maker must form a judgment of the produce ; if he be skilful, he can discover this before the grain is formed ; if it appears there will probably be an excess, the beating

\* All Indigo that does not drain well, has undergone too great a process, either in the rot-vat, or in beating.

must



must be moderate ; and if on the other hand it is likely there will be a deficiency, he must continue it, even to refining; when he has attained the desired point, he must take care not to exceed it ; for the least excess deprives it of its fine lustre. To avoid excess, attention must be paid to the time the grain is the largest, and its degrees of diminution, till it become perfectly round, and the grains roll one upon another like fine sand, till they separate easily from the water, which then appears transparent and clear, and the \* proof which covers the bottom of the cup readily follows the water, when the cup is inclined to one side, without leaving any dross behind. It is now time to discontinue ; if the beating were carried on any longer, it would dissolve the most subtle parts ; for the grains of the trunk are not of the same consistency as the others, which is observed after overbeating a vat, from a kind of volatile grain that remains floating in the water ; and which, though imperceptible, hinders the draining of the water ; whence it results, that the dissolution of the imperfect grains that have been too much beaten, do not retain a sufficient weight to sink to the bottom ; and it is with difficulty that the Indigo drains off: these fine grains sticking to the bags, and stopping up the pores ; to this is owing the softness of Indigo.

The just degree of beating requires great experience ; on which only a proper knowledge can be founded, though a novice of a year's experience may succeed ; yet he will frequently err by overbeating—an accident that is without a remedy, and occasions a double loss to the proprietor, as well in respect to quantity as quality ; the latter becoming flaty, which makes a considerable difference in the price. Add to this, the dissolved grains are partly lost, and those that remain cannot be drained off ;

\* Proof is the granulated indigo in the proof cup.  
which



which produces a box of indigo almost liquid; that cannot obtain its proper consistency, without being diminished half in value. Wherefore I would rather err on the side of not beating enough, than beat too much; if the Indigo is light, it is at least fine, and will pass for good; besides, it may be rectified when the defect is perceived in time, by renewing the beating: wherefore the water should be carefully visited two hours after beating.

*Recapitulation.*

As it is scarce possible to avoid confusion, in a detail of such length, I imagine that after having particularly explained the difficulties arising from bad seasons, it may be necessary to collect into one point of view, all the obstacles that a manufacturer may meet with; for the loss of one vat is frequently succeeded by that of another; this disorders a third, and disconcerts the Indigo-maker. 1st. It must be observed that in a wet season, the Indigo having no body, must of course have an imperfect grain; wherefore the Indigo-maker must not attend to the grain only, but also to the water, and examine the liveliness of its colour. 2dly, When there is too great a drought, the Indigo wanting substance, can produce no other than an ill-formed grain, as well as a water that is subject to a dross, the sure sign of a vat over-fermented. 3dly. The first crop being made when the ground is fresh as well as the water, the Indigo must display a false grain; but the waters being fine, these should be his sole study, remembering that at the ensuing beating, the water must be his faithful guide; which, however, he should manage with great circumspection. 4thly. The crop which is cut immediately after the ravages of the caterpillars, cannot fail producing a drossy water; that is to say, there will remain a scum, which should be carefully distinguished



tinguished from an excess of fermenting; it should also have less beating than usual, that the Indigo may not be flaty. What is said with regard to this crop, may be equally applied to the Indigo in seed.

*Quality of the Water after the Beating.*

It is necessary that the quality of the water should be visited an hour or two after the beating, as nothing can so effectually remove all doubts with respect to its defects: a bad vat never produces good water; and the thicker it is, the more it is suspected that it has rotted too much; but there is more reason to conclude that it arises from too much beating; for the vat being so over-rotted as to produce a thick water, the Indigo-maker cannot fail observing this from the weakness of its grain; whereas the Indigo approaching to the desired point, he was willing to refine, thinking there was as much beating still wanting as was over-done, which occasions this error. In this case, it is easy to decide, by reflecting on the degree of beating that has been given. The thickness of the water often imposes on the manufacturer, which is proved by the sacks being droffy, an invariable mark of Indigo that has been too much beaten, as well as when it has too much rotted. The confounding of these causes is very pernicious to the succeeding vats. These sorts of vats produce a bluish water, with a green ground: this green is occasioned from the vat being too much fermented, it cannot undergo a sufficient degree of beating to clarify the water. The blue mixture is nothing more than the grains that are broken, and which then colour all the mass of water.

*Another Observation upon the same Subject.*

There is another quality in water, which is common to a vat too much fermented, this is, its being  
brown.



brown upon the surface, and about an inch beneath green, which is an infallible mark of its excess. All these vats are usually accompanied with a thick scum, which divides itself into the form of little toads, which cover the vat immediately after the beating is discontinued. When this beating is not over-done, we find a light green water, sometimes brown, and its defect is scarce perceptible, the water remaining clear without any sediment: but these waters are very difficult to drain off, but easy to beat, frothing much in the beating. The quality of the flaty Indigo proves it has undergone an hour or two too much fermenting: and, perhaps, three in fine weather, when the fermentation does not make a greater progress at that time than in one hour in bad weather; the Indigo having then more body, its leaf is longer rotting.

*Quality of the Water of a Vat not sufficiently fermented.*

A vat that requires more fermentation, almost constantly displays a water that is reddish, or yellowish green. When the Indigo is properly beat, it has no mixture of blue in it, but is more or less red in proportion to the due beating, and sometimes greatly resembles the colour of beer. The rule is not, however, so inviolable as to be without exception, for there are some crops the waters of which are always red, when they have properly fermented, which the manufacturer may perceive by the grain. Besides the redness of the water is not a bad symptom; as the Indigo then always drains well, and is of a fine quality.

The water which is the colour of coniac brandy is the most desirable, because we may then be certain that we have extracted the quintessence, and that it is deficient neither in beating or fermentation; but this cannot always be produced, especially in the first and last crops.

When



When a leaden or flaty dross issues from the pores of the sacks, it is generally concluded that the Indigo has been too much fermented; but the person present at the beating can alone determine this to a certainty. On the one hand this dross may proceed from the beating, the vat might have had its just degree of fermentation, and by too much beating this dross may be occasioned, in the same manner as a vat too much fermented may have rendered the sacks very coppery; yet this is the mark of a vat that wanted fermentation, founded on a direct opposite reason; that is to say, for not having been sufficiently beat, or its being done too sparingly; though in this last case, it would be easy to be convinced by a close inspection, when it will be found there is a mixture of dross blended with the copper.

A good Indigo-maker should, therefore, be careful that his sacks are quite free from this dross and copper; and he should consider what degree of beating he gave, to judge with precision upon the sacks, susceptible of either.

*A Calculation of the Produce of a good Vat.*

A vat of the size I before specified, may produce about thirty pounds of Indigo. I suppose this to be at a fine time of the year \*, and that it is Indigo of the plains; as that of the mountains produces far less, the air being there more temperate. The bastard Indigo produces, at most, not above twenty-four pounds.

\* This would be a considerable revenue, without those crosses that cannot be avoided. 1st. The first crop produces but little, and the herb furnishes nothing. 2dly. The second crop is the best; the 3d diminishes one-third, the 4th three-fourths, and the fifth produces scarce any thing; and add to these the accidents of the plantation.

The



The water having remained ten or twelve hours in the vat, the fermentation produces its usual † effect; and having undergone the different degrees of the process, before specified, the cock is opened to let out a little of the liquor into a silver cup, used only upon this occasion; this water is shaken in the cup until the grains are formed; then their quality and that of the water are inspected, and if it has attained the necessary degree of fermentation, the peg is drawn out to let this liquor into the beating vat, in order that it may undergo the operation of beating, to render it perfect.

*The most certain Way of sounding the Vat.*

I must in this place take notice of an erroneous maxim adopted by some Indigo-makers, which is to sound the vat from the top, without any distinction of time or place: if they were to do this upon the mountains, they would often be deceived, for the top there displays nothing but a false grain; therefore it is more certain to draw the water from the bottom, where the grain is in its natural state, as it requires at least two hours to fill a vat with water; during this interval the herb at the bottom is steeping, which is the fore-runner of fermentation. Besides in rainy seasons, when the Indigo does not ferment more than ten or twelve hours, the surface of the vat hath scarce any time to undergo an alteration.

*The Manner of Beating.*

Having discovered the critical time of the dissolution, nothing more is necessary than beating to perfect the Indigo; which is done in the following

† The fermentation of the first vat is very peaceable, as its boiling does not produce a scum.

manner.



manner. There are three buckets without bottoms, having handles \* the thickness of a man's arm ; with these buckets the water is violently beaten and agitated, without ceasing, till such time as the salts and other particles of the plant are united and blended together. It is in this place that any defects in the fermentation are discovered ; so that the beating in some measure requires more application : as at the same time it discovers those defects, it points out the means of remedying them, provided no excess is committed : and though there should be a mistake of two or three hours in the fermentation in fine weather, this may be remedied without much loss, and the quality of the Indigo will not be injured, if the beating be properly managed.

*An Explanation of the Beating.*

Beating may be called the emetic of the Indigo manufacture ; by this its defects are discovered and remedied, and the remainder of the crop is regulated. By the beating also the best vat may be spoiled ; that is either by too much or too little. If it be not sufficiently beat, the grain, which is not yet formed, remains dispersed in the water, without draining or collecting at the bottom of the vat, and when the water is let out, is lost ; or if when sufficiently beaten, the beating is still continued, it is dissolved,

\* A hole is bored in this handle at a proper height, according to the size of the beating vat, that it may not come within a foot of the opposite wall. This handle is fixed upon the crooked timber, which being bored on both sides to admit a pin, that runs through the timber and the bucket handle (see the plate fig. 2 and 3) it rises and falls like a pump handle. The beaters must be very exact in striking at the same time, otherwise the water will fly over. There is a new method of beating invented by means of a horse and a wheel, which saves the negroes much hard labour.

and



and from thence an equal inconvenience arises. The point then consists in hitting the critical moment, and then to cease and let the matter rest.

*The Manner of draining the Vat.*

After the beating has ceased, the dregs sink to the bottom of the vat, where they collect like mud, and the water being separated from the salts, with which it was impregnated, swims on the top and becomes transparent: two or three hours are sufficient for its settling, when every thing is right; after which, if time is scarce, the water may be drawn off; but it were better to let it remain some time longer, that there may be fewer particles of water, and that the smallest grains may have time to sink to the bottom with the others. The cock, which consists of three different pins, at the bottom of the beating-tub, is opened, beginning by the first pin. When the water hath run to the brink of the hole, the second is taken out to let the draining be free to the surface of the Indigo; then it falls into the receiver. But if it should happen, as it often does, that there is any water remaining, the last pin is taken out, and in its place a square wedge is placed, when the Indigo stops in a surprising manner, to give way to the water, which issues from the squares of this wedge, and drains till the Indigo comes in turn. Then a basket is placed beneath, which receives and retains the trash that falls into the beater; and if any escapes into the receiver it is easily collected by means of an ordinary broom, or, which is better, the plant known by the name of the sea-feather. Then the Indigo is put into sacks, when it purges itself of the remainder of the water it still contained.

The Indigo is usually left till next day in the sacks, that it may be radically purged of the water that re-  
C  
mained



mained, and till it hath acquired the consistency of soft cheese, which it greatly resembles in every thing but colour: which being done, the sacks are divided, and hung together in two different parcels, which presses and expels the rest of the water that may remain; it is then spread in flat cases, three feet long by one and a half wide, and two inches deep; and it is exposed as much as possible to the sun, in order to dry quickly. As soon as the sun has hardened it, it cracks like dried mud: then, in order to unite it, it is trowelled very hard\*; when, after being well united, it is cut into little squares, about an inch every way; it is then again exposed to the sun, till these squares easily disunite from the case, then it is placed in the shade. There are few planters who dry their Indigo in the shade. This is an operation that takes up a great deal of time, even from the time of its being dry, till its disuniting from the case. I have seen my Indigo remain six weeks in this state, before it had acquired such a hardness as was necessary for it to be barrelled. It becomes as white as chalk, from a kind of tartar, or salt-petre with which it is covered. This manner of drying it is, however, very favourable to it, as it seems thereby to acquire a fresh cohesion, it becoming as hard as a stone: its lustre is also refined by the various sweats it undergoes during this interval; and I do not doubt that acquires an additional weight; for I found that my Indigos weighed more than those of my neigh-

\* This operation should take place in the afternoon, for this reason; when it is done in the morning, the sun dries it so readily, that the surfaces of the squares rise in scales, which make them rugged and uneven; whereas those that harden in the night are as smooth as glass. Though this no way affects the quality, it at least makes them more agreeable to the sight.

bours,



bours, and were in greater esteem. I would not, however, have all planters indiscriminately follow my example in this respect. Those whose drying-frames are covered with two hundred cases should not practise it, on account of the great number of cases requisite, unless they were to lay a flooring to spread it upon, which does not appear impracticable, and where it will dry by degrees in a more temperate air. After which it is put into casks, where it sweats again, and acquires a fresh lustre. Is it not surprising to see Indigo, before it is barrelled, as dry and hard as stones, yet within eight days, sweat profusely, and send forth a heat equal to that of fire, for nearly the same period of time; and then, without being exposed to the air, become as dry as before in less than five or six days? It is now saleable, and it is the interest of the planter not to defer the vent, as it diminishes in a few months ten per cent. in value, by loss of weight.

### *Of Kneading, and its Abuses.*

Kneading of Indigo in the cases is a popular error that most planters have fallen into. The necessary cohesion depends solely upon the degrees of fermentation and beating, and particularly the last, which is very observable in a vat that is deficient in either. The Indigo easily breaks, and its grains not being sufficiently coagulated to form a solid body, a defect must necessarily arise. And it is absurd to imagine any quality of which it is deficient, can be communicated by so vile a method as kneading: which, so far from being useful, often creates a considerable loss. First, the sun destroys the colour of the Indigo, by making it flaty on the surface, to the thickness of a sixpence; and this Indigo burnt by the sun, is blended with the other in kneading,



and may occasion flaty veins, that will diminish its value. Secondly, it cannot be kneaded, till after it has been exposed three or four days to the sun, which renders it as soft as the first day it was there \* ; and this retardment is often the cause of worms getting into it ; an accident that is without a remedy, and which cannot be prevented but by the necessary precautions ; and which usually happens in a rainy season, when these insects devour one part of the Indigo ; and the other, which cannot be dried but with incredible difficulty, is of an inferior quality, whose price is diminished one-half. This is solely occasioned by deferring the drying, and which would have been prevented by speedily doing it.

The Indigo that has been exposed to the sun three or four days, contracts a very strong smell, of which the flies are very fond ; and they feast upon this corruption with great avidity. They at the same time lay their eggs upon it ; from whence issue worms that are formed in less than forty-eight hours, which insinuate themselves into the cracks of the Indigo, where they work, sheltered from the sun, so vigorously, that it is in a state of fermentation, which leaves a glutinous kind of humour, that prevents its drying. Hence a considerable loss is occasioned to the planter, who, in order to remedy the inconvenience speedily, is sometimes obliged to keep a continual fire during the rains in the drying shed, that the smoke may prevent the flies attacking the cases : this is the most effectual expedient to interrupt the progress of these insects.

\* Those who do not knead, cut the Indigo the day after its being put into the cases, which makes a difference of six days, if we include the time necessary for acquiring its first firmness.

Having



Having given so ample a description of the plant, I shall now present the reader with a just idea of the observations I made upon the fabrication of this commodity, a thorough acquaintance with this manufacture, and the means of discovering the critical time for the dissolution and beating of Indigo.

**END OF THE FIRST PART.**

**C 3**

**T H E**



# THE COMPLETE INDIGO-MAKER.

## PART II.

*Necessary Remarks and Observations, to succeed in the  
Making of Indigo.*

I Have already observed, that the most successful method of making Indigo consisted, first, in inspecting the plant, in order to know if it had any body; that is to say, whether the leaves were hard or soft, thin or plump. It may easily be comprehended, that Indigo raised in drought, will require more fermentation than that which was produced by plentiful rains; we must not, therefore, be astonished if the latter is tardy in its process, particularly a first vat; When the works are cold; this is not the case with a second, and the third prevents all mistakes. The first, by displaying an ill-formed grain, cannot attain the requisite degree of perfection; and the judicious manufacturer, not to lose time, thinks it better to retrench some hours, than to allow it one hour too much; being well assured that he may correct the second vat the more easily, as the grain and the water appear more clearly.

Wherefore we may partly attribute this delay in the fermentation to the great coolness of the vat; for a first vat will not, sometimes, ferment in less than forty hours, when a second will not require more than twenty-eight. It is not difficult to comprehend the sudden change in the second vat; the vessel having imbibed the juice of the first, retains a kind of tartar, which promotes fermentation, and seasons the  
vessel



vessel still more for the third ; and hence it is, that this last is no way difficult ; the process is gone through with more success than the two first. To this the Indigo-maker must attend ; and it should serve him as a constant prompter not to be negligent in visiting it early, in order to catch it before it is gone too far ; for then we are apt to think that it hath not sufficiently fermented ; its open grain resembling that of the first, increases the deception ; and in hopes of finding a favourable change at the second visit, we are much surprised to find the same grain : in this perplexity we run the risk of letting it ferment some hours longer, and thereby infallibly lose it. What the most disconcerts us upon these occasions is, that there is no calculating to a sufficient nicety its excess of fermentation ; whence it arises, that at the second visit the manufacturer should take double care, which often increases his uneasiness in proportion.

Wherefore, to avoid these embarrassments, particular attention should be paid not to let the first vat exceed the necessary fermentation, as in this case nothing but an ill-formed grain can be expected ; and as soon as we find it will bear the bucket, we should stop. The beating will acquaint us with its defects, which we may the more easily correct, as the grain and the water unfold themselves more naturally.

Take particular care that your cup is very clean when you try the vat, in order to distinguish the grain, and above all, the quality of the water. If there be any sediment in the cup, it makes the water appear muddy ; which, by confounding that which has fermented too much, with that which hath not sufficiently undergone this process, deceives us ; and though we may discover it in the beating, which may remedy it, this cannot be done without loss ; and all this arises from a very trifling circumstance.



As Indigo is of a very delicate nature, it requires a very phlegmatic, patient, quiet person to regulate it with success; and I may add that the natural softness of the ladies greatly increases their skill; for it seems as if this manufacture would not admit of any opposition: and the less headstrong the manufacturer, the more successful. I have known several planters suffer great losses from this very cause; and at last, tired out by so many obstacles and crosses, have been obliged to have recourse to others of a more patient disposition, who have succeeded: they were nevertheless far from being ignorant of the business; but their knowledge was the cause of their ill success. Wherefore, however skilful we may be, there are critical moments when we should not be ashamed to ask the advice of another. I do not advance a paradox, when I tell you, a person less skilful than yourself may remedy the defect, when he comes coolly to it, after you have been fretting at your ill success.

The success of the second vat may be considered as the basis of the whole crop: nevertheless, it must be expected, that the two succeeding vats will require less time to ferment; the rest will be without difficulty, if the weather does not vary; but if it changes, the Indigo will change also: you must not be surprised, if three days rain should occasion a change of ten or twelve hours. It is now that the Indigo-maker is completely occupied, and all his judgment is called into play: but if, on the other hand, fine weather continues, he will not be mistaken at most of above an hour or two: so that the Indigo-maker must be very ignorant if he miscarries, after having succeeded in the first and second vat.



*The Difficulties of a first Crop explained.*

A first crop is always difficult, for this reason, the ground has not been sufficiently heated; add to this, the frequent rains that usually fall at this season, which together form the difficulties which embarrass the planter, who has occasion for all his experience, the Indigo displaying a grain quite opposite to that he was desirous of producing: the cold, depriving it of its substance, weakens the grain; which, instead of appearing round as it should do, is flat, and open so as to prevent distinguishing between that which has fermented too much, from that which has not fermented enough, and the short time he has to balance between more or less fermentation, is scarce sufficient to reflect in, the alteration of the grain being almost imperceptible: in these cases there is a greater certainty in being ruled by the water than the grain: and nothing contributes more to misguide the manufacturer than being uneasy; and this sometimes hurries him to draw off the vat at a venture, in order to discover by the beating in what particular he has been deceived.

*The most usual Marks of a Vat that is deficient in Fermentation.*

Upon this occasion the manufacturer should be very vigilant in observing the marks of a vat which is deficient after five or six hours fermentation, at a season when the grain is poor: he must not, however, form his judgment upon the weakness of the grain; the quality of the water and the light scum will undeceive him, though it be not hard in the beating; but you must not infer from thence, that there is any excess; the weakness of its grain will not allow it to



resist the bucket ; wherefore the quality of the water must be the object ; and it should also be observed, whether the scum resists the oil that is thrown in\* ; or whether it immediately gives way, which is a certain mark of its being deficient in beating. There is still a greater certainty when the vat remains clean, after the beating is discontinued, or if it is covered with a flower resembling a kind of lees ; but if this flower spreads itself in the form of young frogs, or like milk-curds, it may be suspected of having undergone too much fermentation. In order to determine this with the greater certainty, the water should be visited two hours after the beating : the sequel will decide the quality of the water of a vat that has too much fermented, or of one that is deficient. I shall also point out the observations that may be made with respect to the sacks, and upon the Indigo spread to dry in cases : so that if any doubts should arise in one respect, they be cleared up in another.

*Another Observation upon the same Subject.*

It is not absolutely impossible to see a vat that is deficient in fermentation, have a scum as if it had fermented too much, with this difference, that the latter hath a fat thick scum that never separates entirely ; it keeps constantly collecting in every corner of the beating-vat, is of a sky-blue, and forms the curds when the beating discontinues ; whereas in a vat that is deficient, the oil immediately makes the scum disappear, let it be ever so thick ; and if by accident any remains in the corners, it is of a very deep violet and although the scum often returns, yet it must not be imagined, as some fearful novices do, that there

\* An infusion of oil is made from time to time, in order to remove the scum, which prevents the buckets playing freely.



is any excess, and that the beating should be discontinued: on the contrary, it should be performed with more vigour, in order to let the Indigo drain off; the time which it is deficient in fermentation, weakened by the diminution of the beating, will, doubtless, produce an imperfect grain that many ascribe to excess; and the imagination being seized with this mistake, a quantity is lost, whilst the fault is ascribed to the plant, that they fancy is of no value, and which completes their mistake. It is the green water that appears after beating, which manifests a superfluous fermentation, but which, in fact, proceeds only from a defect in the beating, not having had a sufficiency to purge the water from all its salts; and, by a natural consequence, retains its superfluity, and occasions the green colour that is spread over the surface.

*A Method of preventing this Loss.*

The most effectual method of preventing the artist's being imposed upon, is to continue the beating till such time as the grain is entirely destroyed, in order to change the colour of the water, which by dint of beating becomes reddish; but if it be really too much fermented, the water blackens more and more, in proportion as the grain dissolves. We may therefore be convinced of its defect, and consequently be capable of remedying it in the next vat, and thereby secure the remainder of the crop.

The manufacturer who finds himself embarrassed, should use every means to arrive at the truth. It is very requisite, for the sequel of the crop, to be acquainted with the defects of a first crop, which is usually sacrificed, in order to secure the second; for if this should fail, the third is seldom successful.



In this case a consultation should be had, or he should postpone the process for some days: if the consultation should not have a happy effect, the shortest way is to defer it for a week, that in the mean time he may compose himself; he is out of humour, and if he persists he must lose the whole.

*A curious Observation, to avoid watching the Vats at Night.*

As it is very fatiguing and dangerous to sit up at night, this should if possible be avoided; and the following observation has been of service to some. Going about sun-set, in the month of October, which is an expeditious time for fermentation, to try a first vat, I observed it scarce began to cast its green tincture: I however examined it, and judged it must continue till near two in the morning; when consulting my watch, and having given orders to let the water off at the proper hour, I went quietly to rest, and I found the next day that I had succeeded very well. I made the same observation upon the second vat, having taken the precaution to be present two hours earlier, and finding the fermentation in the same degree as the other, I diminished the two advanced hours, and found I had the same success. I continued my plan all the remainder of the crop, and I found it, in some degree, better than sounding; day-light being much preferable to candle-light, especially for those who are short-sighted, as green appears blue at night.

*Important Instructions for finding the fixed Point of Dissolution.*

A vat, particularly the first, should be tried very early, that we may not be surpris'd, and that the quality of the water, as well as that of the grain, should



should be equally consulted : an inspection every four hours is sufficient ; for too frequent soundings and impatience are the certain methods of destroying it, as they prevent discovering any alteration. For example, after having sounded the vat the first time, if it continues ten hours longer fermenting, and a second visit is made four hours after the first, must we not at the third visit know what is to be done ?

When these visits are paid at a proper distance, we find a proportionable change : if upon the last inspection it should by accident have passed the critical point, there is no doubt that this will be perceptible from the water ; and a judgment may be formed of the excess by the former visit, as the lively green is no longer visible ; instead of this there remains a dirty green, or a pale yellow, evident marks of its excess ; and even the water that cools upon the hands makes no impression ; this is quite opposite to that which has not sufficiently undergone the process, it colouring the hands in such a manner that soap cannot efface it.

The Indigo which requires some hours more fermentation, is of such a lively green, that every drop of water that cools upon the hands, makes so strong an impression, that they must be repeatedly washed with soap to take it off ; whereas the impression of a drop of water from a vat that has undergone too much fermentation, is so weak as to efface itself gradually as it dries.

*Different Configurations of the Grain, according to the various Seasons.*

According to the wet or dry seasons, the grain in the vats is long and pointed, or round like sand ; the first happens in a dry season, the other in a favourable one ; and in rainy seasons the grain is flat, and open.

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In this last time you may easily be deceived, and it therefore requires great attention. Nevertheless, when the artist divests himself of prepossession, he will scarce ever be deceived; the grain easily separates from the water, in rolling it about the cup, and leaves the water of a deep shining green colour; whereas in a vat that has fermented too much, the grain, tho' open like the other, does not separate from the water, but with much difficulty, and seems to remain floating in the water, the colour of which is often of a pale yellow, or a blackish green, and sometimes a whitish green: this is succeeded by a flower resembling lees, that unites together, and forms upon the surface of the water in the cup a kind of semicircle or rainbow, which is a certain proof of its having fermented too much. A vat that is deficient in this respect may also form a flower (as well from abundance of rain, as from the seed being already form'd and the plant over mature) but it does not adhere together like a vat that has over-fermented.

Good Indigo is not accompanied with these difficulties, but is easily manufactured; the grain and the water equally appear in their natural state; and as it seems hard to ferment, there is time to let it attain the highest degree of perfection. What then should prevent our producing as excellent Indigo as the Asiatics? Can it be said their soil is better? There is but little ground for this assertion, as good and bad Indigo are both produced from the same plantation. It only depends upon the skill of the person who has the management of the works. What superior delicacy of genius can an Indian have over us? That their ideas are the most confined of any human beings, no body can possibly deny.

The Rev. Father Labat conceived, that all the secret those possessed who praised their Indigo as superior



to ours, consisted in cutting the plant at a time when it produces a more lively colour; and he thought, that this was when the weed had not yet attained maturity. But this certainly is only the effect of his lively imagination, as experience absolutely contradicts it; for Indigo that is not sufficiently ripe (as he agrees) cannot acquire the necessary cohesion, whatever caution is observed in the beating, and always produces a soft Indigo, that breaks when dry like that which is not well worked.

*A Definition of the Beating.*

I have before observed, that beating was the emetic of Indigo-making; nor do I think the expression improper; it is in effect the principal operation, and which alone can bring Indigo to perfection, or destroy it. Without beating it is in a state of imperfection: and whatever care may have been taken, it is ineffectual. A knowledge in beating is to be preferred, to that of fermentation, and should be more carefully attended to, as it cures the defects of the former, and they are more easily perceived now than during that operation. For from the beginning of the beating, (on which depends the essential delicacy of the art) a judgment may be formed of these defects, unless the artist is prejudiced; but as soon as the matter is duly considered, a good manufacturer may know what to determine even before the grain is formed. If a vat be not sufficiently fermented, it froths a good deal with a greenish scum, which, though very thick, flies off very fast, as soon as oil is thrown in; and if this infusion is repeated a second time, the thickest scum is entirely dissipated\*, and that which succeeds is nothing

\* On the contrary, in a vat that has fermented too much, the scum will not be removed by a bottle of oil.



more than a light scum, which disappears when the grain is formed. It is now that the defects of fermentation are to be rectified: in case of any deficiency the beating is to be carried to a greater height; and if it has fermented too much, then the beating is to be diminished, and thereby the lustre preserved. The fixed point of fermentation is very seldom hit upon; there is always a small error, which is made up by the beating; and there are some seasons that require two hours to be retrenched in the fermentation, to avoid changing the quality\*; otherwise flaty veins would be certainly found; and it is necessary to refine at this time in the beating, that is to say, to continue it longer than usual.

A vat that has too much fermented, but the excess of which does not go beyond a few pounds of Indigo, may by means of the beating be corrected; that is to say, the loss will consist only in the quantity diminished, and not in the quality of what remains, by pursuing the following method: First, the superfluous fermentation may easily be ascertained by the fat scum, and by the open grain which cannot resist the beating, and by its more speedily forming itself; neither will the water clarify like that of a good vat. These are infallible marks of Indigo that has been fermented too much. The manufacturer should therefore be upon his guard at the sight of so many proofs, and regulate the beating according to the apparent superfluous or deficient fermentation. The following manner is to be gradually pursued: As soon as the grain begins to be large, the cup must not be quitted, as every stroke of the bucket now has effect; and when the manufacturer has discovered the instant that the grain is sufficiently round, he should discontinue beating, without endeavouring to

\* This is after all the ravages of the caterpillars, which seem to poison the stems.

diminish



diminish the grain. When he has attained this degree, he will find that the water in the cup becomes visibly brownish, which does not prevent its being green in the beating-vat, except the surface; there will even be a small covering of copper colour over the whole vat, after it has remained undisturbed for some hours. This is the copper that may be observed on the sacks from a vat that has been too much fermented.

N.B. If any one should pretend to object to what I have said, the difference of climates in which Indigo is manufactured, and should assert, that by a necessary consequence the grain may be equally different: my answer is, that the difference in the grain is not absolutely impossible, as I have observed in different plantations, that upon the mountains not being like that of the vallies; but the quality of the water is always the same; wherefore a vat which has undergone too much fermentation, will doubtless have a cloudy water, and will form a dross in the sacks. This cannot be disputed; and I am convinced that Indigo will be manufactured with success in all the climates, by following the rules prescribed in these memoirs.



*Economical Rules, necessary for an Indigo-maker;  
being a concise Method of regulating a Plan-  
tation of Negroes.*

**H**AVING undertaken to form a good Indigo-maker, I judged it necessary to complete the work, to include the œconomy of the art. He cannot at most be employed above half the year, and during the other six months of inaction, he will be engaged in consuming  
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the fruits of his labours. It is therefore necessary to form a plan to direct the necessary works upon a plantation, in order to acquire the science so necessary to the art, and thereby unite the characters of Planter and Indigo-maker.

Although every planter has his particular form of œconomy for the land which he occupies, yet they all agree in the essential points, and differ only in trifles. It is easy for an Overseer to conform to the will of the planter he serves, provided it does not run counter to the necessary management of his place: but in this case it cannot help making him uneasy, when he endeavours to pursue the best method; and which being rejected, the bad consequences resulting from the other are ascribed to him, and not the planter: wherefore the steward, jealous of fulfilling his duty, should exert every possible means to establish a reputation, this being the corner-stone of a good manager.

*The Knowledge necessary for an Overseer.*

In order to attain to this degree of œconomy, a certain arrangement is necessary in his work, in order carefully to avoid doing any at an improper time, but employ every day to the greatest advantage. This is the great axis upon which the knowledge of an overseer must turn; and in order to accomplish this, he should be acquainted with the different works that successively follow each other.

The first then may be supposed to consist of clearing and preparing the land, in order to be able to profit of a favourable time for planting, the proper seasons for which I have before noticed, and in particular, endeavour to avoid being interrupted by any other work, at a time so precious, that even the household servants must be employed. Wherefore  
a proper



a proper regulation must be made of the necessary vegetables to be planted, that they may not interfere with the other object; and however pressing other work may be, the planting of roots should never be a matter of inferior consideration; for a plantation that is deficient in this respect is a soul without a body; and this is of such importance, that a manager is of no kind of value who is neglectful in this material point: and indeed a good manager is known by the quantity of vegetables that is upon a plantation.

I shall give a list of the different vegetables which are usually planted, with the seasons proper for each.

The arrangement of a place consists of certain ornaments that embellish it, and which are no way detrimental to the revenues: these ornaments appear by the quantity of vegetables upon the plantation, disposed in a certain symmetry, occupying the ground opposite the Indigo, unless it be necessary to let some Indigo grounds rest that are too fruitful in the growth of weeds, and which occupy the negroes beyond their value: in this case, potatoes are planted to fatten the land, which give it a year's repose, and render it fertile. As to the Indigo garden, its greatest ornament is being kept clean, and to prevent its being incroached upon by weeds; which should be weeded before they go to seed.

#### *Potatoes.*

As potatoes have no fixed season, and they are planted at all times, though the month of February is the most favourable for them; an interval should be profited of, not to interrupt the work that is in a hurry; in two days, more may be planted than are necessary for four months, which is the time required for their attaining maturity; they should not be dug  
up



up till the like quantity has been planted ; by this means there is never a scarcity ; and they should often be removed, as it hurts the same spot to plant them frequently : without this precaution, there may chance to be none produced : they are usually planted in the decline of the moon, as they are more fruitful at that time, than during a new moon when their vines are more plentiful than their fruit.

*Of Peas of all Kinds.*

As peas of all kinds require no particular season any more than potatoes, so they are frequently planted in order to have green peas at all times. If it be necessary to have a crop to keep, they should be planted in the decline of the moon ; this is to be understood of the Guinea pea, and other small peas, such as the pigeon pea, the unknown pea, the Cayenne pea, &c.

*Cassada.*

The cassada is planted at Christmas or in March, not that it may not be planted at any other time, but these seasons are the most proper : the cassada must by no means be neglected ; it thrives in any weather, and in all soils, requires little labour, and will last four or five years without replanting, if the ground is somewhat high.

*Yams.*

Yams are planted at any time betwixt the month of May and the first full moon in August : this is a light food, and will keep in a loft from one year to another, and is a never-failing resource in case of a scarcity of other provisions : these roots require strong fresh land \*.

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\* In order to raise good yams, we ought never to make use of a whole yam as a plant ; because, though it be never so small,



The Guinea yams are of a different sort ; they are very long, resemble in shape the cassada root, and produce two crops in a year. On digging the first of which, the second is immediately planted, which is performed by putting the old stalks in the same holes out of which the roots have been just taken, taking care to leave about a good inch of the root adhering to the stalk, which serves as a new root, and will immediately vegetate, and produce a second crop some months after. These sorts of yams are inconvenient in this respect, that they will not keep, and they should therefore be used as they are dug, like potatoes.

*The Banana Tree.*

The best season for planting the banana tree, is during the full moon of August ; otherwise the worms will destroy them every one : it produces nine months after. This is the true manna of the country for the negroes ; and it being once planted, there is no occasion for any farther trouble about it. This tree multiplies in such a manner, that it is often necessary to lop the superfluities ; so that when once there is a banana ground, it is for a man's life, provided it is cleared once a year from the other bushes and weeds that are contiguous to it. Care should be taken to plant it in the dampest grounds, and particularly on the sides of ditches, when it can be conveniently done.

small, yet it always contains several eyes or buds, each producing several yams, which are so crowded by their numbers, that they have not room to grow to a proper size. The most adviseable method is to cut a large yam into as many parts as it has eyes or buds, planting each part at the necessary distance ; by this means you have only a single yam from each plant ; and having room to grow, it never fails to be large and fine.

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I know not whether the moon hath all the influence upon vegetables we are pleased to ascribe to her; but I can aver that we very regularly, I had almost said superstitiously, observe this custom, it being handed down to us by ancient tradition; a tradition which we hold as sacred, and which we frequently find very just: I have, nevertheless, sometimes infringed upon the laws in this respect, without any inconvenience. For example, I always plant the cassada the 1st, 2d, and 3d day of the moon, and succeed very well: it is certain that it is at least a fortnight in the ground, and sometimes three weeks before it rises; and consequently it appears in the decline of the moon; and I believe that with respect to all tardy plants the same thing may be observed\*. I shall give a list of those which I have often planted with success; for example, cassada, which I have just mentioned; rice, which upon the mountains is planted in January, March, and May, and in the plains at Michaelmas; French peas, French beans, and other large peas. As to pigeon peas, St. Domingo peas, and others of this kind, it is certain, if they are planted at the new moon, the worms attack them immediately as they appear, and there is no preventing it. Maize, and in general all grain except rice, are liable to the same accident if they are gathered at the new moon; and they cannot be preserved three months without being worm-eaten; so that if they be ripe the fifth day of the moon, the crop should be deferred till the decline; this does

\* This is the case with yams, and banana roots. As to the last, I think it ridiculous to fix upon any particular days of the moon's age. I should be glad to know if the shoots which multiply almost every month, exactly obey this custom, and if they are obliged to appear at a fixed period of the moon's decline. Each shoot does not, however, fail to produce its number of bananas.



not, however, prevent the planting of maize in the increase of the moon, if necessity requires it ; but in this case it seldom produces above one ear, and in the decline two or three. It is the same with respect to potatoes, which usually produce only one, and sometimes none.

### *Streaked Millet.*

Streaked millet is planted in August, and the crop is gathered about Christmas ; and it is immediately cut, in order to have another crop at Easter : the most useless lands are usually chosen for it, as it takes up a great extent, and is easily produced in an indifferent soil. Candle millet is planted at the end of March ; this is more delicate, and requires a better soil : it produces only one crop, and may be planted in August ; but in this case it produces more false heads than good ones.

### *Maize, or Indian Corn.*

Maize is planted in August and September\*, between the stalks of the Indigo ; it is ripe in the month of December, and serves to rear poultry and fatten pigs ; and as it is planted only once a year, there is not a corner that should be neglected, in order to have a sufficient crop from one year to another.

Such is the list of vegetables that are necessary to be planted ; and however numerous they may appear, they are, however, only destined for the use of the plantation, children, servants, and sick persons, young ne-

\* It is planted equally in March and April ; but as the Indigo manufacturer plants it only once a year, his land being occupied, I say it is planted in August and September. Streaked Millet may also be planted at any time, provided it be cut in August.



groes, &c. and in case of necessity, for all the negroes in general; I mean when they have none of their own; for every one hath his little allotment of land, which he cultivates, as well for himself and his family, as for sale, to procure him cloathing; for it cannot be supposed that a single suit, given by their master, can be sufficient for a whole year; and though they are working for themselves only, yet the steward should be very careful to visit them, otherwise they would frequently be in want of necessaries, the negroes being naturally so lazy, that nothing but the fear of chastisement can make them work; and as they have no recess but Sundays and holidays, they often prefer walking to cultivating their own land; for though they are not allowed to go out without a written leave from their master or the steward, they make no great difficulty to exceed these orders at the risk of being taken up, and making their master pay a fine\*. It is therefore necessary the steward should keep a very constant eye upon them, till such time as their place is in order: they may then be allowed to divert themselves; and to engage them still more to be regular, they should from time to time have a day to work upon their own ground, when the other work is not very pressing, which produces a very good effect by preventing their being without vegetables. The necessity there is of their being furnished with them clearly evinces itself; and if I recommend punctu-

\* Every negro who leaves his master's house, should be furnished with a billet, whereby he is allowed to go to some particular place; and his business should also be specified, with the date of the day, and the time he may remain absent: otherwise he may be stopped by any one, who is entitled to six livres from his master when taken in the district; and from one district to another it is eighteen livres. If he be stopped upon the Spanish ground, it costs fifty crowns, which fine is extended to every negro.

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ality, it is only to censure that affected indolence of a great number of planters, who give themselves no concern about it, having nothing in view but the increase of their revenues, and yet run a course diametrically opposite. I would ask what figure a negro can make in a work so laborious as that of digging the earth from morning to night, having no nutriment to support his strength? I agree that a negro is very abstemious, when the occasion requires him to be so; but at the same time has a very good appetite when there is plenty, which makes him strong and robust, and enables him to perform more work in one day than four others who have not the same nourishment. A planter therefore neglects his own interest who is inattentive to a matter of this importance.

*The Genius of the Negroes displayed.*

Before I enter upon a detail of the work, I shall characterise the genius of a negro, which is not easily defined. Many years are required to investigate it completely; wherefore it is necessary to be acquainted with their manners, to guard against their snares. They are in general great talkers, cheats, liars, lazy, lascivious, and impudent, if not kept within proper bounds. It is a melancholy necessity to be compelled to inflict chastisements proportioned to their crimes, without which, they are all ready to return to their former vices. Pilfering is with them a kind of second original sin: they make no scruple of doing it, and though they are taken in the fact, they will never acknowledge it; they seldom discover their accomplices, being convinced they will be in the same situation the first occasion that offers; they think they have a right to the goods of others: they are very dexterous in seizing upon them; and they persuade

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themselves that the risque they run in taking them is a sufficient excuse; they have even a secret joy after the action, which is depicted in their countenances; and if this dexterous champion should immediately meet with any of his companions, he would give them a treat, in sharing with them, according to his expression, a gratuitous acquisition God had sent him. With regard to work, they always do as little as possible; wherefore they should be constantly watched, and never confided in.

I have just hinted at the rigour that it is necessary to observe with regard to the negroes; but care should be taken that it does not degenerate into cruelty, which is already but too frequent in our islands; where, upon a simple suspicion or a slight fault, unwarrantable cruelties are exercised. The chastisement should always be proportioned to the crime; if atrocious, it should not be spared; but small faults should often be winked at, otherwise punishments would be incessant.

If you chastise a negro for some great crime, of which he is really guilty, he will never complain; and you will thereby keep the others within just bounds, for fear of the same chastisement.

#### *The Character of a Negro Overseer.*

You may easily comprehend, by this sample, that the occupation of a manager who would fulfil his duty is extremely fatiguing; wherefore the planters, to lessen the burden, have appointed a negro overseer under him, who constantly watches over the conduct of the others, and who should give a faithful account of their actions: the superior regard that is paid to him above the others, does not a little contribute to his exactness: if to this is added his despotic authority over all the labourers, you will be convinced of the interest he



he hath to maintain his post: but do not rely too much upon his supposed fidelity; he is sometimes worse than all the rest; and it is judicious to chuse him such, for being more wicked, he is the more feared; and being acquainted with the tricks of his brethren, he knows how to prevent their taking place: he has moreover a happy talent for keeping you in a state of illusion; he will pretend the most fervent devotion to you, in order to deceive you; wherefore, you must fathom his genius, and your familiarity should not go so far as to make him believe that you are convinced of his attachment. Do not wink at his faults; for he never errs through ignorance; for which reason, when he is guilty, give double chastisement, and he will not complain, being sensible that he deserves it. I shall dismiss the character and genius of a negro overseer, by making you observe upon whom he the most frequently inflicts his punishments; and whether he is equally attached to the most cunning as well as the most stupid. He usually addresses himself to the latter, who are almost constantly the victims of his brutality, not daring to exercise his vengeance upon the most mutinous, with whom he is frequently a companion and connected; in this case you should severely reprimand him in private; but in public you should warmly support his authority, in constantly approving the chastisements he inflicts, and recommend to him when alone to do strict justice.

I imagine I have been sufficiently diffuse with regard to what relates to the slaves, when under your conduct; experience will teach you the rest: I shall enter more minutely into this matter in the sequel; and now give an idea of the different work that should successively take place.



*Remarks upon the daily Work.*

The properest arrangement is to begin by the planting, and follow by degrees the other work. It is of importance to observe, that in planting Indigo, that only half of the ground prepared should be sown. An interval of a month or more should be left for the remainder. This precaution is the more necessary, as the rains often oblige us to defer the first cutting which might be pernicious, if all the ground were imprudently planted at once, without allowing the necessary distance of time to the persons employed in cutting. An advantage is even derived from this intervention to perform the first weeding, which cannot be deferred. A plantation always requires something to be done, whether it be the planting of vegetables, cutting down fresh wood, clearing ground over-run with weeds to improve it, or upon which some building is proposed to be raised, or an inclosure made: all these occupations should be provided for whilst the plant is growing; for when the time of cutting comes, it is with difficulty these things are provided for, and to weed so exactly as to prevent weeds multiplying, which should be carefully avoided.

*Preparations for cutting*

When the time of cutting arrives, the preparations consist, first in making a general visit to the Indigo-works, and what relates to them, to be certain that they are in order, and that there is no danger of their leaking either by the cocks or from the vats themselves, if the keys or the futtocks are in good order; the frame and scaffold of the pit should also be reviewed, paying great attention to their solidity, to avoid the inconveniencies that might otherwise arise; for if the scaffold should be defective



the negroes ~~as~~ it would run the risk of their lives. Care should also be ~~taken~~ to try the brake and its line; for if either should break, the negroes cannot escape being hurt by the fall of them. Therefore great attention should be paid to prevent these accidents, which can arise from nothing but negligence. Visit also the bars of the Indigo works, that you may not be obliged to stop in the middle of a cutting, which frequently occasions great interruption to the Indigo, and in the space of a few days may change the fermentation, either by the cooling of the vessel, or by the rains that suddenly come on: there may be four vats without discovering the critical point, occasioned entirely by inexcusable indolence.

Such are the necessary precautions: prudence also requires, that during the month before the cutting takes place, all the necessary steps should be taken to prevent any disagreeable accidents happening.

Such an order being established, the Indigo-maker is employed solely in cutting and weeding till the crop is finished; after which, he engages in the most urgent works, being persuaded that it will not be long before he makes a second cutting, which requires much more vigilance than the first: the caterpillars that begin to prepare for their harvest, inform him that the time is more precious than ever, as the Indigo ferments more than ever; nor can attention be now paid to Sundays and holidays.

I have conducted you to the second crop; it would be needless to go to the third, as it is much slower than the former.

#### *The Duties of a Steward.*

A steward should in the first place be exact, in calling together all the workmen night and morning to say their prayers, when he should notice those who fail without a just excuse; he should slightly chastise



them for the first omission, at the head of the negroes, as an example for others.

### *His Circuit.*

He should every morning make a circuit round the place, where he should immediately take the number of the negroes, noticing those that are absent, and the reason of their being so, in order to give an account to his employer, if he chuses to require one. When I say he should make this circuit in the morning, I do not mean to exclude the rest of the day: this tour in the morning is to ascertain the number of the negroes in order to give an account of the absentees when required by the employer. If this absence should be occasioned by illness, speedy assistance should be given. This circuit is made between sunrise and the hour of breakfast; after which, a second should take place, about nine or ten o'clock; after which, the steward returns home to avoid the violent heat of the day. Afterwards about three o'clock in the afternoon, he makes his last circuit; when he should observe which are the fittest for work the next day; for in this there is a continual succession.

### *His Care for the Sick.*

A steward should not neglect the sick in the infirmary, which he should visit twice a day, to know if every patient is properly supplied; that those who are wounded or ulcerated are punctually dressed; which he should see performed whilst he is present, for the greater certainty. He should omit nothing for the ease of his patients, with whom he should, in cases of necessity, divide his own soup. But as from such kind treatment there are many who sham themselves sick, or pretend to continue so longer than they really are; strictly observe these kind of valetudinarians, and make them



move in due time : but do not confound those who are really sick with the pretenders. Pay the greatest care to the first, and let them have their victuals in your presence ; by which means the patients will soon be able to leave the hospital.

*To take an exact Account of the Animals.*

Keeping an account of the animals of every kind, is also in the steward's department, as well as taking care that they are duly attended. He should likewise from time to time go round the negroes habitations at night, to prevent disorders among them, and never rely upon their pretended tranquillity : this is an ill-placed confidence, of which they usually know how to take advantage. They should also be ordered to take care of all the utensils of the plantation, such as bills, hatchets, hoes, &c. and they should be put out of the heat of the sun, lest it should spoil them. This is the peculiar province of the negro overseer on pain of chastisement.

*His Attention to Enclosures.*

He should punctually examine the Enclosures once or twice a week, to be convinced that there are no breaches, through which the animals may pass, and do considerable damage even in a single night. Such breaches should be immediately stopped up. The live hedges should be cut, and trimmed at least three times a year : this is the great ornament of a plantation, which agreeably strikes the sight, and displays the good planter.

The accidents which happen to a plantation may usually be traced to the indolence of the steward, who confides too much in the report of the negro overseer, who frequently takes a malicious pleasure to deceive him, and particularly when the steward has displeased him, in order that his master may in turn be dis-



pleased with him. Negroes are naturally inconstant, fond of frequent changes in the stewards, as they seldom find one to their taste, which hardly ever corresponds with that of his master ; for it is impossible to please both : wherefore a steward should be incessantly upon his guard, and in constant distrust, particularly when he gives orders for a work that cannot be postponed ; in this case he should be a spectator, and chastise the black overseer for the first fault of this nature, as his omission must arise from malice.

*He should prevent the assembling of strange Negroes.*

He should also forbid the assembling of any strange negroes, in order to prevent the disorders which usually ensue these kinds of festivals, as they seldom terminate without quarrels ; or if he should sometimes tolerate them, it should be with great circumspection ; and when the black overseers on both sides guaranty their tranquillity : he should nevertheless be present at the least disturbance.

These assemblies usually take place to celebrate the funeral obsequies of their departed friends. It is a law with them to pray for the dead, which ceremony is performed in the following manner \* : The

\* This superstitious custom was at length abolished by an arrêt of the Superior Council of the Cape, on pain of a penalty of three hundred livres upon the proprietor. On the 7th of April, 1758, on account of the Makandalists, so called from their chief, the negro Makendal, who was burnt to death, with many others of his accomplices, who had sworn the total destruction of the whole race of whites in the colony—Fatal epocha for our colonies : numbers of planters having sustained irreparable losses, which unfortunately did but too strongly confirm the freethinkers in their opinion with respect to what I advanced upon this head in 1736, when I began my Treatise upon Indigo ; the confirmation of which may be seen p. 61. and the following, where the growing malice of the negroes is discussed, &c.



relations and friends of the deceased are careful that on a particular festival or Sunday, prayers shall be offered up for the deceased, when the countrymen of the defunct are desired to assist. These fail not to meet at the rendezvous, when each is obliged to bring something, such as victuals, brandy, molasses, &c. Upon their arrival mutual compliments of friendship pass; when they form themselves into a circle opposite the door of the deceased; and taking a bottle of brandy, they sprinkle the threshold of his door, doubtless with the intention of rejoicing his poor soul. This short ceremony being over, they kneel with much humility, and repeat, with apparent great devotion, the prayers they know, which are begun by the oldest or most learned of the company. When this prayer ends, each kisses the earth, rises, and a second sprinkling takes place. After which, they dance in couples till dinner-time; which repast is provided by the friends of the deceased, in the sacrifice of a hog, that they immolate to his manes, and which is quickly anatomized and dissected with great voraciousness. The remainder of the day passes in singing and dancing, making contortions and such like extravagancies, producing a real masquerade. At length, each retires home. If the master does not allow strangers to intermingle, the ceremony is performed among themselves, and it is impossible to disabuse them with regard to this superstition: they would imagine that the soul of the deceased was studying to torment them if they did not observe it: yet I cannot help being of opinion, that their real motive is nothing more than diversion. With regard to the funeral procession, it is not less extravagant: the body is carried along to the hoarse cadences of two of their countrymen at the head, who sing, dance, and howl like madmen: they are followed by the bearers, whose feet keep time to the mournful accents of this infernal



music, that continues to the church-yard, which is sometimes upwards of a league distant.

Every negro who rebels against his black overseer should be severely punished, as he represents the manager, who should support him in his rights, not to lessen his authority, and thereby keep the negroes in perfect obedience.

I shall close this work, with another piece of important advice. This is to behave from the beginning in such a manner as to make them understand, that you will be inexorable to the intreaties of mercy from those who infringe upon your orders. They will not fail putting you to the test, this being their first study; but remain firm, and be rigid in the early part of your function, in order that by knowing you to be such they may not relax; indulgence being the direct road to relaxation, this to disorder, and at length to the total ruin of all the negroes.

The corruption of the times, or the depravation of manners, has introduced another kind of disorder which prevails among many sets of negroes. This is of a very different nature from the others, as the contagion is communicated only by the steward to the negroes. The inhabitants of the country will immediately comprehend I mean the intrigues of the managers with the black women; and though this is much the fashion, I shall not pass over the inconveniencies that frequently arise from these practices. I do not intend commencing censor, or moralist upon this occasion; this I shall leave to our pastors; and though they acquit themselves with much zeal upon this head, I do not find the least alteration; wherefore I shall not attempt to abolish it, as I know it would be fruitless: but the managers will give me leave to tell them, it is very scandalous for them to attach themselves to the black women, who are under their discipline. Hence arise divisions, jealousies  
and



and murmurs among the negroes, which frequently are attended with fatal consequences. If a steward debauches the wife of a negro, he will in revenge debauch the wife of one of his comrades: it is therefore dangerous for the negroes that a steward should act in this manner; for they play the same game as him, and have no fear of outdoing one another in leaving by turns all the black women who begin to disgust them; for they are as little scrupulous in this respect as they are with regard to pilfering; two vices to which the negroes are equally subject, and which require a proportioned curb to stop the progress, by frequent chastisements. I ask a steward, how he is to succeed in this respect, if he hath not resolution sufficient to avoid a yoke as pernicious to himself as it is shameful to the planter?

If it were my province to convince a manager of the evil that arises to himself from such irregularities, I would give a free scope to my feeble pen; which might, perhaps, make more impression on him, than all the Christian morals daily enforced by our pastors upon the occasion: but it does not belong to me to treat upon so serious a subject; besides, I should lose sight of the object I had in view. I shall therefore only recommend him to make his own reflexions upon it, that he may reap some advantage from what I have advanced, before he is convinced by fatal experience. He cannot be ignorant, that the least of the evils that accompany this fatal passion, is shameful indigence, and often a languishing and painful life. How many young people, who after residing in our islands twenty years, have no more improved their fortunes than upon their first landing. God forbid I should despise my countrymen; every one has his foible, and I am more inclined to pity than to censure them; but I imagined a few hints of this kind.



would be serviceable to them, and that they would make proper reflexions thereupon.

*The Genius of the Negroes defined, and the Means of guarding against their Snares.*

Altho' you may not be able to lop the roots of many evils which this shameful passion engenders; yet you will be able to exercise a proper discipline over each sex without distinction. Exempted from all blame, you have an entire despotism over all your negroes; who will submit with blind obedience to your will, and to the punishments inflicted upon the guilty, who will never complain: for a negro is singular in this respect; he knows how to do justice to himself; and even when he does not own his fault, he is not angry with the person who chastises him, and points his indignation only against the author of it: if there be none, or he is ignorant that there is any, he frankly acknowledges that it was his own head that created his misfortunes (the negro's expression when he accuses himself): but amidst this frankness he cannot avoid following his natural evil disposition, and with the appearance of external stupidity, he is capable of surpassing the most artful white man in cunning\*. You will, doubtless, think that I dwell too much upon this natural vicious disposition; but I can protest to you, that I do but give the outline, and that if I

\* A negro of this kind makes the character and disposition of his master, or the person who governs him, his sole study: it is not astonishing that we should be sometimes duped by him, as he knows how to avail himself of our weakness; and as he abuses the clemency shewn to him, it is not astonishing he should often be guilty of faults: humanity, which should direct us, has a great share in it; wherefore, however cunning he may be, we are only duped by him because we wink at what he does not chuse should be observed.

were



were to display the malice of a negro in its full extent, Europeans would find it very difficult to conceive how we can make use of such kind of people : but we have recourse to a regular steadiness to keep them in order, otherwise it would be impossible to make any use of them. They are, nevertheless, the riches of the country ; for we calculate our revenues only by the number of slaves of both sexes, who are employed in our manufactures.

I have always been among the number of those who are inclined towards clemency, without having the least repugnance to chastise them severely when they were guilty of capital crimes ; in which case, it would be difficult to soften me, as it is absolutely necessary ; but I would always have the cause known. I am sensible there are some planters who are too cruel ; but if I blame them sometimes, I cannot help approving of their conduct in certain circumstances, when I consider the evil disposition of the negroes, which I am well acquainted with. Think not I speak through prejudice ; it is a matter of fact.

Europeans, upon their first arrival, would be inclined to believe us barbarians ; but they have not been six months in the country before they are of a very different opinion, finding by their own experience the necessity of a rigorous behaviour towards this species of men.

The malice of the negroes extends to sorcery : people of sense laugh at it ; the ignorant superstitiously believe it. I am inclined to think that the vanity of the one, and the stupidity of the other are equally pernicious. I have seen the former suffer considerable losses from their incredulity ; and the latter be frequently the dupes to their belief. When the negroes are once convinced of the superstition of their masters, there are scarce any pains or inconveniences that they will not submit to, to gain confidence with  
their



their masters, that the origin of their maladies arise from forcery ; and under this pretence, they humbly ask leave to go in search of a particular negro physician to obtain a speedy relief. This one, a still greater cheat than the patient, amuses him for a certain time, at the end of which, he brings the negro back to his master, in boasting of the surprising cure he has performed, expatiating largely upon the difficulties he had to surmount ; and which the supposed patient fails not to corroborate with all his powers from his mutual interest in keeping the secret. Wherefore no credit should be given to these matters but upon good foundation. It is however certain, that these physicians have performed cures, which surgeons would not undertake : I know not whether there was any deceit in the matter. They are ignorant of the use of mercury and antimony in venereal cases, and they cure perfectly well without friction ; they use baths, to excite transpiration ; they have many valuable secrets for disorders incident to the negroes, which are cured by simples unknown to any but themselves : but as they are all cheats, they frequently abuse the confidence that is placed in their remedies. I shall, however, frankly acknowledge that I am not very credulous with respect to the first article ; yet I have seen effects that could not fail convincing me, that they practise but too successfully their diabolical arts, equally upon animals as their own companions, whom they throw into such a lamentable state, as terminates only with death. I shall not undertake to explain the phænomenon, I shall leave it to casuists ; but I can aver that they seldom miscarry in them \*.

\* The mystery was disclosed by the confession of the Makandalists, who were burnt ; and who declared that they used slow poisons, and others that were very subtle, which carried a man off in less than twenty-four hours, when they chose to dispatch him soon,

They



They have also a miraculous talent of stealing cattle from parks, in despite of the keepers at the gate. In regard to this matter it does not depend upon witchcraft; they usually have with them some companions of fortune, who have the secret of amusing the keepers at the gate, by pretty tales, while the others make breaches at the opposite extremity, through which they carry off their prey; and it frequently happens that the keepers themselves are accomplices: in this case they share the spoils with the principals, for which they seldom escape punishment, and this is generally the case whether they are guilty or not, as they should be answerable for the animals they are entrusted with; and one should watch while another sleeps, and thus reciprocally relieve each other. It is pleasant to see with what simplicity they defend themselves upon these occasions: they are never guilty, though they ingenuously acknowledge they saw the cattle pass before their eyes; but by some enchantment they were bereft of the power of speech, and rendered motionless, whilst their dogs were petrified: in fine they add, that the charm in breaking threw them into such a profound sleep, that they could not awake till they heard the negroes going to work. If these reasons can satisfy, they get off very easy.

END OF THE SECOND AND LAST PART OF THE  
COMPLETE INDIGO-MAKER.



A  
T R E A T I S E  
U P O N T H E  
C U L T U R E O F C O F F E E.

*A Description of this Tree, and its Manufacture.*

**I**F I wrote as an historian, it would be necessary for me to begin with the origin of Coffee; but this would carry me too far out of my sphere, and make me repeat what twenty others have already said, upon each other's authority; the truth and falshood of which make a pleasant mixture. I believe it will be of little consequence to those who peruse these memoirs, whether Coffee was first produced at the extremity of Arabia, or near the artic pole; or that good father Labat's fabulous goats first discovered it: this is not the most interesting part of my project; and as my intention is only to be useful, I shall confine myself to pointing out how we attained it, and at what time.

According to the most common opinion, we are indebted to the Dutch for the first Coffee-trees: they first began to cultivate them in Batavia, afterwards at Surinam; and some years later the inhabitants of Cayenne followed their example, and succeeded beyond their expectations. It was in 1722, in a voyage that M. Delamotte Aigron, then the king's lieutenant at Cayenne, was obliged to make to Surinam, that the planting of Coffee was first conceived. He learnt the manner of cultivating the Coffee-tree; and the only  
difficulty



difficulty consisted in obtaining the plants, as the exportation was prohibited on pain of death. He, however, compassed his design by means of some French refugees among the Dutch, and succeeded so well, that in 1724 and 1725, there were already upwards of sixty thousand trees that produced Coffee; and in 1726, it was planted at Martinico: here it owed its origin to two plants sent from the Royal Garden at Paris, which were a present from the Dutch to Lewis XIV. A short time after, it appeared at St. Domingo; for I recollect having seen some there in 1728; but there were but a few trees planted in the gardens of the virtuosi; which have been since so multiplied that there are now whole plantations of it. The inhabitants of Dendon, situated about seven or eight leagues from the Cape, were the first who cultivated it, and have raised considerable profit from it. A certain Gascoon, \* a jolly fellow, like most of his countrymen, named Dupuits, has made a fine fortune by it in a short time, though he began with only five or six negroes. He returned to France about ten years after, leaving his plantation with above one hundred negroes. At present there are scarce any plantations upon the mountains without being planted with Coffee, in proportion to the number of negroes; and there would be hopes of making fortunes by it, if the present dealers had the same good luck as the first, that is, an increase of negroes in proportion as the Coffee grewed, long credit having enabled them to pay for the negroes from their own work. At present, (this is very different from the year 1753); no negroes are to be had but

\* I mention him in particular, being one of the first who began to plant Coffee. The fortune he made is to be attributed to the advance of the negroes upon credit, by which double the Coffee may be reared, &c.



with ready money, at 15 and 1600 livres a head, one-third down, and four months credit for the remainder, upon good security; so that the planter who begins, must be a great œconomist to push forward.

The success of some, however, creates an emulation in others, and very probably all the hills will soon be covered with Coffee; and then the price must necessarily fall, and it will not be worth selling at ten sols the pound; at least to none but those who are near cities, and have the convenience of their own vehicles. Those who live at a distance cannot load a horse with above one hundred and fifty pounds weight, which, at 10d. amounts to seventy-five livres a load; from whence the expences, freight, and commission, at two and a half per cent. being deducted, and the loss of animals being added, it will easily appear, that a fortune cannot easily be made this way, even without considering the accidents that may happen.

It must, however, be allowed that the cultivation of Coffee has its alluring charms—the facility with which it is raised, its rapid progress, and the few hands required; but when the crop comes in, the planter is frequently disabused. Experience has convinced me of these consequences; which are occasioned by the position of the trees, or the impropriety of the soil; for it is an error to suppose every soil is equally fit for it; or, according to P. Labat, the most meagre is the best suited to it. I have always seen the finest Coffee in the best soil, which is reasonable. It also happens that the Coffee-root is gnawed by an insect called a mahocat, which kills the tree. There is no remedy for these kind of accidents, as it is too late to apply any, when these insects are visible; the principal root is damaged, which, however, does not appear till the body begins to decay. Others perish without any cause appearing. I have, however, saved a great number, by cutting them about two inches  
be-



below the place that begins to decay, which is usually at the extremity of the trunk; and when the part attacked is lopt off, the lower part recovers its vigour, and fresh shoots appear at the knot where it was cut; but they should be carefully kept at a proper height.

A species of insects hath lately been discovered, called a hanneton, the mouth of which is long and pointed, with sharp sides; and which made great havoc among the coffee. Luckily they made but a short stay; during which, they dug into the trunk of the tree, from bottom to top, without its appearing any way damaged: but it broke with the least blast of wind, by which they were discovered, when a dozen or fifteen were found in each trunk, having each its particular lodge; and they made their way in order to get out at the end, that they might visit the next tree. They usually attacked the trees about a year or two old, the soft tender wood of these being easily penetrated. There was no other method to prevent the progress of these insects, than by cutting the tree about two inches from the ground, and setting fire to the branches; this however retarded the production of the coffee for eighteen months.

It should be observed, that coffee p'anted upon the hills cannot be expected to be of long duration: after three fertile years, a sterility succeeds; and those trees that have escaped accidents, to which they are liable, produce very feebly at the extremity of the branches.

*The hilly Grounds are but of short Continuance.*

This is clearly proved by the fall of the rain waters, which carry with them the superficies of the earth, and by making cavities, impoverish it, and render it sterile: in order to supply these defects, we  
are



are obliged to plant a certain number of trees every year : by this wise foresight we support our profit, in proportion to the losses, which are inevitable.

*Means of preserving the Earth.*

It is easy to comprehend, by what I have just said, that the soil of the mountains does not continue long fruitful ; wherefore, to prolong the term, it should be expressly forbidden the negroes to pluck any root of a tree that grows upon the ground, which is all intersected with them after being cleared from the wood. This precaution is of great utility for the preservation of the ground ; and by this means the layers have time to grow, and cover with their roots the circumjacent ground, before the others are quite exhausted ; by which means the soil is made to produce some years longer than it would otherwise.

*Reasons why the Ground should not be weeded with a Spade ;*

Because the ground would be so broke, as to admit the entrance of the least fall of rain, and would be exhausted before the layers could have time to fructify. Those who pretend that the coffee-tree is not of a delicate texture, have not seen it after its first and second production\* : it is true, that before this it grows astonishingly quick and beautiful, even in a bad soil ; but the quantity of fruit that it produces overwhelms it, if it be not seconded with a good soil, which may afford it a proper juice, or such as may nourish it without altering the root.

\* The second produce often determines its fate ; if it resists this it is safe : but it begins to decline at the third, by the excess of the preceding produce, which hath enervated it. It brings forth very little the next year, and thereby recovers its vigour.

*The*



*The Secret communicated by Father Labat.*

He acquaints us with an admirable secret to prevent this accident ; but I believe he will not have many advocates. He advises the lopping of the flowers, in order to ease the layers of the coffee. But where is the planter who would retrench his profit, and be still dubious about the success of the other half. It would be even imprudent in him to anticipate the effects of the stormy weather ; as a great quantity of fruit is beat down before it is a fourth part mature.

*Means of preserving the Layers of Coffee.*

I imagine the most efficacious method to be, planting the layers of the coffee at such a distance as is proportioned to the quality of the soil they are set in ; in an indifferent soil about three feet only , (and perhaps two and a half would be better) ; in a deep earth, four feet ; and in the best soil, five. I shall account for this immediately ; and I doubt not meeting with approbation. The root being thus circumscribed, all the body of the tree must necessarily receive more nourishment ; the sap having but a short way to rise, these branches cannot extend beyond it, and become a wood, almost as strong as the trunk itself. The tree produces less fruit, and the branches being divested of pith, are able to support the little they produce \*.

*Manner of stopping the Growth of Coffee-trees.*

Each planter has his peculiar method of stopping coffee. Some are of opinion, that it should be allowed to produce its first crop ; which is, how-

\* Since I wrote these memoirs, I have made the experiment with all the success I expected.



ever, a mistake. For my part, when a Coffee-tree hath attained its proper height, I break off the extremity of the branch, which is very tender; this prevents its growing higher, and allows the branches to extend in length and breadth, and multiply their scions: this operation makes a fine rose come upon the tree; disincumbered of a superfluous burthen, it is not overcharged; consequently the fruits are better nourished, and less subject to run; and even another advantage results from it, this is, the convenience with which they are gathered, and without damaging the branches; which happens to those that are unconstrained in their growth, and whose trunks are so feeble for want of substance, that the weight alone of their fruit weighs down the stocks; and being overwhelmed with their own burthen, perish at a time they promised the most.

#### *The Decline of the Tree.*

In proportion as the tree advances in age, its abundance diminishes, and the coffee is more beautiful and more estimable: it may be imagined that it becomes larger, because it produces but little: yet the case is just opposite; it is quite small, and in this alone its quality consists; and that root, which at its second crop produced two pounds of Coffee, will with difficulty in its fifth produce a quarter of a pound: after which it produces only every other year, the first very little, and the next something more. Upon this foundation it is easy to conceive, that it is very much our interest to increase the number every year, to prevent any scarcity.

#### *The Coffee-tree requires new Woods.*

It is also necessary that it should be planted in a virgin soil, or as we express it in our islands in *new woods*:



*woods*: it will be only losing time to plant it in ground that has produced before: not that it does not produce in the end; but it is certain that it will perish after its first crop, or at farthest after the second. This appears very opposite to the principles of Father Labat: but he only means from the first cultivation of the Coffee; for he had no experience, whereby he could form any judgment. One may easily be the dupe in this respect, as in some grounds it may succeed; and when it does not produce any thing, the root will be fine, but it will be exhausted from its first production.

*The Difference of the Sorts of Martinico and St. Domingo Coffee.*

Father Labat moreover speaks of the sort of Martinique, and I mean that of St. Domingo; the first may perhaps be preferable to the latter, and in all appearance this must be the case. If our mountains of St. Domingo were cleared, it is very certain they would many years since have been exhausted, as experience proves; for if at the end of five or six years we would renew a layer of Coffee in the same place, where some had before been planted, we should certainly lose both our time and our pains: all that could be planted with success would be cassada, or the ground converted into bad savannahs: this is all that could be done upon the mountains.

*The Martinico Coffee preferable to that of St. Domingo.*

The soil of Martinico being, doubtless, preferable to that of St. Domingo\*, it is not astonishing that the

\* There are certain districts in the mountains that are very stony, and produce lime: these grounds resemble the soil



the Coffee of that island should be finer and more in esteem : it probably receives a nutriment that is suited to it, as it is upon a par with that of Mocha ; and if there were no other than the seniority of the date of the trees, I would readily allow the superiority to the Martinico Coffee, which it now possesses by right. Perhaps also the care taken by the inhabitants of Martinico to cultivate and dry, may also greatly contribute. In this respect our planters are much to be blamed ; for provided it does but sell, they give themselves no farther trouble. I am sensible this is not the way of paying my court to them, or obtaining their approbation ; but why are they culpable ? Provided I meet with the approbation of those who think well, I am careless of the censure of the rest : there are, therefore, none but those who are conscious of their neglect that will be offended ; and if this little liberty could make any impression on them, and they should, from a laudable pique, open their eyes with respect to their own indolence, I should applaud myself : there are some people who require the truth to be spoken.

*Remarkable Qualities of the Planters.*

It must, however, be allowed that for the generality of the planters, they are very laborious, enterprising, generous, and magnificent, and would be very sorry their neighbours should surpass them in this

soil of Martinico : the earth is very deep, as good at the bottom as upon the surface, which renders it very durable : but this kind of ground is not very common, except upon the slopes fronting the sea : far beyond the summit of the hills this lime-rock is no longer met with, but by accident in some floods, and is, properly speaking, nothing more than a tartar formed by the current of the water.

point.



point. I will not pretend to say that vanity has no share in this emulation ; and that the apparent negligence is the mere effect of their inability. Destitute of the means and powers to dispose properly their manufacture, many inhabitants never increase their revenue ; yet I am persuaded that in some years this manufacture will be brought to great perfection : we already perceive the effects in those that are easy in their affairs, who are striving to out-do each other in the commodiousness and splendour of their buildings, their mills, and glacis's ; and spare nothing that may contribute to bring this manufacture to perfection.

The Mocha Coffee has always had the preference ; and this is very natural, it being the first we were acquainted with, and to which ours is indebted for its origin ; thirty years ago there was no other. That of Martinico succeeded, and connoisseurs say it is better : this is not astonishing ; the sea has not so much time to spoil it as the Mocha, which cannot reach Europe in less than a year ; and it must remain another twelvemonth in the company's magazines. When this berry dries, it loses its flavour, and its quality greatly diminishes ; though it may be said that it should be old to be good, and which I shall allow for a moment ; but it should acquire this age in a very dry place, and not upon that saline element, which renders every thing moist that is carried by it, and which penetrates into the closest chests, and has strength enough to tarnish gold and silver lace, though inclosed with cotton. Can Coffee be thought less susceptible of its impression ? I have seen the dew that has fallen in a single night make it as white as snow, which is sufficient to deprive it of its oily quality, in which all its flavour and merit consists.



Cayenne \* Coffee is despised, and that of St. Domingo has not yet attained any degree of fame ; is this astonishing ? The produce of every plantation is different ; does this not prove that it depends chiefly upon the care that is bestowed ? There are several who raise Coffee, and cannot shelter it from the weather, not having yet been able or willing to make the necessary dispositions. Their Coffee is usually in the first crop very large, very subject to whiten when it is not well dried and preserved from moisture. They are not sufficiently attentive to prevent its being moist during the time that it is exposed to the sun, for whatever humidity it contracts, renders it tough and spongy like cork. Whenever these accidents are prevented, there is great reason to believe it may be brought to as great a degree of perfection at St. Domingo as at Martinique.

Why should this be questioned ? Our first indigos and sugars were defective, and we have found means to perfect them. These manufactures were certainly more difficult than Coffee, in which there are but three principal points to be observed which form the basis, and which the most ignorant may execute as well as the most skilful.

*The principal Objects to be observed to have good Coffee.*

The first is to gather it when very mature †, to dry it well, to prevent its being wet or contracting any humidity after it is dry. This contains the whole mystery : if after these precautions, any in-

\* It was in the beginning despised ; but it is at present in great esteem ; and ours will succeed as well in the end.

† Care should, however, be taken not to let it ripen too much upon the ground, as in this case the pellicle is apt to stick to the berries, which diminishes the price, though its intrinsic value is always the same.



ferior Coffee should be found, you may boldly conclude that these were so many abortions, which by being over-dried or by an excessive production which the set could not nourish, were deprived of substance, which is the only cause of the berries being false; and from the same cause it happens, when the weeds stifle the sets, their nourishment is absorbed. These proofs are more than sufficient to convince you, that we are making a progress towards perfection, in as much as the climate and the soil does not prevent us, and which I am inclined will have no effect; a little experience and a good deal of care will produce the object desired.

*The Reason why St. Domingo Coffee is despised.*

The principal cause why the St. Domingo Coffee has fallen into disrepute was, that during the war which began in 1744, and ended in 1748, when every planter endeavoured to avail himself of the sailing of the fleet in order to sell his manufactures, a general confusion ensued, and particularly with regard to Coffee. Every one strove to dry his Coffee in a hurry, to be in time for the ships; many used stoves for expedition. So that sometimes it was exposed to sale in less than a fortnight after it was gathered. It is not astonishing that such green, ill-manufactured Coffee should turn white in the voyage. But at present, when we give it six months before we begin to beat it, there is time enough for it to harden and even shrink to nothing, if it is of a mean quality; in which case, it is necessary the perished grain should be carefully picked out.



*Policy of the Dutch.*

The Hollanders at Surinam had by refined policy promulgated, that they baked their Coffee before they exposed it to sale, that it might not be raised any where else. This was a popular error that so far prevailed, as to prevent any one planting it. But M. De la Motte Aigron having, as I observed, found means to procure some that was fresh gathered, he surmounted all the difficulties that seemed to lie in his way. It was also imagined, that Coffee dried by the sun would be subject to the like inconveniences ; this was also another mistake. I have seen some myself which had been gathered for upwards of six months, which grew perfectly well. I only observed the precaution of steeping it, and at the end of five or six days, its shoot appeared the length of two lines in the water, wherein I had immersed it. At present we are under no apprehensions with respect to planting it ; the shoots multiply so fast, that we are obliged to lop them under every tree, their too great proximity being pernicious.

*The Manner of planting Coffee.*

The manner of planting Coffee is very simple ; but which, nevertheless, requires attention : the ground should be very well cleansed, and dig all the holes beforehand : this precaution is very necessary ; for if any rain should fall, it penetrates the more easily, and in some cavities the water will remain, which produces a very happy effect, in maintaining the freshness of this young plant, which has thereby time to form fresh roots, before the heat of the sun makes any impression. I contribute to the support of this freshness, by a little mortar of clear clay, in which I place the fibres of the layer ; by this means  
they



they easily take root and the plant and the leaves being naturally of a strong consistency, resist the heat for a long time ; and being seconded by this precaution, very few, if any, perish. Add to this, that in taking up the layers to plant them, I dig up the ground with a hoe, whereby the fibres remain entire, and the layers are in their natural state ; for it is certain that Coffee pulled up with the hand will twisted or bent , and that the greater part of its fibres would remain in the ground, which it requires the most.

*At what Distance Coffee is planted ; and different Sentiments thereon.*

Various are the sentiments upon this head. Those, however, who, in my opinion, plant too near, maintain that it preserves the freshness that is so necessary, as at the end of the year there is a little forest which supports this same freshness, and prevents the weeds from encreasing too much, and that thereby the trees are more easily supported. They also add, that they have the double quantity of Coffee, which cannot be denied. But the sequel is not so favourable ; this is very well as far as the first crop : the trees are then so confined, that their branches intersect each other, and having no means of extending themselves, they produce a very indifferent quantity of fruit, and sometimes nothing but the stock produces any ; so that four layers of Coffee will scarce produce what a single one would, unconfined. Wherefore a thousand of these trees are more advantageous than four thousand of the others. Add to this the inconvenience of the dew, which obliges the negroes to be wet from the feet to the stomach : this is unavoidable.

Whence I conclude that the rows should be six feet distant, and the trees five from each other :



this is meant for an indifferent soil. It is true that in this state they require more culture: but this expence is counterbalanced by many advantages. In the first place, many kinds of vegetables are raised the three first years: secondly, the tree becomes finer and brings forth four-fold, the branches having full liberty of extension; in a word, the rows having a convenient space, the negroes are not obliged to wet themselves in gathering.

### *Depth of the Holes.*

The depth of the holes should not exceed six or seven inches, and the height of the plant eighteen: those which are less are subject to a year's retardment; those which are larger do not succeed. Before they are fixed in the holes, the extremity of the root is carefully cut, which always endeavours to penetrate; so that if rock or clay is near the root, it would force its way, and the tree perishes, when it is judged out of danger.

### *Another Method of digging the Holes.*

There are some planters who dig the holes with a louchêt\*, and give their reasons for adopting this method; though there are objections to it: for instance, it is certain that the earth upon our hills is not above ten inches deep, often less; now, if the holes are dug eighteen inches deep, you must meet with the rock or clay: hence it must follow, that when the root of the tree penetrates into this clay,

\* A louchêt is an instrument invented in the French Islands, made of iron, about a foot in length, the upper extremity of which is round, and bored, in which there is a wooden handle. It is between three and four feet in length: the bottom is flat and about four or five inches wide, with a sharp edge at the extremity.



the layer must perish for want of a proper soil. It will be answered, that the holes being filled with good earth, it will always find six or eight inches more than in its natural state, which cannot be denied; but in digging this hole, another inconvenience arises, which is the forming of a kind of earthen vessel, where the waters must necessarily remain, when the rains are frequent, which cannot avoid hurting the Coffee-layer. Add to this, that the roots of all trees in this country have a natural propensity to follow the superficies of the earth. It will then be granted, that in planting them six or seven inches deep, the roots cannot fail following the good earth, and receiving as much water as is necessary, and the superfluity will filterate across the ground more conveniently, when not confined on either side.

*The Season for planting Coffee.*

The planter should chuse a rainy season to succeed, as the plant should be well watered. About All-saints-day is the wettest season, the north winds being most frequent; the planter should therefore avail himself of them, as the Coffee should receive the rain a few days after being planted: but as the works of a plantation can only be carried on gradually, there are several months in the year fit for this operation, when the season is rainy: wherefore you may continue planting from All-saints-day till the month of May, if you meet with ground that is properly prepared; for it cannot all be so at the same time; those that are last planted grow quicker than the others, as they are planted in the height of spring, when the vegetation is stronger than at any other time; whereas in winter it is sterile on account of the great quantity of rain, which renders it too cold for the growth of the plants; but though it should not vegetate in three



or four months, when it is planted in winter, you may be at least certain that the plantation will succeed better than in spring, when it must be repeated several times ; and hence it is that the trees do not produce all together.

*Vegetables that may be planted in the Coffee walks, during its Growth.*

During the growth of the tree the land does not remain uncultivated ; on the contrary a great benefit arises to the planter as it may produce peas, maize, and rice, which afford plentiful crops during the two first years, particularly when the Coffee-trees are planted at a proper distance ; but you should observe to plant no peas that require sticks, and to keep them from the Coffee-tree, which they might hurt, as is observed in rice ; and a single row only should be placed between those of the Coffee. These are the only vegetables that can reasonably be planted ; those who plant others do not understand their interest. There are some who plant a row of cassada between two ; this may not be pernicious ; but when it is gathered, it cannot be doubted that the root of the cassada comes so near that of the Coffee, that the one cannot be plucked without hurting the other. Besides, there is another inconvenience worse than this, which is, that this ground being thus dug up, is carried away by the least shower of rain, and exhausted at the time the tree begins to fructify. I do not speak of those who plant potatoes, as this must arise from madness or want of experience.

Good Father Labat had certainly consulted a planter of this last class, when he says that Coffee grows in every soil, and that it does not hurt the grass : as to this last assertion I agree with him ; but that the grass does not spoil the Coffee, I cannot agree to.

I ask,



I ask, how can the Coffee-tree receive that salutary nourishment communicated by the rains, surrounded with a turf, upon which the water only glides, and which can scarce be penetrated four inches deep, by a successive rain of eight days : what nourishment can it receive from it ?

This tree grows quick enough when planted in good grounds, and care is taken to keep it from weeds, which is absolutely necessary in so warm a climate, where they grow in plenty, though only watered by the dew, and that even in the freshest ground.

*Description of the Tree.*

There is something delightful in the appearance of a Coffee-tree, of eighteen months or two years old ; you then see it in all its vigour : the leaves are of a lively deep green, very close, a little bent, and indented round about : the tree is bushy, and resembles the laurel ; it naturally grows very round, and its branches shoot regularly from top to bottom, diminishing gradually towards the stock, and form a very fine pyramid : these branches issue from the trunk two by two, opposite to each other ; the first appear about a foot above the ground, when the tree is formed, and are succeeded by the others at about three inches distance ; but which approach nearer, in proportion as the tree increases in age, and the branches increase in thickness in the same degree : but the regularity of its figure is lost as soon as the growth ceases, when the branches at the top extend themselves like the lower ones, and are furnished with scions, (which in our country-phrases are called geese-feet), that all produce successively, but are not at first a foot long ; this is to be understood of the first year of their growth ; but they increase every year, and thereby compensate for



the sterility of the first branches ; for it is to be observed that the tree will not produce two years successively on the same branch, but it fructifies immediately after those which are gathered to the extremity of the tree, and new layers usually multiply every year, which is a remarkable circumstance with respect to its produce. The leaves issue two by two from each knot of the branch ; and it is in these knots that the fruit forms itself, at the end of a small stalk, as grapes upon the vine ; and though the knots are very close to one another, you may sometimes reckon from fifteen to twenty fruits ; and there are almost as many knots to each branch ; so that when the tree blossoms, the flowers are so close to each other, that each branch might form a beautiful garland. Nothing in my opinion is so gratifying to the eye, as to see fifty thousand layers of Coffee all blooming at once : there you see in a very deep green, the whiteness of snow, which dazzles the sight, and emits a most fragrant odour. There is no season in America, which reminds us more of the European spring, or more strongly resembles it, than when these small trees are in blossom—A most delicious situation ! charming alleys that would furnish a poet with ideas of Elysium.

It also blossoms in this agreeable season, that is to say, in March and April ; but the young Coffee-trees of two years standing bloom sometimes at six different periods in the year, in proportion as they grow, and the weather is favourable ; every month the blossoms renew.

#### *The Coffee-blossom.*

The Coffee-blossom is a little white star, intersected in five parts, each separation being furnished with petala of the same colour, and another in the middle, that terminates in a fork, which remains a long while



while close to the fruit ; the blossom remains only forty-eight hours ; after which it begins to fade ; to this blossom the fruit succeeds.

*The Figure of the Fruit.*

The figure of the fruit resembles that of the olive, till such time as it has acquired its full size : in proportion as it approaches to maturity, the colour changes from green to a pale yellow : to this succeeds a fine carnation red, when it resembles an oblong cherry : its flesh is a kind of pulp of an insipid flavour, the astringent warm qualities of which prevent its being of any use ; it even provokes a flux of blood.

To this pulp succeed two little twin peas, united together, and covered with a strong parchment, under which is a fine pelicle covering for each of the two beans. Here the admirable secrets of nature are displayed ; this indulgent mother, by this sagacious foresight, prevents the injuries of the air, from which they should necessarily be defended, as they require nothing more than a single night's dew to evaporate all their oil, in which all the taste and quality consist.

It cannot be perceived that a tree is overcharged above a month or two before the fruit is ripe : that fine verdure then changes its colour ; all the leaves turn yellow, and seem to announce its languid state : it appears overwhelmed with its own weight, and intimates that it requires relief : this, in fact, is what should not be neglected as soon as the fruit begins to redden ; and be careful to lop the superfluous branches, which push forth very briskly, and produce a number of scions, from which it should be relieved : every time that weeding takes place, this should not be omitted, in leaving nothing but the mother-



stock; by this means the layer becomes vigorous, and thrives infinitely better.

In proportion as it is relieved from its fruit, it seems to regenerate, and acquire fresh vigour: it is chiefly at this time that it requires sprinkling showers, Coffee requiring much humidity, and a soil that is always fresh\*; whence it is, that it will not succeed upon a plain, where rains are scarce; and consequently nothing but hilly grounds are proper for it, particularly those that are fresh cleared, and where there is plenty of rain: but this very rain that is so salutary to the Coffee-tree, has two effects that are very opposite; as by procuring it the assistance which the mountains require, these rains become destructive at the same time to those grounds which they fructify, in gradually washing them away; and I am of opinion that thirty years hence, posterity will be much puzz'd to find land to cultivate, for the mountains will then be greatly exhausted. But why should we make ourselves unhappy about futurity—a futurity so very distant.—Will Providence, who attends to the care of the meanest reptile, ever forget her master-piece?

*Coffee never ripens all together.*

Its fruit never comes to maturity all at once, and in this respect we are happy; for otherwise we should lose a great part of our revenues, as the crops take up one-fourth of the year. This defect, if it may be so called, arises from the tree blossoming at various sea-

\* If Coffee should want rain the two last months before the crop, it is very liable to be exhausted, and the tree is in great danger of perishing. The quantity of fruit absorbs a great part of the substance of the layers, and the sap being very sparingly distributed, the fruit is either parched, or rendered abortive; which happened in the year 1753, when I wrote these memoirs.



sons, and the fruits being extremely close together; one presses so much upon the other, that it is necessary some should be gathered, that those which are too much streightened for room should have full liberty. Whence it is that we have five or six which all together amount but to one, as they immediately follow each other without any alternative, even without its being possible to avoid a considerable loss, whatever vigilance may be exerted: for five or six days after, it does not appear that any has been gathered; and the same layer of Coffee from which a basket of fruit has been taken, appears as full as ever.

*At what Season Coffee should be gathered.*

Its maturity is manifested by the redness of its fruit turning brown; this is usually towards the latter end of September; when our vintage takes place, and continues incessantly till the end of the year: but when the tree is at its first and second crop, you may begin from the month of July; in which case there is an interval of some weeks, which is employed in cleaning the plantation; but in the height of the crop a moment cannot be spared without considerable loss. The negroes who are employed have each a basket, nearly like our vintagers, in which they cast the Coffee: as soon as the basket is full, it is emptied into a larger basket, with which each negro is provided, and which contains his load: these are used to carry Coffee to the mill. The negroes are instructed to cut nothing but the fruit, and to leave the stem of the fruit sticking to the branches, so as not to carry off any of the bark, which would be pernicious to the tree.

*Three Species of inferior Coffee.*

There are three species of inferior Coffee, which should not be blended together, otherwise much time  
is



is required to separate the good from the bad. The first is that which is premature for want of rain, or overheated, and which would sooner dry upon the tree than redden: this must be gathered when it begins to turn yellow, and spotted; it is very subject to whiten, being deprived of its juice; wherefore it should not be mixed with the good. There is another kind of heated Coffee worse than the former, which dries upon the tree before it has attained half its degree of maturity, by an excessive production which the tree cannot bring to perfection, and which often renders it liable to perish: this often happens to those layers of Coffee which are allowed to grow at their liberty; their branches being filled with gum have not strength to support the weight of their fruit; nor is the sap capable of supplying their wants: we call these *cracos*\*. There is also a third sort, which is called the scum: this is discovered only after the Coffee has pass'd thro' the mill. This is a false Coffee which floats upon the water; and hence its name is derived. As all these are liable to be of a bad quality, they are dried separately, in order to try which is good: but according to the saying, "The profit is not worth the trouble."

*The Disposition of the Mill-case.*

After the baskets are filled, each negro carries his own, and empties it in partitions in the form of trunks, by the side of the house, which contain as much Coffee, or more, than the negroes can gather in a day. At night, after prayers are said, a disposition is made of such a number of negroes as are necessary for the

\* The *cracos* are so named from their resemblance to the palmite berries. As soon as I perceive them, I lop them off, to prevent their destroying the branches.



mill, which is generally seven, who should be relieved every night by an equal number, whilst the others are at their houses to prepare food for these; so that when the work is done, they find their meal ready; this is the usual department of the women: by this means no one has any reason to complain, and the work goes on regularly: in less than an hour all the day's crop has passed the mill, the particulars of which are as follow:

*The Manner of milling Coffee.*

Two negroes are appointed to turn the mill on the side of the great roller, and another at the little one; the largest has two handles, and the little roller but one: a fourth negro is placed at the top of the hopper to furnish the mill, and supply the Coffee in proportion as the mill swallows it: there is also a fifth before the mill, who receives the cherries\* that fall upon the ground, which he gathers together with a rake, as they must go through a second time, to purge them of the dregs, which escaped in the first pressure: the other two negroes are employed, the one in emptying the Coffee into the hopper, whilst the other fills the porter's basket: these from time to time relieve those who work at the great roller, and who alternately succeed these.

Coffee is naturally surrounded with a glutinous juice, which with little pressure is easily removed: this is the effect produced by the rollers; after which the cherries and the Coffee fall upon a screen made of brass wire, with meshes, proportioned to the size of the Coffee, which, regulated by the motion of the screen, and its own glutinous texture, passes through the sieve; whilst the same motion, seconded by a gentle slope of the sieve,

\* Probably so called from their resemblance to cherries, when the Coffee-fruit is entire.



drives before it the cherries which are too large to go through, and successively fall upon the small roller; and having passed both, fall at the bottom of the mill by the motion of the little sieve, with which the little roller is also provided.

*Necessary Remarks.*

After some turns of the mill, the Coffee should be visited, to know if it has attained its desired point; being too much pressed the Coffee breaks; this is observed by its parchment, which rises in scales, which is a certain sign that the roller approaches too near the teeth of the mutable piece: in this case you must give it an opening, by means of the wedges that are at the extremity of that which moves, as they serve to tighten or slacken the mill, as occasion requires; and this should be carefully attended to every time the mill is served, as the Coffee is not always of an equal size. When the fixed point is attained, it should continue working till the receiver of the mill is filled; it is then stopt to empty the contents into basons, barrels, &c. after which, the cherries are ground a second time, to clean them still more when a little door is opened opposite to the mill, thro' which they pass in falling, and are afterwards removed by the negroes, to be out of the way.

Thus the Coffee is left in the bason all night, whereby it the more easily separates from the gum, which makes it wash better. This operation is performed by moon or torch-light, an hour or two before day-break. The mill-house should be erected near a piece of water, to avoid a multiplicity of work: the bason should be made of stone when convenient; in which a rake is stirred about to remove the glue; others make use of a kind of trough; and others baskets,



kets, which have the same effect, except the inconvenience of being obliged often to change them.

*Methods to prevent the Negroes being attacked by many Disorders.*

As we are interested in the preservation of our Negroes, and in their enjoying a vigorous state of health ; as far as lies in our power we should be careful to preserve them from the injuries of the air. The seasons of the crop are very rainy, and much dew falls ; hence it follows that every layer of Coffee is quite wet till eight or nine o'clock. Now, it is certain that the negroes, who begin their work at five in the morning, must every day be as wet as ducks, which cannot fail to create many fatal disorders, the consequences of which may be very serious. To prevent these kinds of inconveniencies, we carefully provide both the men and women with a good great coat of coarse cloth, which lappel over the stomach ; from these the water runs without penetrating ; this is a specific against colds and fluxions, to which the negroes are liable without this precaution. It is the same with respect to the hard work at the mill, when they are so hot, and in such a state of perspiration, that they have recourse to the first rivulet to drink ; which is sufficient to bring on an immediate fluxion of the stomach. To prevent this, give them a large glass of the country brandy, of which they are very fond ; after which, they would not upon any consideration drink water to carry off the taste of this agreeable liquor, and which in these cases is very useful.

When we are engaged in the harvest, we stand in need of all our people, as there never can be too many ; the deficiency of a single negro for a fortnight, will make the difference of twelve barrels of Coffee, in the cherry, which may probably produce about two hundred



dred pounds of Coffee. The absence of several may from this be calculated. Coffee does not wait our convenience for attaining maturity ; it always goes on, rain beats it down, currents carry it away, whereby so much is lost. Wherefore, we should profit of those precious moments and not neglect the negroes in such a situation, or misapply this time ; on the contrary, half the number of the house servants should be retrenched. When once the Coffee is in the warehouse, it is then secure ; whilst upon the tree it is ever in danger ; and therefore every prudent planter, who understands his own interest, avoids every thing that may interrupt the forwarding the crop.

*Description of the Glacis.*

The glacis is a stone work raised about six inches above the surface of the earth, with borders round it of the same height, in which there are holes at equal distances, that the water may drain off : their size is unlimited, as they should be proportioned to the quantity of Coffee the planter raises ; so that they are of different sizes, some 100 feet square, others less. Having paved it at the bottom, it is well plaistered over, so as to appear all of a piece, except the partitions that are necessary, to prevent the accidents that too much rain might occasion, by carrying away in an instant all the Coffee deposited ; the currents of water are limited by means of these compartments, which stop their rapidity, the water having time to run off by the vent-holes of each trench, gradually as it is received, without having time to form any current, and to promote the evacuation, this glacis has a small declivity, which propels the water toward the vent holes without any violence.

It is upon this glacis that the Coffee is exposed to dry, care being taken to stir it frequently, to  
hasten



hasten the effect : three or four days sun-shine is sufficient, if care be taken to shelter it at night from the dew ; after this it is put in the warehouse ; whence it is taken only to be bruised : this is called Coffee dried in parchment.

There is another method of drying it, which appears more expeditious, but is liable to many inconveniences, as I shall notice when occasion offers ; this is drying it in the cherries. Though I am no advocate for this method, I will not condemn it in others, as it is frequently done through necessity. Those who imagine it is more expeditious are mistaken : it is true it requires neither mill nor millers ; as soon as it is gathered it is thrown upon the glacis, where it remains till it is completely dry, without any danger from rain : but by this method it is a long while drying, and liable to various accidents : being incessantly exposed to the inclemency of the weather, it must necessarily happen that in a quantity some must dry very slowly, being covered with others, notwithstanding all the precaution that can be taken to stir them ; and if they be not wet in the day-time, they cannot avoid being so at night : and by dint of stirring them, many are parted from their cherries, and such cannot fail whitening whilst others turn black ; by this means the profit is greatly diminished, and much time is lost that might be usefully employed in the plantation.

It should also be observed, that this Coffee requires being dried twice as much as the other, as the cherry always retains a certain salt which renders it moist from the least humidity, and from which it is difficult to guard it in a country like our mountains, where nitre is very plentiful, and fogs very frequent ; if this matter is not attended to, the Coffee runs great risk of being heated to a degree of rotting. To prevent



vent this accident, it is necessary to examine it frequently, and if the least heat is perceived, you should not hesitate putting it into the sun. It must be very disagreeable to have the glacis covered with coffee in such a situation ; as it must be removed to make place for more. Such are the inconveniences that you are exposed to by drying it in the cherry ; whereas that which is dried in its parchment, after being washed, will keep many years in the same state, as the water purges it of its glutinous liquid, and is no way liable to change, if care is taken to preserve it from being damp, as it is very susceptible of impression from moisture.

As to the advantage that many fancy they reap from drying it in the cherry, supposing there is nothing more to do than gathering it and placing it upon the glacis, I beg they will pay some attention to the time required in bruising it, and also the time that is lost in cleaning and culling it ; and I believe they will agree with me, that so far from its being a method of advancing, it is the means of prolonging the work, as I shall sooner have dispatched three wheel-barrows of Coffee dried in parchment, than one dried in the cherry.

*The proper Time for bruising the Coffee.*

The crop should be over before this operation takes place. The works follow successively each other, and a planter should know how to divide his time, by which means every thing is in order ; whence arises that some planters do more work with a few hands, than others with a great many, as the latter undertake too much at once : and all things should go on progressively ; upon this principle the Coffee should not be bruised till all is got in, unless necessity should compel it, or there should be some interval in the gathering :



gathering ; in this case it may be turned to account ; for sometimes the first Coffees are the finest in appearance, as they are not so long subject to accidents ; but nothing should be omitted to dry it well, and this care should be redoubled when it is to be bruised, for new Coffee is very apt to change, not having had sufficient time to harden ; it is then of a fine transparent green, which may deceive the best judge : so that though it appear ever so dry, I advise those who purchase it to expose some days in the sun before they put it up, as its quality may thereby be preserved.

*How to bruise Coffee.*

Before it is bruised it should be exposed to the sun two days successively, and begin only on the third when the sun has heated it, for the finest Coffee will whiten under the pestle, if it has not attained that degree of dryness which it requires, and it will even flatten. In a word, Coffee cannot be too dry, and the more it is so, the more easily it is bruised.

Every planter performs this operation differently, some in a mill, others in a trough, and others in a wooden mortar. I shall not determine which method is to be preferred, though the last seems to me the most eligible ; as the strokes of the pestle are more certain and regular, the Coffee is less liable to be broke ; and less escapes the operation from the pestle, which performs it quicker. I mean this with respect to Coffee dried in parchment ; as to that dried in the cherry the mill and the trough are better calculated for it ; for as it is harder to bruise, it requires harder strokes,

As



As soon as the sun's heat commences, the negroes begin their work ; they are ranged two by two at each mortar ; each having a pestle in his hand, strikes regularly, and alternately after each other ; by this means the Coffee is divested of its parchment and its pellicle, from which it separates without much trouble, as fifteen negroes may bruise two hundred weight a day. The facility with which this operation is performed evinces the expence of a mill is superfluous ; though those who use one, may employ their negroes elsewhere ; but this is a trifling advantage. Ostentation is more concerned than œconomy ; yet a rich planter should have a complete manufacture.

#### *How to winnow Coffee.*

Whilst some are employed in bruising, others are engaged in winnowing ; there is also a third mill that performs this operation, and which is very useful, particularly when there is no wind, which is not often the case ; but it is sometimes not high enough, the mill is then of great utility, and cleans the Coffee infinitely better than the common wind ; for besides its clearing away the dust and the pulverized parchment, it also purges it of the small gravel, to which it is subject, casting aside the Coffee that had escaped the pestle, as well as that which is split. A secret has even been lately discovered of uniting these three mills together, and they are employed in these three different works by means of a horse or a mule : so much does this manufacture each day approach nearer to perfection.

After the Coffee has been winnowed and culled from all that was defective in it, it is again exposed to the sun till towards noon, when the sun darts his strongest rays, it is then put burning hot  
into



into casks, which are well covered over. This precaution is necessary; it hardens its grain, stops the pores, and renders it less susceptible of the impressions of the air, and restores it to its primitive colour, which the sun had tarnished. It should remain five or six days in this situation: it should then be exposed one day more to the sun for the last operation.

After so many preparations, and every thing being done to bring it to perfection, we should be deceived in imagining it was out of all danger: it always retains a certain salt, by which it dilates with the least humidity, and is rendered flexible, spots and becomes totally white. In contracting this humidity all its oil evaporates. Wherefore the driest place should be chosen for it; and the planters do not bruise but in proportion as they are sure of a vent for it, and no more at once than they can convey, that they may run no risks. They also take care not to bruise it in a moist season.

*Produce of Coffee.*

We calculate the produce of our revenues by the number of layers, which we suppose will produce a pound of Coffee each. Some produce much more, and others far less; this then is upon an average near the mark; observing that we do not include those which have produced four crops; so that when, with a hundred head of negroes, a planter produces a hundred thousand weight of Coffee, and the plantation is kept in good order, he has no reason to complain. How many negroes upon their first arrival in the country perish before they have done any kind of service to their master, and who fall dead upon being  
taken



taken out of the ship, as soon as they set foot on shore! What dreadful havock doth epidemical disorders make among a set of negroes. The small-pox from time to time makes shocking ravages, colds, fluxions of the stomach, with the yaws, and the various stages of the venereal disorder, are but too often the attendant upon such a libertine life as theirs. There scarce passes a day in the year when, among a great number of negroes, there are not ten or twelve at the hospital \*; and when colds are frequent, it is impossible to limit the number.

It cannot, however, be denied, that their revenues are pretty considerable, when they have attained a certain point; but if we compare profit and loss, much to be taken off: then there are some severe strokes, that cannot be parried by all human foresight. I shall give one example that recently occurred to a planter at Dondon: he set out with a Coffee plantation and sixteen negroes; at the end of eighteen months, when he saw a pretty number of trees producing Coffee, he found himself reduced to a single negro, the other fifteen being dead in so short a space of time; if he had sufficient time to have reaped any advantage from his plantation, he might have had some resource; but this not being the case, he was obliged to act boldly; this was to sell his plantation, in order to produce some money, and to make another settlement in a distant part. I shall quote only this single example, though it may be easily imagined there are many similar.

The Makandalists have furnished sufficient proofs of this, and have opened the eyes of the most incredulous. I shall pass over in silence the frequent re-

\* Each planter has, or ought to have, an hospital on his plantation to lodge the sick.



volutions and accidents from fire, which are but too frequent in a country, where the greatest part of the houses consist only of wood, and are thatched : such an accident often absorbs three years profits.

Such, gentlemen, is my general idea of these two manufactures : if any circumstances have escaped me, they are of so little consequence, that they are scarce worth attention. It is true, that frequent experience may produce some new discoveries ; and if any should reach my knowledge, I shall take a particular pleasure in communicating them to the public, if they are interesting. The indulgence that has been shewn me in the favourable reception of my first Essay upon the Indigo Manufacture, excited me to undertake that upon Coffee ; and I doubt not but my character of a planter has had some share in my success, and that the same indulgence would not have been shewn a learned writer. If any faults have escaped me, they are at least excuseable in a man who is no scholar ; and if the simplicity of my stile diminishes the value of the work, this will, at least, be counterbalanced by the truth that reigns throughout. I relate nothing upon the hearsay of others. My residence for thirty-eight years upon the spot, hath furnished such experience as cannot be questioned.

END of the TREATISE upon COFFEE.



CONCLUSION of the WORK,  
 BY WAY OF  
 SUPPLEMENT.

I DO not flatter myself that I shall meet with general approbation in this supplement to the foregoing memoirs, as I certainly shall not please such persons as work upon different principles from those laid down here. Neither do I propose myself as a model to be followed throughout, as the narrow limits of my genius may easily be traced; wherefore I am not so presumptuous as to fancy I am infallible in all my propositions; and if my opinions should appear too dogmatical, this is rather the effect of my zeal than self-admiration. In a word, if I risk any thing, the advantage will not be on my side, but for those who have discernment sufficient to extract what is valuable, and to reject the superfluous. Perhaps it may be imagined the *cacoëthes scribendi* has seized me, and from an indiscreet zeal I have rendered myself tedious: but even in this case I could find some consolation, if, at the same time they think my production tiresome, they reap some profit from it.—This is my object, however harsh or incorrect my stile may be adjudged. If this should be my lot, I shall remind the reader, I only promised to instruct, and not to entertain him.

In this Conclusion I propose to lay down some maxims relative to the preservation of negroes, a circumstance



cumstance attended with a clear profit to the planter : and notwithstanding the picture I have just given of their evil genius is not very flattering, we are not the less interested in taking care of them, as appears from the calculation I have just made. I would, therefore, propose to the steward, to take special care never to be in want of vegetables. Perhaps he will say, the season will not suffer their being planted ; to this I answer, that it is only necessary to have some good cassada, banans, and yams, which grow throughout the year, in despite of the greatest drought. The yams which are planted in May, June, and July, cannot fail of a sufficient quantity of rain ; as to the other two vegetables, they will grow, let them have never so little of it. This is an established principle that will admit of no objection, the application of which enables us to nourish well our negroes, and they becoming therefrom robust and stout, entitle us to the services they can perform in that situation, which, however, we are too apt to over-rate. The steward, and all the inhabitants in general, begin by making an exact inventory of the negroes, and, by too frequent an error, calculate a revenue proportioned to their number : he from thence concludes, that he may boldly undertake such works as the number of his negroes can perform, but overlooks the many avocations they must engage in. In the washing-days three or four black women are employed, which is the case every week. Negroes are engaged in digging cassada. Then negroes must be sent to the public works, an endless employment, in which the sick cannot engage, when perhaps three or four in a may fall ill, and many more must be employed in various works, the enumeration of which would be tedious : in the mean while the main objects are neglected, the plantation is not properly attended to, and the planter must necessarily complain. He will consider his steward as an ignorant fellow,



when his only fault arises from an error in calculation. He reckoned upon fifty negroes, and should have built only upon forty (as there are always some ailing, either through age or infirmity): there are moreover a number of negro nurses, who lose a fourth part of the day. Wherefore consider all these circumstances, and of course a tenth part of your negroes may safely be computed useless.

*How the new Negroes should be governed.*

This is an object that requires much attention. These negroes are more capricious than those that are trained, and want a discipline of a very different kind, and more moderation. It is necessary they should have some days of repose to restore them from the fatigues of their voyage; and the steward should be particularly careful to provide beforehand a quantity of provisions of all kinds, proportioned to the number of negroes expected. I say they should be amply provided for, as they may be considered as so many insatiable gluttons. They should not be fed with meat at first, lest they should take a distaste to vegetables: this is a matter of great importance; for to this disgust succeeds those disorders which are frequently fatal.

I lay it down as an invariable maxim, that it is necessary to have provisions of all kinds. In fact, these new negroes are soon disgusted with the same sorts of eatables; and if they do not find a change they turn sulky and dull, and hence desertion may be expected\*. Sometimes they take to eating earth

\* When they desert they mostly take refuge in the woods and caves, where they live by rapine. Some of them are so much disposed this way, that no punishment can deter them, wherefore nothing but heavy chains can prove effectual. This method of chastising has often wrought a salutary reformation.

and



and insects, which bring on incurable disorders that terminate only with life.

They should frequently bathe, during their first leisure days, as well to keep them clean as to relax them. Some means should also be formed to exhilarate them and make them forget the yoke of slavery they are going to embrace, and which they should be made to prefer to the free state from whence they came, which is frequently very wretched. A pipe and tobacco, a new dress, consisting of a shirt and waistcoat of coarse cloth, should be given them, which make them fancy themselves the happiest of men. Ambition once banished from their thoughts, their ideas are all concentrated in the wants of animal life: it is not, therefore, astonishing, if they think themselves happy at so cheap a rate. They should be sparingly worked at first, and not at nights; that is to say, they should be exempted from night-work, which the veterans perform, at least for the three first months, when their work is, by degrees, insensibly increased. That they may not be disgusted, some care should be paid to the dressing of their victuals, which should be given out to the negroes appointed for that purpose, who should be watched that they distribute them equally, for the first six weeks; and in order to give them a kind of emulation for work, they should be provided with their little furniture, such as a kettle and a *canaris*, or large pipkin: if the planter is liberal, to these may be added a hen and a little sucking pig for their beginning. A glass of brandy should also now and then be distributed to them, which enlivens them; but there is a manner of doing all this—they should be given to understand, they must deserve all these bounties by their assiduity at work. If there be any lazy negroes among them, which is very frequent, they should be deprived of all these benefactions: by this means emulation will be spurred in some, and



others will frequently become laborious to deserve the same reward from their master; let this be observed in all the liberalities you shew to them, not to make a constant practice of them, otherwise they will consider them as their due, or at least that they very richly deserved them: and on the other hand, when they abuse your indulgence, severity should be used to bring them to their duty; by these means you will produce good subjects, and will not be exposed to the losses sustained by many planters, who often lose five out of ten. The steward should therefore constantly enforce his orders, and admit of no relaxation; he should carefully prevent their being left to the discretion of the old negroes, who are frequently well pleased to take upon them the care of the new ones, to make them their servants, by putting them to the most laborious work, which immediately disgusts the newcomers, who are extremely delicate with respect to being commanded or ill-treated by a fellow-negro; whilst, on the other hand, they affectionately submit to the orders of a white.

The steward should also be careful that the chigar † does not lay hold of the negroes; it is very dangerous to neglect this object: those who are thus affected, fall into a shocking languid state, and nothing but the cleanliness I recommended can prevent them being attacked by this insect.

It is scarce conceivable how much these new negroes try your patience; they will frequently want correction, and yet in these cases you should use nothing but indulgence towards them: you must repeat the same thing a hundred times, and discriminate between those who err through malice and ignorance: to the latter you should be merciful, and severe to

† This is a small insect, that penetrates into the flesh, and does great harm when not speedily extracted.



the other, who become good subjects merely by dint of correction ; lenity to the former produces all you can desire : but the number of them is very small compared to the others ; wherefore, though you should rather be inclined towards mercy, you are frequently obliged to make use of rigour : this will prevail, and good negroes have more frequently been made through fear, than by an ill-judged clemency towards such perverse dispositions. You should reckon a year's apprenticeship for each new negro, before he can yield you those services that you expect : during this period you should reckon their work in the general account, for if you increase your work upon the reinforcement of such a young beginner, you will find your mistake and be the dupe of your own calculation.

*What relates to the veteran Negroes.*

Having thus dismissed the new-comers, we shall now return to the veterans, in order to define them. These are acquainted with the work they should perform, and they only require being kept at it ; if they should relax, they should be brought-to by chastisement : this is the most certain method ; but it should always be proportioned to the neglect or crime. For instance, drunkenness, which is the source of quarrelling, should be rigorously punished in its infancy, in order to extirpate it, and prevent all domestic quarrels. If any negro complains against another, it is your part to determine, and do justice to the aggrieved ; but this should always be done with the utmost impartiality ; and if they should be both in fault, they should both suffer the punishment they merit, and they will be both satisfied, whilst the seeds of discord are exterminated. Such is the spirit of a negro.



Here follows a proposition that will not be relished by every planter, as they do not all equally understand their respective interest. For my part, I am of a different opinion, and think it a good principle.

It cannot be imagined that two hours work is not an advantage; yet I am going to prove the contrary, without advancing a paradox. It will easily be perceived that I mean to suppress all night work. I shall first ask, if a negro who has performed a good day's work, does not require rest all night, instead of retrenching a fourth part of it in work, whilst another fourth is taken up in preparing and dressing victuals. Scarce is he gone to rest before day-break appears, and he must rise, at a time when two hours misapplied in watching would have repaired all the fatigues of the preceding day, with which he is still overwhelmed. He must now go to work—but where is his vigour? and if he continues to go on so every day, must not his strength soon be exhausted? Can it be supposed these people are made of brass, and that incessant labour will not destroy them? Such then are the fruits of working at night: less work done in the day-time, and the negroes falling to decay; whereas a negro that has had his proper rest, and is full of vigour, in the day-time, and continues robust, to an extreme old age, or at least this was the case formerly: but at present they are invalids at thirty or forty. The planters will tell you, they have earned the price of others; be it so, 'tis certain, however, we find it often difficult to keep up the number of our slaves.

This objection will perhaps be answered, that by employing them at night you prevent them going abroad; but this is impossible, if they are resolved upon



upon it. In this case, from double fatigue \*, they will be still less able the next day to do their duty, than him who has only amused himself in walking ; and if the planters were careful in allotting every one a female, their rendezvous would be less frequent, and another advantage would result from it, in the number of their offspring, which would repay with usury the loss of the old negroes.

The steward should be careful to guard the negroes from the inclemency of the air, and have little thatched houses at proper distances to shelter them from the rain. How lamentable it is to see negroes who have no cloaths to cover their nakedness, exposed to the injuries of the weather and the night colds, without a covering, extended upon a couple of planks, by the side of a little fire of cow-dung for want of fuel, and which cannot communicate heat sufficient to warm their bellies and stomach. A little humanity does not spoil a negro : besides, if he abuses it, the remedy I have already pointed out is easy.

There is nothing more pernicious to health, than being constantly in the rain. Wherefore a glass of brandy should not be refused a negro, whose vigour has been hurt by cold : do not let him make a custom of drinking brandy, and you risk nothing : the apprehension of spoiling a negro should not prevent our affording him assistance in time of need : if he has an inclination for drink, it is easy to prevent it.

I might expatiate still farther upon this matter ; but lest I should tire the reader, I have only laid before him

\* Hence arise fluxions of the stomach, which are so common from these meetings and vigils ; for far the greater part of negroes perish from disorders of the lungs.



what was advantageous and useful. The objects which I have discussed, and which I have investigated by dint of great experience, will secure me from reproach and criticism upon this occasion. I am sensible that every one has not the faculty of instructing and pleasing at the same time, But if the reader should not be pleased, he will at least be instructed; if, indeed, I should have hit his taste in both respects, the luckier for me, the better for him. —I shall then completely have attained the object I had in view.



*The singular Metamorphosis of an Insect  
called the Mahocat.*

**I** Doubt not but the phænomenon, of which I am going to write, will be considered by many as fabulous, and I must naturally acknowledge, that I should have been of the same opinion, if I were not convinced of the contrary, by the indubitable testimony of seeing and feeling. It is true that this is such a prodigy, that it seems equally to shock truth and good sense; it is nevertheless a truth I can attest. This animal is a worm, quite white, about the size of one's thumb; its head is very dark brown, or black, with two rows of feet under the belly: it is usually very fat, and its skin is so fine that it is transparent. This is the same insect as is called at Martinico the palmist-worm, which the inhabitants of that island eat with pleasure; though in my opinion its figure is sufficiently disgusting; but when antipathies are surmounted, every thing is good. I found one of these mahocats in an old trunk of a tree, that had been rotten for some years; the animal was petrified, of the consistency of a pumice-stone, full of pores; it was no way damaged; each of its feet as well as its beard, were furnished with roots of five or six lines in length, forming branches nearly resembling the branches of a stag's horn: it had not yet any trunk or branches; but according to all appearance, it would not be long before they were formed. I attentively inspected this animal, when my negro-commander came up to me: surprised as he was at my astonishment, he made me comprehend, that what I saw was nothing but the effect of nature; that he had seen several in his country become shrubs three feet high, the leaves of which re-



sembled a plant which he instantly shewed me, and which approaches pretty near to a walnut-tree.

Let naturalists consult the principles of their system upon so strange a phænomenon, in whose hands I leave its investigation; being contented with admiring it, and carrying home the animal, where several have contemplated it: but having put it in a tin box, one of my children, about four or five years old, had the curiosity to take up the box in my absence, and lose the animal. I then greatly regretted having postponed the design I proposed, of having the figure of it drawn. If the reader should have any suspicion concerning the certainty of the fact, I beg he will reflect one moment upon the sincerity that reigns throughout my work, and he will be of opinion that I would not have concluded it with a falsity, which, so far from embellishing, would have disfigured it.

#### A D V E R T I S E M E N T,

*Relative to several Letters addressed to the Author, concerning the Opinions occasioned by his Work.*

**M**Y little lucubrations having produced various letters, I thought I should not displease my readers by communicating some of them at the end of these memoirs. One writer among the rest has thought proper to condemn my observations upon the Culture of Coffee, in substituting his own, which he judges better. I think I have answered his objections in a manner to convince him, that they ought not to alter my opinion. But this disquisition I shall leave to the judgment of the impartial reader, which shall determine on whose side reason lies.



Fort Dauphin, April 10, 1749.

S I R,

**Y**OU could not have conferred a greater pleasure on me, than by the gratification I have received from the sequel of your Complete Indigo-maker; I have read the whole with infinite satisfaction. Tho' my works are not liable to all the inconveniencies that you have so judiciously depicted in your book, I cannot help profiting from the inestimable and well written contents. It cannot fail pleasing both our planters and men of letters; the first, by the useful instructions they will derive from it; and the second, by the sense and the shrewdness of your observations. Your style is delicate; truth is not obscured by disgusting fictions; every thing is clear and dictated by reason. The judgment of one of our satyrical poets, a great master in the art of writing, may with justice be applied to you.

*Omne tulit punctum, qui miscuit utile dulci;*

“ He (says Horace) will always carry the prize who can blend the useful with the agreeable.”

Such, sir, is my opinion of your work, and which, I imagine, will coincide with the sentiments of all men of sense; my suffrage is but of little consequence to a man like you, whose name alone is a sufficient eulogium: but I always glory in acknowledging merit, wherever I find it, and being its constant admirer. I am, with all possible friendship and esteem.

Sir, your's, &c.

(Signed) GAUDON.

*Answer*



*Answer.*

S I R,

**Y**OU are very liberal when you chuse to pay a compliment to your friends, or those you honour with your esteem. As I dared not rank myself among the number of the former, you will, I hope, allow me to flatter myself that I hold some rank among the latter. In this belief I shall act with my usual frankness, and will ingenuously acknowledge, that the abundant praise you bestow upon my little essay would appear to me somewhat suspicious, if I did not know that novelty has a right to please every where: it must necessarily have made a strong impression on your mind, to produce eulogiums so far above the merit of the work; but it is sufficient to be honoured with your esteem to observe, that you study to exalt the persons concerned, as well as their works. For my part, being conscious that I am very distant from that perfection you are pleased to ascribe to my little performance, you must not be surprised at the slight impression the favourable opinion you have conceived of it, makes upon my mind. I shall not, however, now omit testifying how sensible I am of your politeness, and the obligations conferred upon me, as well as assuring you of the real attachment with which I have the honour to be,

S I R,

Apr. 11, 1749.

Your's, &amp;c.

E. M.

Limonade, June 15, 1751.

S I R,

**I** AM highly sensible of your attention, and thank you for your complaisance, in sending me the Complete Indigo-Maker. I have read it with pleasure,



sure, and find it very instructive. It must, doubtless be very useful to this colony. I return it you by the bearer. I have the honour to be, most sincerely,

S I R,

Your's, &c.

FRANCOIS DE LA VIVIAUD.

Mocha, Jan. 26, 1758.

S I R,

**I** HAVE read your MS. upon the Culture of Coffee; the experience you have acquired by thirty years practice\*, does not suffer the justness of your remarks to be doubted; but as something more than mere exactness is necessary, permit me to add my remarks to yours. I imagine you are exempted from the partiality of authors, who are apt to consider a reader's observations as criticisms.

The utility that may be derived from your work, will induce many to transcribe it, that they may always have an experienced guide at hand; they may also retrench or increase it; or, perhaps, both; but they will not diminish the glory you have acquired from the first notions you have given of the culture of coffee. Notwithstanding the ingratitude of *Americanus Vespasius*, towards Christopher Columbus,

\* As my little treatise upon the Culture of Coffee, appeared detached from the Complete Indigo-Maker; and as it is there mentioned towards the end, that thirty years experience should remove every doubt concerning the observations, made upon the whole, which includes the two treatises, I am compelled to acknowledge, that some confusion may from thence arise with respect to Coffee, as I had scarce three years experience, when the fancy took me of throwing together my remarks upon that head for the amusement of my countrymen.



the remotest posterity will be sensible that the discovery of America is to be ascribed to the latter. I could quote other examples, but your modesty would be hurt; and we will, therefore, enter upon the subject.

Coffee was discovered, according to the Maronite Taoussa Niceronne\*, by the prior of a convent, after he had been informed by a man who had the care of some goats, that he often saw his herd awake, and leap all night. This information from the shepherd induced the prior to make an essay upon the virtue of this grain in preventing sleep. He at first used it, to prevent the monks (who are naturally lazy) sleeping at matins.

You are of opinion, sir, that a plenty of Coffee would greatly reduce its price; experience would induce us to believe that this could not happen. About thirty years ago there were very few sugar-works; sugar was then very cheap: the manufacture has increased, and the price also. What then hath occasioned this revolution?—the interest of commerce. At that time twenty ships were sufficient to furnish the necessaries this colony required, and export its produce: now upwards of a hundred are required for the town of the Cape, and its dependencies: a greater number will be wanting when the Coffee is produced in greater quantities. Fear not the industry of commerce; if the merchants did not know how to dispose of your Coffee, they would not send for it. Are you afraid that you will want ships? If you reflect upon the advantage derived to the nation from maritime commerce, your apprehensions will vanish.

It cannot be conceived that Coffee, at ten sols, will not produce above six net profit: you calculate the expence at two-fifths; but it does not amount to so

\* Vide Dictionary of Trevoux.



much: for example, 200lb. of Coffee, at ten fols per pound, will produce 100 livres in money.

£. s.  
100 0

From whence deduct the expence as follows:

	£.	s.
Passage - - -	0	15
Commission, at $2\frac{1}{2}$ per cent. -	2	10
A horse two days - - -	3	0
Two sacks, at 36 fols each, which usually make 6 voyages - }	3	10
The expence of wainage cannot be calculated I suppose - }	3	0
	<hr/> 12 15	
All the expences paid, there remain of } the 100l. - - -	87 5	
	<hr/>	

*Note,* A livre is ten-pence halfpenny sterling.

This calculation clearly proves, that the expences do not amount to a seventh part; I don't mean to conclude from thence, that a great fortune is to be made; but a planter may live as well as a substantial tradesman, bring up his family, and leave his heirs the foundation of a fortune.

Though the root of the Coffee may be damaged, the tree will not perish, if, as soon as it is perceived to turn yellow, it is cut about four inches from the ground; the sap issuing no further, will form fresh branches in the first trunk: this is not, however, without exceptions; for if the stump hath no branch or twig left to communicate nourishment, it will perish before the sap has formed one

After the Coffee has produced four crops (which is known by the fading of the leaves) and there is no longer plenty of sap, the tree must be cut as  
above:



above: what risk is there? As it produces no longer, it is better to have a chance for two good crops.

Instead of lopping the flowers, some knots of the stock should be cut off, immediately after the Coffee is gathered, and the sap will spread itself more plentifully in the branches that remain, and make others grow, which sometimes bear fruit the same year. It is not true that small fruit grows only on old trees, it depends much on the soil: this may be seen in the neighbourhood of the Great River, where the ground is very light.

You imagine that the water which remains in the holes produces a good effect: but you have not determined whether you mean before or after the Coffee is planted.

Those who plant at three or four feet distance, have not, doubtless, good ground: and in this case, when they stop their Coffee, at the height of about five feet, they will avoid the inconveniencies, that you observe very justly.

The manner of digging holes with a *louchét* is to be preferred in stony grounds, as it clears the stones which would otherwise prevent the layer from penetrating. Moreover, the iron tool does not determine the depth of the hole. You seem inclined to prefer planting during the north winds; the frequent rains seem to be the motives. Our sentiments are different, as I should always prefer planting from April to August; and this is my reason. Coffee layers planted in April, &c. having but fourteen months to the August of the succeeding year, the last month of their blossom, cannot produce much, till the year after: two years have then elapsed, and they are sufficiently vigorous to bring their fruit to maturity: whereas Coffee planted at the end of the year, having twenty months to blossom in to the time of discontinuing in the second year, and not having yet acquired



acquired that vigour which they derive from age, they cannot bring their fruit to maturity ; or if they do, the sap is almost absorbed, the tree becomes sterile during two years, and sometimes perishes in the third. In a word, if I were to plant during the north winds, it would be because I could not do better. You admit that pease, rice, and maize may be planted in the Coffee-grounds ; but experience has taught me, that by planting nothing we should do better ; our lands are not good enough to nourish so many things at once ; it being certainly deprived of what the peas, rice, and maize gain : besides, if there were no vegetables among the Coffee, we might weed much faster ; and if vegetables were planted in a ground set apart for themselves, they would be planted nearer, and of course the weeds could not injure them.

A planter who has sixty acres of land well managed, has enough to work upon for fifty years. Suppose he begins with twenty negroes, and that he clears the two first years ten acres ; that he plants half of it with Coffee ; he will have 40,000 layers of Coffee, and the remainder in negroes huts, vegetable grounds, and savannahs ; let him then clear every other year a spot of ground to plant 10,000 layers of Coffee and vegetables : let him religiously observe this rule, and he will certainly have land sufficient for upwards of fifty years, and his grandson will find it so

When there is any blasted Coffee, you must shake the tree before you begin to gather, otherwise a great deal must be culled : if, however, there is any good Coffee among the blasted, and the crop should not be plentiful, it should be gathered first ; but I know from experience, that you are but ill requited for the time thus employed.

Coffee is not ripe all at once, because it does not blossom all together.

I think



I think it much better that all the negroes should share the fatigue every night, than to except a part, whilst the others are at rest: this, however, is a matter of opinion.

If Coffee is easily washed by being fermented all night, it will wash still more easily by letting it ferment till the next night: the longer the fermentation, the gum will more easily separate: by this means the negroes will have no occasion to rise before day, which is a very material object.

After the Coffee is winnowed, it is exposed to the sun; to which I add, as it is not entirely cleared of the pellicle which adheres too closely, it should be shut up quite hot, and at the end of three or four days exposed again to the sun; then put again into the mortar, the pellicle will then go off more regularly, and the Coffee become infinitely finer.

Among the number of Coffee-trees I have cut, I have found some put out three branches at each knot; in the same layers others have only two branches. I should be glad to have this accounted for.

Such, sir, are the remarks I have the honour to communicate to you; I should be glad to be near you, to profit of your manner of cultivating Coffee. I stand in need of so great a master; but the distance between us will not prevent me (with your leave) waiting upon you for instructions., I have the honour to be, with the greatest consideration,

G R A I M P R E.

*Answer.*

Feb. 1, 1758.

S I R,

**T**HE honour of your correspondence would have highly flattered me two years ago, when my sight was perfect; since then, a *gutta serena* has so far



far debarred me of it, that I cannot read any writing, not even my own, writing only mechanically, and by habit: you must not therefore, sir, expect a regular answer to your observations, which require some attention, and more particularly the benefit of the eyesight: when you have nothing better to engage yourself, you may honour me with a visit; when I may perhaps, explain to you *viva voce*, what you desire me to acquaint you with. What you may learn with greater certainty is the perfect esteem with which I have the honour to be,

S I R,

Your's, &c.

E. M.

When I wrote upon the Culture of Coffee, I had not three years experience; it was only a sequel to the Complete Indigo-Maker, and to fill a volume. I am sensible it has more the appearance of a description, than a regular treatise; nor did I intend it should appear without correction; but man proposes, and God disposes: it was, as I have before observed, nothing but a sketch for the amusement of my countrymen.

*A positive Answer to the Objections made by M. Grainpré.*

S I R,

**H**AVING somewhat recovered my sight within these eighteen months, I have lately perused several letters I found in a corner of my bureau, and by chance one of your's; and after the perusal, finding myself capable of partly satisfying you, I made the following reflections upon your observations.

As each person thinks his own way best, mine cannot chime in with the sentiments of every one; nor did I ever expect it; which may be easily comprehended



hended in the style of my little work, and particularly in the Culture of Coffee, where I only proposed my opinion with submission to the reader, and without pretending to prescribe it in preference to others. I had not three years experience, as I have had the honour to observe to you, when the fancy took me of throwing my remarks upon paper. Whether the original has been mutilated, I know not; but in the copy which is before me, I find sentiments that are not agreeable to mine. Be this as it may, I shall endeavour to answer precisely to your observations; and if I do not entirely agree with you, sir, do not imagine it is because your ideas differ from mine, or that I propose censuring them.

You set out with acquainting me with the fabulous history of Coffee discovered by goats, quoted in the Dictionary of Trevoux; tho' I was perhaps acquainted with this story before you, I was very careful how I introduced it; though it might happen that the goats, by the attraction of fruit on which they feasted with pleasure, were the first causes of its discovery, &c. but that the prior of the convent should make the trial upon his monks (supposing them lazy) to know the virtues of Coffee in preventing sleep, appears very fabulous.—Tell me, pray sir, how he prepared it, in order to know immediately the effects, at a time he must have been completely ignorant of such a berry?

You think my apprehensions are groundless, when I say that a glut of Coffee would certainly reduce the price: experience has but too clearly evinced the danger, and I am certain you will never see Coffee again sold at twenty and thirty sols a pound, as it was heretofore. Whatever you may say with respect to commerce, this manufacture is but a supplement to the others. I will, however, agree with you, that the most considerable planters will always find their account in it.

You



You say that Coffee at 10 d. must produce more than 6 d. net profit, whereupon you frame an imaginary calculation. But if you will pay a little attention you will find your error to be greater than mine.

You set down fifteen sols for the expence of freight; though you know our sacks do not exceed a hundred weight, and that twenty sols per sack is often paid; tho' our merchants pay only fifteen. A horse two days you state at three livres six sols; but no body would perform the wainage for less than twelve livres per load, though it is but a day's work.

You are not ignorant that we have ware-houses in the plains, at the foot of the mountains; from whence the load is carried by wheelbarrows to the place of embarkation, at the rate of a sol per pound, which, according to me and Bareme, amounts to fifty livres per thousand. I have seen planters at Dondon, to whom Coffee delivered at the Cape had already cost out of their pockets three sols per pound, before they had paid the commission; wherefore Coffee being at ten sols, is not the profit sufficient to live like a good tradesman, bring up a family, and leave to one's heirs the foundation of a fortune, as you express it?

If the root of the Coffee be damaged, you will have a great deal of trouble to recover it, whatever care you may take to cut it; if it buds,, it will weaken in proportion as the buds grow; and it is ten to one that they perish in the first crop.

You are of opinion that the Coffee-trees should be cut after the fourth crop; but mine on the contrary is, that this operation will exhaust them; the greatest part will fail; those which promised the most, will do the same in the first crop, if you do not take care to leave no more wood than they require to fructify in moderation. The most certain method, in my opinion,



nion, is to leave them on foot as they are, during their sterility; lop off only so much wood as appears superfluous, keep them very clean, and you will find your advantage.

Instead of stripping the flowers, &c. I have nothing to say upon this head; consult my memoirs, you will there find my thoughts upon the subject; if you do not find any thing upon it in your's, you may recur to the original.

You are right when you say, old trees only do not produce the little Coffee: this I experienced since my first observations, and have seen some that far exceeded that of the young layers. This may be ascribed to the irregularity of the seasons, rather than the soil, as this happens only in certain years.

Whether the water remains before or after the Coffee is planted, the plant does not receive less coolness from it, which I assert is salutary, as this same coolness prevents its fading.

With respect to what I say concerning planters, who plant at three or four feet distance, you conclude from thence that the soil is ungrateful; to which you add that in this case you advise stopping the growth of the Coffee layers at the height of five feet: I am sorry to tell you, that here you are greatly mistaken. I am certain that a layer of Coffee of this height (unless it be in a very deep ground) would not produce two years successively. If you have a mind to consult the original thereupon, you will see the very opposite to your opinion supported by very plausible reasons.

Your manner of making holes in stony grounds is very just: I should want sense to condemn it: I made this observation for those only, who indiscriminately plant in all kinds of soils.

Next is an article, which, if I mistake not, is founded more in prejudice than reason: you are astonished I should



should be inclined to plant during the north winds. Besides the reason I have assigned, I could destroy your's in an instant; and, as I may say, defeat you with your own weapons. You there lay it down as a principle, that Coffee planted at the end of the year having twenty months of blossom in the second year, produces plentifully; and that not having yet attained that vigour which age communicates, their fruit cannot attain maturity. When did you ever find that the first crop occasioned the least damage to the tree? The plant is so vigorous at that age, and produces so little, that it imitates in verdure the laurel: it is not, however, the same at the second crop, when the layer is in its full force, and is so laden with fruit, that it bends under its own weight, and is in great danger of perishing. It is to avoid this accident, that I advise it should be stopped at two feet and a half, or three feet at the utmost; for I have assigned an unanswerable reason, if I am not mistaken. If it is not in your copy, you will find it in the original.

You think I am in an error, when I allow the planting of rice, pease, and maize, between the rows of the Coffee-trees, whilst they are growing; but with your leave, this is not taking the literal sense of my principles, to confound all together: when I say that a row of maize, or of rice, between a row of Coffee at six feet distance, cannot any way prejudice the tree, I cannot think any planter will differ with me, but that he will join with me to profit of uncultivated land, which costs him much more to maintain when entirely uncovered, on account of the greater quantity of weeds to be taken away.

You say that a planter who has sixty square acres of land, hath a sufficiency for fifty years. I refer you, sir, to your own district, where, I believe, Coffee has not been cultivated upwards of fifteen years, if you except the three first planters; there are few who



possess less than one hundred acres of land ; now pay attention to the enormous clearings in so short a time, and I am persuaded you will be convinced of your error. Toute Sante Sufanne, which was peopled some years before, hath scarce any land left to cultivate ; so far from the planters leaving any for their grandchildren, there remains nothing for their own children but barren savannahs.

Since I stopped my Coffee at the height mentioned, I have had none that have been scalded, which proves the method to be a good one, and that the layer will produce no more fruit than the sap can nourish. As soon as it is perceived that the Coffee is inclined to scald, cut a third of each branch which is injured that moment, and you will thereby prevent its drying.

You are of opinion, that it were better to employ all the negroes at once, without allowing a part to rest. You do not then attend to the limited number employed, the overplus being unnecessary.

There is another contradiction, of which I cannot help reminding you, where you say the more the Coffee ferments, the better it separates from the gum : in this I agree with you ; but if you wait till the next day to perform the operation, you will interrupt the crop, and suffer by this delay ; and if you wait till the next night, you run the risk of having your Coffee heated, which will blacken or redden it very much.

Your method of putting the Coffee again in the mortar, when it has attained a certain degree of perfection, is eligible, and cannot fail of delivering the Coffee from its pellicle, and embellishing the quality.

Your last article is not easily understood ; nature in her productions often baffles our nicest observations, notwithstanding the basis of the most constant practice. It is not more extraordinary to see a layer of  
Coffee



Coffee produce several branches, than to see the vine-buds multiply after being cut.

This, sir, I imagine, you will consider a pretty exact reply to your observations. Perhaps you may complain of the freedom I have used in it : in this respect let us acquit each other mutually, and believe, if you please, that I take all your objections in good part. This is so true, that I invite you, and such of your friends or acquaintance, who may make some new important discoveries, to honour me with their correspondence, and give me advice ; and I promise to insert their informations in my memoirs, and give the name of each writer ; which may immortalize them at a small expence.

I have the honour to be, with great esteem,

S I R,

Oct. 29, 1760.

Yours, &c.

E. M.

T H E E N D.



## DESCRIPTION of the PLATE.

The Steeper should be 10 Feet long, 9 wide, and 3 deep.  
The Beater should be 6 Feet wide, 5 deep, and 6 long.

A. The Steeper.

B. The Beater.

C. The Receiver.

1. The Keys.

2. Crooked Timbers.

3. The Buckets.

4. The Horn.

5. The Rake.

6. The Rack.

7. The Opening.

8. Trough for conveying Water.

9. The Bars.

10. Negroes carrying Bags.

11. Stand for the Boxes.

12. The Drying-house.

13. Damfel.

14. Calabash for emptying the Indigo into the Bags.

15. The Overseer.

There is a Damfel placed in each Mortise of the Bars, having 7 or 8 Holes in it, through which a Pin goes, higher or lower, according to the Quantity of Herb in the Steeper.



