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To Thomas Keate Esquire

Surgeon General to His Majesty's Forces

&c &c &c

This Manuscript is humbly presented

By His Most Obedient

Humble Servant

Rodes Dickinson

11 Cecil Street Strand

1st September 1860

Wigmore St

Cavendish Square

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also;

Letter the First

Containing Remarks on change of Climate, — Considered as a Means of restoring the Health of Europeans, exhausted by Disease in the West Indies.

written in 1797 — transcribed — and presented to His Excellency Major General Maitland the Governor of Grenada — in April 1808 —

1. Note to His Excellency Major General Maitland

Sir

Had not the probable intention of sending invalids from this Command to Halifax become the subject of professional Remark: I should not have presumed to present you with an altered copy of some Observations on this head — first committed to paper in 1797 —

Should they afford a feeble testimony of the advantage of the proposition they are wont to establish: — I feel myself professionally bold to say that, subsequent experience would give additional and important proof — could the circumstance of enlarging on the original communication be brought forward with sufficient utility to authorize the Freedom of further trespass on Your Excellency's Leisure

I have the Honor to be
Sir Your Obedient
Humble Servant
Roder Dickinson

Grenada

20 April 1808 —

To His Excellency Major General Maitland
Governor of Grenada &c &c &c

Sir

It is more than probable were we carefully to revise that Page of the History of human affliction, in which has been faithfully registered an account of the Devastation committed by Disease amongst our brave Countrymen under the climate of the torrid Zone — that an useful lesson might be taught which it were to be sincerely hoped would tend to prevent hereafter a repetition of similar distress; as the Remedy of this Evil would be discovered in the contemplation of its original source.

But whether by an Enquiry into past calamity we might the more successfully, & without the fear of incurring the charge of presumption, recommend to public Consideration the

the means of future alleviation to suffering humanity, is a Question I will not dare to enter upon here: but in the hope of indulgence for unconscious Error — & confiding in the Virtue of a sincere desire to contribute (though in an inferior degree and limitted capacity) to the welfare of those, in future destined to serve their King and country in tropical Regions: I will endeavour to recommend a Means which Experience has taught me to believe would, if closely adopted, conduce to the Cause of humanity and to the advantage of His Majesty's Service.

The general State of Health, within this Command, bearing a much more favorable aspect than when these cursory remarks, (which I have now the peculiar Honor to lay before your Excellency) were first put to paper in 1797 — for some time raised a doubt in my Mind, both as to the Necessity & indeed the propriety of making them an object of present

present attention: — until, having re-con=
=sidered the subject with mature deliberation,
I am inclined to regard it, as formerly,
in an important point of View. I call
to Mind the dreadful extent of that Mor=
=tality, which, in the event of any great
Expedition to the West Indies, ever has
ensued: and ever must again inevitably
recur while Europeans continue to visit
a climate so inimical to their constitu=
=tions: — against the influence of
which we seem but slenderly provided
with preventive means. Hence I am led
to think that, the present appearance of
Health is so far delusive: as it only seems
to arise from a scarcity of newly imported
europeans — whenever it may, in future
be deemed necessary to introduce an Army
into the West Indies: every former scene of
devastation by Disease & its Consequences
must unavoidably suffer repetition to its
fullest extent: unless certain preventive

Powers, can be applied; or the fatal consequences from Disease when it has gone its course, be arrested, by the application of a proper remedy to regain former Health —

It is to this latter Consideration I purpose to give my present attention. —— The means of Prevention may, with your Excellency's permission, occupy the Pages of some future Letter —

From his first arrival within the Tropics, the European becomes the subject of certain diseases, which very principally take their rise from the change his constitution undergoes, by a sudden and important transition — (within a few weeks probably) from a Degree of external Temperature below 30°. of Farhenheit's Thermometer to 88°. in the Shade - 125°-130°. in the Sun on the same Scale - and this is permanent - or nearly so ——

Now whether from accidental circumstances, the derangement of the System consequent to such rapid alteration from the one to the

+ This suggests the remark that, in an enlight-
-ened & able discussion of the Subject (here
but very imperfectly touched) the consideration
of the Effects produced by the Operation of
Climate on the Mind would claim peculiar
attention. I have long been led to form an
opinion, that the influence of the Mind under
the several Stages of Tropical Disease would, if
rightly investigated & sagaciously managed,
prove of great benefit to the well being of
the sick Soldier —

other extreme of atmospherical heat (with other changes) proves at once severe as in the event of ardent Fever &c &c — or, on the contrary, gradually undermines the constitution by insidious approaches: without appearing to produce any formal attack of acute disease; or, after a long residence, presents the enervated & worn-out system to the influence of morbid powers, against whose operation native vigour had hitherto made successful opposition: In either case the result will be found much the same: for should he (the european stranger) survive, we find him soon losing every former trace of a once healthful Frame: while a sallow complexion, un-energetic Mind, and a state of indigestion, visceral obstruction, & general emaciation &c — manifest the consequence of his transplantation into a foreign & unfriendly Soil —

1. from change of climate

2. from seasons or marshy situations

3. as sometimes occurs in Ships -

I am therefore induced to remark, in the next place that, whatever may have been originally the particular Disease with which we shall suppose the Northern stranger, in the West Indies afflicted — or, whatever its peculiar exciting Causes. Whether it have been Fever, endemic[1], epidemic[2], or contagious[3], Dysentery &c — a common consequence ensues. After the decline of its formal paroxysm: when the fever has subsided — or the symptoms of dysentery &c ceased to torment the miserable patient: — a state of Debility almost invariably succeeds: and the influence of climate then, very evidently proves an insurmountable obstacle to recovery from this condition: — notwithstanding we should take leave to suppose that, in the production of the original malady, an excessive degree of temperature or change of climate, abstractedly considered: had no concern —

Should it therefore be presumed that, the

the heat of tropical climates, (continued & permanent,) has frequently little or no share in the first production of an actual attack of acute disease; — Experience has given unequivocal testi=mony that, its subsequent influence, on the constitutions of those exhausted by illness however first acquired; — often opposes itself a most formidable Barrier to the return of pristine health —

Europeans in their native Country, having undergone disease, re-gain a degree of strength within a few days or weeks: which, no space of time can accomplish, under similar circumstances, in this Climate —

— The insuperable difficulties which often attend the healing of trifling ulcers — the rapid progress they are sometimes known to make, from a slight abrasion of the cuticle, to large, inveterate, & gangrenous Sores; — the in-efficacy, at times, of every medical & surgical instrument for their Cure; however judicious & esteemed its application; and the surpriz=ing improvement they make whenever

recourse is, providentially had to change of air and climate: afford equal testimony of the powerful agency of a West India climate over the lives of such as have not been accustomed, from nativity to its Influence; & at the same time, manifest the wonderful advantages to be derived by change in this respect.

The State of debility I have mentioned, as the, almost invariable consequence of tropical Disease:—— has, in my opinion, been too vaguely considered & denominated, a State of Convalescence. This I take to have been an Error, at times of singular moment. For, instead of a gradual approach towards recovery by the daily acquisition of strength; which is the condition of the living body expressly implied, in my apprehension, by that term; a case in direct opposition here presents itself; namely, a depression

depression of strength, which every moment falls still lower — until, at length, exhausted Nature sinks; & Death usually terminates this period of convalescence; if an undeviating & constant progression towards the Grave can merit the appel=lation of a recovering state: but which, I should think more proper to denominate the state of emaciation consequent to almost every tropical Disease: whose termination will be oftener found in death, than in the gradual restoration of strength and health —

Of the Number who have fallen the Victims of Disease in this Climate, within my own observation; a considerable proportion have escaped safely from its acute & formal attack; who have lingered afterwards in that state of exhaustion, which has already been mentioned as the usual consequence of severe morbid condition — at this period

maintained — nay indeed hourly augmented by the enervating action of Climate. Thus every further hour subtracts a portion of the little strength & Life remaining; until after a continuance in this enfeebled state for an indefinite time, during which a miserable proportion have sunk into the Grave; the few remains of a once crouded Convalescent Hospital are saved from destruction by being brought before a medical Board: when, such as on examination are deemed proper Objects, being invalided and sent to Europe; seldom fail to recover on their passage home, or soon after their Arrival —

On a consideration of the foregoing circumstances, I cannot but lament the detention of Convalescents of the above description, with the erroneous and fatal Notion of their recovery under the powerful influence of a tropical Sun; in a Country where Marshes

surround so many of the military positions of any consequence: and lastly, where under the best regulated discipline, intemperance will always be found to make its destructive inroad — the parent of every other imprudence — the effects of which, when co-operating with climate, are in ten-fold degree —.

Under these circumstances, I have already remarked that, more deaths take place from the debility consequent to the attack of Disease, than during the period of its formal paroxysm. This, in my opinion is much indeed to be lamented; as by removal from the immediate cause of mortality — here a tropical climate; (under the further influence of which there is not any hope of recovery); both the Cause of Humanity & His Majesty's Service would be amply repaid in the preservation of many valuable Defenders of their King & Country.

In confirmation of the Truth of the above remarks, an obvious instance occurred some time since: when an expected return to europe from this Country, was delayed by a detention at Halifax Nova Scotia, with invalids from these Colonies — and which, as it may in some part tend to elucidate, by an Example, the preceding observations; I will take the liberty, in the next place to briefly narrate —

Early in 1797 — the black Charaibes from St Vincent were sent to the island of Ruattan, to leeward of Jamaica, under the guard of, about 300 invalids: from whence, we continued our Voyage, and arrived at Halifax — the beginning of June.

We had now nearly 100 Sick requiring medical attendance. chiefly cases of extreme debility from previous fever or bowel complaint; together with a considerable number of old inveterate ulcers: many of which were more than of 18 Months continuance. but

our Passage from the tropics had been too quickly performed to allow of much advantageous change while at Sea; but soon after arrival at Halifax, the general recovery of the Sick became a subject, well worthy of admiration. During my stay (two Months) we lost but one invalid: who was indeed so much exhausted when he first landed as to afford no hope of his recovery: and I am fully persuaded from the debilitated state of many on the Voyage who now became healthy & strong; that, had they continued much longer in a tropical climate; — not one in twenty would have (most probably) survived this period. — Many of the worst description of ulcers, in a very short time after our arrival — having in the West Indies resisted every effort of ability, care and attention; now, without any other Cause than such as might justly be attributed to change of Climate; began

began to assume, very generally a healthful appearance; — and several healed: while Men unable to walk at their first arrival — from extreme weakness; were, at this time so far recovered as to take a share of the garrison duty. Such, it appears were the invigorating powers of diminished temperature on the living system, exhausted by the continued inordinate action of excessive heat —

From what I have been able to advance in the preceding Paragraphs — I am inclined to an opinion that, much benefit would result to His Majesty's service & the general good of Mankind: if a more regular and frequent change of air and climate, than has hitherto been practised, were recommended and adopted for the Recovery of those who may suffer from the great Debility which usually succeeds to the Diseases of this Climate: or, indeed to a long residence in the West Indies, under the most favored

condition of Health —

I must however confess myself unqualified to do more than hazard an opinion, (& that with every diffidence) on the most eligible method of carrying into more full effect than has yet been generally done, — the regular and frequent removal of those who have been exhausted by Disease in the West Indies as such, I beg to solicit your Excellency's indulgence, hoping you will pardon me for using the freedom, before I do myself the Honor of concluding these cursory remarks: to suggest an expedient which I am inclined to think would be found to answer the intention I have in view: supposing it might be permitted, on some future occasion, to be subjected to trial —

First. I should beg leave to propose that, one or more Vessels, of approved descriptions; — commodiously fitted up for the purpose of receiving proper objects — with a sufficient medical Staff attached — be considered

to form a part of the army hospital establishment.

Secondly — That this (projected) convalescent Ship, should receive a due proportion of invalids from the different Islands: and then proceed to Sea towards higher Latitudes.

Thirdly — It is also to be recommended that, an Hospital be established at Halifax, for the reception of such cases only, as might be found irremediable by the Voyage from the Colonies, without more permanent change.

Such as had recovered on the Passage, would be returned, without ever disembarking, to their respective regiments: together with those in the Hospital at Halifax, Whose Health on the departure of the Ship, might be deemed sufficiently well restored, to be discharged the Hospital —

Several circumstances point our North America as being an eligible convalescent situation. Of the salubrious tendency of the climate towards the restoration of strength - dissipated under the heat of a tropical Sun; I have already obtruded a pretty

strong Testimony on your Excellency's time & patience; and I think another, not inconsi=
=derable advantage would be derived from the proximity of the Continent to the islands, as the Voyage, under favorable circumstances, may be performed in two or three Weeks with great facility —

Should it however be conceived inexpedient to establish an Hospital at Halifax as now proposed: much advantage, it is presumed might be derived from the employment of the Convalescent Ship alone: which would give a fair chance of recovery to many: while such as after this experiment con=
=tinued in a low & debilitated condition — neither fit for present West India service, nor likely to become so without change; such, I beg leave to say, might be at once set down incurable here: & should a Voyage to Europe in consequence be deemed necessary; I would, on this

this latter supposition beg further permission to recommend that an Hospital be establish=ed at Falmouth: and that the government Packets should have instructions to accom=modate any convenient number of Invalids: — with the two fold intention of taking them to England for their recovery: and of returning them, when well enough to be discharged from Hospital, to their re=spective regiments in this Command.

The return of many to their duty in the West Indies might, by a provision of this Nature, be pretty certainly secured: which would in part diminish the necessity of re=placing them when dead by those youthful Recruits, who are the genuine Victims of tropical Disease: besides that, it would be the means of supplying such subjects, as having been previously seasoned, might be considered better able to contend against an intemperate climate;

While from an acquaintance with its Evils & in part perhaps their remedies; they could also the better succeed in future in preventing Disease, and in preserving the inestimable blessing of Health: which in a tolerable degree is even here within the reach of such as are somewhat seasoned — & who are happy enough to be possessed with prudence & moderation

I am truly sorry to discover that, after taking up so much of your Excellency's leisure the subject I have attempted the discussion of, has been so lamely and incorrectly touched. Further experience, may I hope, under the plan I wish to recom=mend, more worthy your Excellency's consideration. With the Greatest Respect

I have the Honor to be
Sir Your obedient Servant

Rodes Dickinson

Grenada 20 April
1808 —

Letter the second

Containing Remarks on the Means of preventing an attack of the inflam=matory Endemic incidental to Europeans on their arrival in hot climates — popularly the

Yellow Fever.+

NB.+ It is presumed to be the "Endemical causes" of Dr. Moseley — the "putrid bilious Fever" of Hillary: the "Typhus icteroides of Dr. Wright: & the "concen=trated Endemic of Dr. Jackson.

2. Note to His Excellency Major General Maitland &c &c

Sir,

The important subject of the preservation of Health and prevention of Disease among the army in this Country which occupied some part of the labors of the late Board of Health — has since been ostensibly revived in the House of Commons — with an assurance, on the part of Government that it is an object which shall not fail to receive attention. If Your Excellency is of opinion that an Experience of nearly thirteen Years may be presumed to authorize a person of the medical profession to contribute the result of his Observa=tion: — I may aspire to hope that, as Your Excellency once before permitted me to lay before you my Ideas upon another subject equally connected with the preservation of human Life; — You will do me the Honor to accept the Manu=script which accompanies this Note: and which I have written in the View of contributing my Mite towards establishing a successful plan for preventing Diseases on the Principle of an Enquiry into their real origin & producing Causes

I have the Honor to be &c

Grenada 1808 — Rodes Dickinson

Grenada 1808

To His Excellency Major General Maitland
Governor of Grenada &c &c

Sir,

Your Excellency having condescended to receive some cursory remarks, I had the Honor to present you with, advising a means of repairing the injuries sustained by our soldiery in consequence of suffering by Disease in this climate; I trust I shall not presume, in now venturing to lay before you, such general observations as I have been induced to make in the course of nearly thirteen years Experience - on the surer ground of preventing a Disease, which cannot be denied to have occasioned a dreadful loss of human Life: and

* On the subject of this Letter, it has been moved in the H. of Commons 30 June 1807 — "That there be laid before the House a statement of the number of Troops sent to the West Indies — from the 1st January 1797 to the 1st Jany 1807 — distinguishing the Officers under whom they were sent, and the deaths that happened in each year" ——— Though an accurate retrospect of the quantum of Evil incurred by sending Troops to the West Indies might be supposed to operate as a powerful stimulus to future preventive exertions: — could it be imagined any such spur were required. yet this painful investigation into the suffering of Humanity, even though instituted on fair, candid, & most certain ground; demands a delicate & judicious management: being otherwise cal= =culated to do irreparable mischief, by raising emotions, & sometimes false apprehensions in the Minds of those who, from partial not to say unfounded Histories of Disease & mortality, without being able to form an adequate judgment of the Cause; ——— hold a West India (perhaps unavoidable) Tour of

and which continues to be most sensibly experienced on the first arrival of every Regiment from the Parent Country — *

In the Remarks I had the Honor to submit to Your Excellency's consideration in my last Letter: — I expressed myself of opinion that whatever Cause produced any severe tropical Disease — or, whatever Character it might assume in its commencement or progress: a common Effect would ensue; — remediable by a general Means, — namely. Change of Climate. —

It seems to be otherwise in an Endeavour to establish a successful Rule of Prevention. One Effect, — a general depression of the powers of Life, with its peculiar concomitants — is the most usual result of every tropical Disease afflicting the European; but, in their first production very different Powers operate: & it is only by any acquaintance with

Tour of duty in such dread - as of itself proves, not unfrequently more baneful to their Health and happiness than the real morbid influence of the climate they fear -

The evil is only to be overcome by pointing to the proper remedy: not by repining at its occurrence. The View endeavoured to be held forth in this Letter is solely directed to advise a plan for preventing future calamity. It looks to a chearful Perspective of that which may be attempted to ameliorate the condition of our Countrymen destined for West India Service: — without casting a glance at the hitherto fatal consequences of Error or Neglect; or, of such consequences as must ever (partially at least) result from the necessity of sending Troops at all to this Climate — even under an adoption of the best schemes for preventing Mortality —

with the producing Causes of Disease, that we can hope to establish any maxim for their prevention.

The preservation of Health depends upon our avoiding the Causes which excite Disease: or by obviating their effects - if those are unavoidable. - and by so regulating the condition of the (yet) healthy system as to correct Predisposition -

Many distempers - even of very similar external character arise from different Causes. No general rule therefore can be laid down for their prevention: and experience has abundantly testified that a prophylactic in one instance of complaint, may be an exciting morbid Cause in another: while the particular Habit of body to be corrected & that to be established anew, under certain circumstances, may in others lay the ground for an attack of Disease - Therefore, a general Rule of Prevention will not here apply -

+ In such cases, reducing the strength of the body by Bleeding and other Evacuations has done infinite mischief. I speak from actual experience of the fact –

This receives elucidation by considering (for example) the preservative Means against the morbid action of marsh, and confined human Effluvia occurring as a Cause of Fever amongst those broken down in this Country[+] — when contrasted with the plan which should be pursued towards guarding the european constitution, on first coming to this climate — against the ravages of the inflammatory endemic or yellow Fever —

I consider the inflammatory endemic or that Disease, in more express terms which is almost exclusively incidental in the West Indies to persons arriving from higher Latitudes, — a Disease of climate strictly: to an attack of which the northern stranger is peculiarly liable in all situations — even under every possible circumstance of common prudence and precaution —

But the remittent & intermitting Fevers of

+ When the constitution has become thus assimilated, there is little comparative risk of an attack of the in-flammatory endemic: — certainly not much, unless from an extraordinary exposure to the exciting causes, aided by a strongly pre-disposing habit of Body and Temperament. — Persons so inured by residence as to be thus no longer liable to the ardent or fever of climate incidental (exclusively) to new comers, enjoy very good health in the West Indies: — at least - a complete freedom from the "Yellow Fever" - and indeed from all fever, unless they become exposed to the inclemency of particular seasons; or, are placed in situations open to the influence of marsh mismata or infection; which under any climate operate by inducing remittent & intermitting fevers, as also bowel Complaints -

The continued operation of climate however, very certainly exhausts the european constitution, as I have elsewhere noticed. But in so far as Health may be considered to depend on freedom from Fever (the Disease, in one or other shape - of all others productive of the most extensive ravages: whether as arising from the operation of tropical climate on new comers: or, as being derived from Marsh Effluvia &c.) - in so far, I beg leave to say the

of marshy situations; as well as the Epidemics of particular seasons — together with the more rare occurrence of Fever of typhoid Character, are local and in great measure confined to such places and periods of season &c as favor the generation of their cause. — they appear to me essentially different from the inflammatory endemic (yellow Fever) of Strangers: & in decided preference attack those who may have become inured to the climate — who are weakly and worn out: & who have, from length of residence found in great measure a happy exemption (by gradual assimilation) from the ardent fever which so dreadfully preys on the unseasoned constitution +

Under a View of these different circumstances, we must advert to different Rules of preserving Health. ——— In these Pages, I dare purpose no more than to consider the

the following military positions may be considered highly salubrious. Namely, Brimstone Hill St. Kitts, Richmond Hill - Grenada - Monk's Hill Antigua, & Fort Charlotte St. Vincent.

I speak here also from my own Experience: having been stationed in them ule: and I consider them situations in which seasoned Troops may live long in the enjoyment of good Health ———

the prevention of the inflammatory Endemic distinguished as above from those Diseases which have their origin in different Causes, both predisponent and occasional.

Predisposition to the inflammatory endemic appears to consist principally, in a state of the System, which has been named a phlogistic or inflammatory Diathesis: hence we perceive the subjects most liable to its attack, to be such as usually partake of that disposition — those of considerable, apparent muscular strength — who posess a powerful contraction of the fibres of the arterial system. — youthful, plethoric & of sanguine temperament. Those especially of costive habit — and such as do not perspire freely on this change of climate —

The Causes, most obviously exciting the Disease in new Comers thus predisposed are;

1st Exposure to the Heat of the Sun in great degree, while yet un-accustomed to the direct influence of so powerful a Stimulus —

2dly

2.ndly Violent muscular, & perhaps mental exertion.

3.dly Intemperance in eating and drinking - Indolence and inactivity increase predisposition and should there be also auxiliary causes not taken into this account - or others unknown to us in the production of this Disease: we can only consider them alike calculated to operate the same effect: we may, at least hope that the means of pre=venting the morbid action of such as are manifest & sufficiently obvious, will be adapted to oppose the operation of any other concurrent noxious power not taken into particular consideration or not at all times clearly distinguishable -

It may be proper also to observe here - that on the general scheme of preventing Disease - there are many salutary means alike applicable to each particular & even opposite class - I have known men take the inflammatory endemic under intoxica=tion from the operation of a powerful

+ With respect to dress; the lightest and coolest should be preferred — unless we are obliged, at once to expose ourselves to the inclemency of season — the night air, or violent Exercises — in which case, flannel should be recommended: and equally avoided, if the New comer can command his situation, & degree of Exertion. For it is calculated to induce irritability and subsequent Languor and debility. — perhaps a susceptibility to the operation of morbid powers —

stimulus during the period of its action as such; another Man takes low marsh Fever the day after a similar debauch — from the debility which always succeeds so dreadful an excess of stimulation. In each case moderation would have been the Golden Rule of preserving Health — and so of many other Examples —

Having premised some of the chief circumstances which appear to regulate the causes, both pre-disponent and occasional of the Disease we are wont to prevent; —— I shall, in the next place beg leave to suggest the means best calculated in my opinion to so salutary a purpose: the principal of which are — bloodletting, purging, spare diet, abstinence from wine & spirituous Liquors: with some others of less moment.+

On approaching tropical Latitudes, we should seldom delay taking a certain quantity of Blood — The measure of which,

+ This, and some other Notes which follow, are introduced, as they afford a strong collateral evidence of the propriety of the preventive Means recommended in the Letter —

Note.

"The Officers of the army and navy who have leisure and can be prevailed upon, on their arrival in the West Indies to undergo one or two courses of Mercury, take a few laxative Medicines, after confining themselves to a moderate use of Wine, & living chiefly on Vegetables for the first two Months after their arrival, may rely, almost to a certainty, on escaping the Fever" Clarke Dominique —

"A Detachment of Dutch arrived at Port au Prince — all subjects of West India Fevers. The entire were blooded freely: and on the subsequent Morning took each a dose of Physic — only two died in four Months.

together with the propriety of repeating the operation must be determined by the several circumstances of Age, sex, Temperament &c of individuals — as also by the general condition of Health. These it is presumed will be taken into careful account by the attending medical officer.+

When venesection has been employed, a purgative should be exhibited: and a preference is here given to the neutral purging Salts. The several circumstances alluded to above, as necessary to ascertain the quantity of Blood which may be prudently and efficaciously withdrawn from the system: will equally determine the more or less frequent repetition of the purgative. — Should it be deemed advisable not to repeat the dose of purging salts, or of Calomel combined with

+ The Imperial I mean is a purgative Lemonade, made by pouring in the proportion of a pint & half of boiling water upon half an ounce of the cream of Tartar. Let it be sweetened with Sugar & drank when cool —

* The mention of Condiment leads me to suggest the advantage that will, most probably accrue to the youthful subject of Yellow Fever — by abstaining from its use, while a tolerable share of appetite continues. It is early enough, in my opinion, when the enervating effects of climate have undermined the Constitution & disturbed the digestive faculties to have recourse to their aid. It is, doubtless, an effect of the climate to impair the office of the digestive organs: — and, in such case, the benevolent Author of the World has bestowed a Means of reparation. But Men more frequently seek the opportunity of using Peppers, Spices, Sauces & Drams, because they like them, — than as they judge themselves to require such assistance —

Jalap — in case that form of purgative be preferred: — the Bowels should, nevertheless be kept free by the exhibition of Imperial as common Beverage.†

With these, it will be highly expedient to adopt a plan of reducing the usual scheme and regimen of diet. To diminish, if not at once the quantity — at least the stimulant quality of the aliment made use of: by substituting in a certain degree, vegetable for animal Food: using at the same time but a small proportion of Condiment.*

A total abstinence from all fermented liquors — unless contra-indicated by some unlooked for contingency should be strenuously enjoined: — permitting at the furthest no greater Latitude of Indulgence than a Mixture of Wine with Water. This indeed may generally be adviseable on our

arrival in the Country - to lessen the debi=
=litating effect of profuse perspiration -

In addition to the above: cold bathing used early in the Morning may be commonly recommended - three or four times a week: and I may here remark, that the constant employment both of mental & bodily exertion in moderate degree: will always demand the attention of those to their charge; who may have the im=
=portant duty of regulating the preservation of Health —

Nor should we rest satisfied with any single application of these Means. — Experience and good sense will direct us to a judicious repetition of them when necessary on the progress of the Voyage: & in most instances we shall discover our safety in having recourse to the same measures of prevention at our arrival in the Country.

What I have hitherto taken the freedom to advise more particularly relates to the circumstance of correcting the Habit of Body most congenial to the operation of the exciting Causes of the Disease. But an important rule of conduct in the plan of Prevention will be found in our successful endeavour to avoid the morbid action of those exciting powers themselves - and upon these I must next beg your permission to expatiate. — They are. 1. Exposure to heat — 2. Violent exercises. 3. Intemperance.

1. Without the co-operation of violent exercise, - intemperance, or any other known - concurring Cause, — the inflammatory endemic has been found to arise from change of climate only — that is to say - in consequence of a sudden transition from a low to an intense & permanent degree

of external temperature. This being the case, — a most important rule of prevention should seem, to avoid exposure to the sun's direct rays - and such in truth it is - But when we consider the Duties of a military life, & likewise attend to the many circumstances which lead the unwary stranger to seek his (almost) sure destruction under the burning Rays of a tropical sun to whose powerful influence he is as yet un-accustomed: —— we shall feel dis-inclined to dwell much on the subject of avoiding heat as a necessary precaution: — too well convinced of the futility of advice on this Head: even when the admonition might be welcomed & practised: while at the same time we are aware of its impractibility in many instances on public service.

It is nevertheless our duty to recommend

+"The stimulus of excessive external Temperature when constantly applied to those unaccustomed to it, induces a contraction (apparently) of the orifices of the extreme Vessels of the skin, in consequence of which they do not pour out a proportionate quan=tity of perspiration" - In this case, Dr. Currie has justly observed "disease must ensue from the direct stimulus of heat" - and if, the necessary quantity of perspiration takes place the system is enfeebled by the Evacuation". Upon this observation principally rests all our plan of preventing the inflammatory Endemic on the one hand: — & of repairing & sustaining the living Energies on the other - When these are exhausted by the impression of climate —

the stranger to avoid as much as possible exposure to the sun's rays: until his constitution has become inured gradually by Habit to the impression of so great a degree of Stimulus. +

Were we speaking more universally concerning the preservation of Health than as regards our endeavour to avoid a particular disease only; —— it would equally be our duty to caution the New-comer of the danger attendant upon exposure to sudden alternations of external temperature —— the inclemency of Season, and the night air and damp. so hurtful to the strongest, & even to the best seasoned constitution at all times — still more especially while the body is under profuse perspiration —

Could the Soldier command his choice

of situation, on his arrival in the West Indies, he should, (in common with all other Europeans who are desirous to consult the preservation of their Health) so soon as he lands in the Country repair to some dry eminence in the interior: where, elevated & at a distance from the Sea shore he would not only breathe an atmosphere comparatively cool, & on that account alone salubrious; but would likewise be placed beyond the reach of manifold other causes than climate, productive of Disease.

Experience however has taught me to be of opinion, that no situation or season can be safely said to offer perfect security to the european on his first arrival & pre-disposed as already mentioned.— but regarding excessive heat as a principal exciting Cause of the inflammatory endemic; every

material rise above the level of the sea is entitled to much consideration as a good ground of prevention.

I have remarked in the foregoing paragraph that no situation or season entirely exempts the stranger from the possibility of an attack of the Endemic - Yet must I nevertheless observe that the degree of danger is, probably proportioned to the periods of departure from northern Latitudes & subsequent arrival within the Tropics -

To provide in some measure against the consequences of a sudden change of climate, from almost one extreme to the other in the scale of temperature; it has been advised (& I think very judiciously) to season english troops by previously sending them to Gibraltar, or some other situation

situation, which might equally present a salutary medium: While it has likewise been recommended still further to diminish the Evil we speak of, by endeavouring to recruit the West Indian army with a description of Men — who have passed that period of their life, so peculiarly favorable to the invasion of inflammatory Disease —

Of the expediency and indeed practibility of adopting any such plan as suggested above — I profess myself altogether unable to issue an opinion: — it nevertheless appears to me to be incum=bent with us to state, regardless of seeming difficulties — every means of sufficient importance towards fulfilling our intentions for the benefit of the Service & of those engaged in it: and in this view I beg leave to remark that from having

having attentively noticed the more frequent exemption of middle aged men amongst the varieties which meet together in any single Battalion: and having moreover remarked a very important difference in the general suffering of regiments on their first arrival; according as they had reached this Country in the coolest or most sultry Months: I cannot but hazard my belief, that if the method of recruiting above alluded to, were feasible and convenient to the purposes of Government: and if a preparative seasoning could be given to british troops by first sending them to a medium climate —— while the cooler Months were selected for their arrival in the West Indies. —— that under such regulations much mortality

would be thereby prevented:— in so far at least as might be occasioned by the in=flammatory endemic incidental to northern strangers—

2. As severe exercise in torrid Climates can never be performed to any great extent without co-operating with excessive heat; so undue muscular exertion — it is pretty obvious, in my opinion, must prove invariably hurtful to the unseasoned European Constitution — by encreasing the heat and action of the whole circulatory system. What has been advised therefore on the subject of avoiding heat — applies in this place with equal propriety —

But, as it would be truly absurd to enjoin the soldier to remain at rest, whose duties may

+ "About the year 1780, at[1] the time military operations were carrying on in India, the 72 Regt. soon after their arrival: in one March left behind them 200 men — Many of these expired almost instantly through mere oppression from Heat and Fatigue. The greatest number of the rest died of Fevers in consequence" —

"In June 1794: the[2] army in Flanders had long and fatiguing Marches between ostend & Ghent. The weather was unusually sultry. Several of the Soldiers then dropped down in a state of insensibility or Coma — Others were seized with apoplectic symptoms: & all were bled & relieved by it" —

"In India — in 1797 — An European Regiment[3] just arrived, but very much addicted to drunkenness: — after a Night's debauch were taken out in the Morning to be marched a few Miles, to sober their Senses. The Sun rose — the men lagged — many dropped. Six were brought in dead. 100 were taken to the Hospital & several died with Fevers."

Christie's remarks on the Effects of heat & Fatigue &c

may be inseperable at times from laborious exercises: — we may only caution thus far: — that whenever it can without injury to the public service be dispensed with — excessive exercises should be avoided.+

I cannot help observing here, what seems to me, upon this head, a mistaken notion of very pernicious tendency. Namely — that muscular exertion should be considered so absolutely necessary towards the preservation of Health in torrid Climates as to have induced the condemnation of the benevolent practice of Government — in supplying Regiments with Negroes, to do the laborious duty of Pioneers — Such an

opinion, with the recommendation grounded upon it, should be received with much caution. For, if experience has evinced that the Hours of indolence which have sometimes followed exertion in the Field, more certainly draw after them the Soldier's destruction: — yet should it rather seem to be the <u>united</u> effect of <u>temperance</u> (which is more strictly observed on actual service) both in diet and exercise, than excessive labor & fatigue exclusively which tends, under such circumstances to the preservation of health — The leisure of debauchery which too frequently becomes the inseparable companion of those ill fated hours of indolence and inactivity should be likewise - equally avoided with inordi-

=nate exercise; while another Cause of Disease (it may be here remarked) often arises when Troops retire from the field, in the unhealthy situations where they are of necessity quartered - a fertile source of malady and much con=
=sequent Mortality —

The expediency of occupying these unhealthy Positions has been called in question. It is however a consideration foreign to my present purpose - and is indeed a subject otherwise incompa=
=tible with the Nature of professional duty - than as it becomes us to investigate & detect every producing Cause of Disease -

The best means of obviating their Effects may, with your Excellency's permission, occupy hereafter some pages on the prevention of marsh remittent and intermitting Fevers, as these occur in several West Indian Garrisons —

On the Subject of Exercise I shall conclude by advising moderation, as the golden rule of conduct when practicable — — as comprehended under the regular and constant employment both of Mind and Body which duty when directed to its Object will at all times necessarily and most providentially impose — thereby, at the same time preventing the evil of greatest magni=tude — the worst fruit of Indolence

Intoxication with its concomitant effects —

3dly — The many obstacles which might prevent the fulfilling our intentions in respect of avoiding excessive heat or Fatigue have here no place. Heat must often be indured — Labor and Fatigue we must, as frequently be obliged to undergo. The public service may require these which are amongst the common accidents of War; but no man is obliged to be intemperate —

With respect to the common use of Wine, as drank by almost every person whose finances will permit

the indulgence —— and whose age and sex are supposed to entitle them to its use. Under the invaria=ble rule of moderation — (should nothing particular arise against it) I see no ground of objection after the inflammatory disposition on the first arrival has been sufficiently reduced. For besides that it conduces to dispel the gloom which sometimes overspreads the Minds of those who languish after distant Friends & native Country: it counteracts also, in some measure the debility which is the consequence of an immoderate perspira=tion. Nay I shale go the lengths

to advise that a moderate quantity of wine be not only permitted but enjoined in situations where bowel complaints of a certain character prevail — & where we may have cause to apprehend the influence of contagious or marsh Exhalation It is however very idle to imagine, & dangerous to advance an opinion: that by drinking Spirits or wine, we shall thereby fortify ourselves against an invasion of the inflammatory Endemic — the Disease of new comers. arising from change of climate. Yet, within the limits of my observation this has become at times so

prevalent an opinion that, I have frequently heard some of its chosen Disciples very seriously express their fears that a sober hour might give the Disease an opportunity of attacks. When this example proves infectious, it is well calculated to destroy more Men than the sword and Climate together, without such aid.

As however some of these Philosophers have now and then lived extraordinary, (and perhaps fatal) exceptions to our Fears of drunkenness - rather than to our universal rule of moderation: - so this, their singular conservative

doctrine has seldom failed in gaining ground under the auspices of many able Masters. But the inebriate school thus triumphantly reeling in admiration of their darling spe=-cific and preventative — seem to have neglected a circumstance, in the calculation of their success — not unimportant: — namely, that to every individual Drunkard who escapes with safety their fiery ordeal, at least a hundred fall its victims, while few Women or Children; — I may add French or Spaniards die of this Disease — who seldom if ever they drink

to excess — In a word, whatever power we may allow wine to possess in restoring strength: or in securing the well-seasoned and reduced constitution against the baleful influence of marsh effluvia or of other Diseases directly debilitating: I am well convinced, by experience, it can possess no such preservative quality against an attack of the Endemic — to the nature of which disease, its operation is congenial, & it should therefore, for a time be carefully & sparingly used by every stranger who arrives in this Climate from northern latitudes — more especially should he possess a

+ The following Note is transcribed from a Report I did myself the Honor to make in 1801 – to the Head of the medical Department in the West Indies "On Fever as it appeared in the 1st. Batt. Royals at Saint Martin" — when I was Surgeon to that Regiment.

"Many men were attacked with the first symptoms of the Fever, while rendered wholly insensible of their very existence, by a shocking state of intoxication. Which, every possible exertion of the best regulated Discipline could never effectually prevent. Nor could the most sedulous Inquiries ever lead to a detection of those unwary Men who, in some instances conveyed Rum into the wards of the Hospital – A practice not unfrequent amongst those who referring their present exemption from Disease to a preventive Virtue in the dreadful abuse of strong drink – gave an unlimitted loose to the most destructive intemperance, which no dread or

temperament and constitution favorable to the invasion of inflammatory Disease.

The consideration of wine applies to ale fermented Liquors — and to every expe=rienced and candid practitioner in Medicine — or other accurate Observer: it is but too well known what have been, at all times the dreadful consequences of excess —

On the still more pernicious, but too frequent custom of dram drinking, grog drinking, or any other poisonous means of debauchery & dissipation, which may be had recourse to under

example of punishment was sufficient to check"-

the pretext of preserving health by those who cannot withdraw themselves from their favorite enjoyment: I shall remain silent in an unlimitted and entire dis-approbation — not un-mixed with pity for their conduct & too probable dangerous condition — for I am well aware "it is not easy to engage men to break in upon established habits; or to renounce the pursuit of Pleasure: and particularly to persuade them that those practises are truly hurtful, which they have often repeated with seeming impunity —"

I have only touched upon, and that but cursorily the means of preventing an attack of one Disease, which has been more particularly regarded with terror, by its preponderating influence in the dreadful Scale of Mortality amongst newly arrived europeans. Other Diseases unfortunately await the northern stranger in this Climate, but none to which he is so peculiarly the chosen victim. These also may frequently be avoided by attending to their Causes. But it too generally happens, that in the enjoyment of present health — we regard it a

a Possession is permanently secure: that few pains are taken to preserve it from impending danger. Hence how often do we become almost, as it were un=necessarily afflicted with maladies in this country, which we know from woeful experience to be ir-remediable in our Hands — neither our art or utmost care being equal to stay their fatal course - although prudence might have prevented their first invasion had her salutary Counsels been timely consulted.

In endeavouring to trace the History of the inflammatory Endemic in

* It may not, it is presumed be impertinent my mentioning that during nearly thirteen years Tour of West India duty; — I have been stationed in the several Colonies of, Barbados, St Vincent, Balisieau, Martinico, Trinidad, Dominica, Antigua, St Bartholomew — St Martin, St Kitts, Antigua again, Barbadoes a second time — then Demerara, — Berbice — and lastly Grenada —

a pretty extensive field of Experience, I have seldom failed in discovering its origin to be very intimately connected with an un-necessary exposure to the hurtful exciting Cause: or to be more or less under the dominion of some glaring & extravagant act of imprudence — After all — we must not presume that by any scheme however plausible and well supported it may appear: — to prevent entirely the visitation of sickness and mortality, the inevitable condition of mankind — who, however by their own actions often court destruction. "Men who change

+ I am aware it would occasion surprize in some, & severe reprehension from others — that in any tolerably rational scheme of preventing the "Yellow Fever" — the employment of Mercury has scarcely been noticed. Indeed, the fashionable Character it has obtained, entitle it to Consideration. Therefore, I beg leave to submit my opinion of this, as one preventive & curative specific — by transcribing the following Note from my "Report" mentioned before — "on Fever as it appeared in the 1st Batt. Royals —

"Mercury did not appear to possess a preventive power — as Men under Ptyalism — excited to a gentle extent for the cure of Syphilis, took the Disease very readily — Nor did it, on a fair trial, appear to be specific in the cure —

I have been indeed led to attribute subsequent Debility, with morbid affections of the digestive organs to its too liberal use — encouraged by great expectancy — Many of my patients recovered from severe attacks without its assistance: & that with a comparatively less tedious period of Convalescence. Nevertheless,

"their native for a distant climate may be considered as affected in a manner somewhat analogous to plants removed into a foreign soil: where the utmost care and attention are required to keep them in health, and to inure them to their new situation; since, thus transplanted, some change must happen in the Constitutions of both" —

Notwithstanding these remarks fall so short of explaining the Subject they have been wont to treat: yet are they drawn out to a tedious length I did not at first apprehend: & which I trust Your Excellency will do me the Favor to pardon.+

I have the Honor to be
Sir
Your most obliged &
Obedient Servant
Noder Dickinson

Grenada
april 1808 —

Note continued

"I consider Calomel a valuable purgative in certain circumstances of this Disease. as it can be administered in smaller compass than almost any other medicine of that class: & often with superior efficacy: But when abused under the influence of erroneous Theories, or ill founded expectations; — it is painful to recollect the mischief that has been done by it" — Report on Fever &c —

To Thomas Keate Esqre Surgeon General
&c &c &c

The following Remarks, on the producing Causes of the Inflammatory Endemic - or "Yellow Fever" — as observed since the Year 1796 during a Tour of duty in the West Indies: are most respectfully presented by his much obliged and most Obedient

Humble Servant

Roder Dickinson

1st September 1808

11 Cecil Street Strand

On the producing Causes of the inflammatory Endemic incidental to Europeans on their arrival in the West Indies. — transcribed from an intended "Essay on the "Diseases of the Army in the Leeward Islands — as observed since the commencement of the year 1796."

The first appearance of this Disease may receive its date from the earliest Visit paid by the inhabitants of temperate regions to the torrid Zone: — But, as it is foreign to the nature of this design to enter into minute historical detail; we shall only observe, that, when the devastation produced by so dreadful a Scourge took the attention of medical enquiry, an attempt to investigate its essential Nature & discover its original source, was the natural

x Vide Hillary Page 146 & seq. 2d Edit

and immediate result.*

In reviewing the early opinions on this head, we find the Disease in question considered not only infectious and uncommonly malignant: but was moreover affirmed to have been of foreign & far distant derivation: and the Idea of its contagious nature & remote original was pursued in fanciful and erroneous belief. "from Palestine to Marseilles, & from thence over the atlantic Ocean to the western World" —

In later times indeed the american states have been alarmed with the fear of an imported West India Yellow Fever: and in England even certain notions have been also entertained on the risque of its being carried from these Islands, & thus introduced into the Bosom of the parent Country.

Several practioners as also Authors who after some time gave little or no credit to the story of a malignant Fever, imported into the West India Colonies from the other

hemisphere: were nevertheless, induced to regard the Disease as peculiarly malignant and pestilen-tial —— and its origin was referred by the Authors of this opinion to the latent seeds of a febrile contagion — an imaginary phantom, the creation of their own Brain!

But without better proof than unqualified assertion, or more convincing testimony than mere conjecture, idle fears, or inconclusive analogies: these terrific notions (of imported & pestilential fevers) could not be supposed long to maintain their ground against the more certain test of medical Truth — the cautious result of accurate Observation derived from a diligent and extensive Experience —

When therefore, it was demonstrated by the arrival of Europeans at different periods, in different parts of the West Indies; that a peculiar Disease was indigenous to hot climates, & only incidental to Strangers on their first coming to the Country: While Exemption

+ Vide Blane on Diseases of Seamen Page 80 - 165 - 240 -

+ Dr. Wright however denominates the disease "Typhus icteroides" - and observes that it appeared to be the jail fever exalted to a great degree of malignity —

was the happy lot of those born in or inured to the high temperature of the torrid Zone. — When moreover it became pretty well ascertained that intense degrees of heat, rather tend to dissipate than give action to the Principle of typhus contagion + — still more especially, when it was perceived that a constant and intimate connection with those laboring under the Disease, in all its stages & degrees of malignity, had never afforded to the most careful observer the slightest proof of its infectious disposition. the opinion as well of contagious as of imported yellow Fever, lost much of its former authority and weight. +

Then was introduced under the auspices of many celebrated names another Idea on the same subject. — which, although perfectly correct within certain limits we shall hereafter endeavour to define: appears to the author equally erroneous with the almost obsolete

+ Vide the writings on this subject of Lind – Clarke Dominique, Hunter Jamaica – Mc Lean Saint Domingo. &c &c

* See Dr Jackson's "outlines of the History & cure of fever – endemic & contagious" – P. 104 &c

notion of contagion, when brought forward to explain the occasional causes of the inflammatory endemic or "yellow Fever" which is here derived from the baneful influence of marsh exhalation: or from a moist, or otherwise unhealthy condition of the surrounding Atmosphere; supposed (by some in conjunction with lunar influence) to be productive of the same effect.+

This has long been a prevailing notion: & forms upon ingenious ground a learned opinion of the present day.*

Considering indeed that marsh exhalation & certain other conditions of the atmosphere do occur an evident & fruitful source of Fevers under this, as indeed in every other climate of the habitable world; and are particularly destructive of the army in these islands: the mention of it cannot be permitted without some enquiry into the difference which appears to subsist between the

remittents of such situations and seasons as have been just alluded to; and the endemial inflammatory affection — the subject of these Pages —

It is therefore with every deference to superior Judgment, that the Author ventures to submit an opinion —— founded, he is inclined to think on accurate observation. — that the inflammatory endemic or "Yellow Fever", differs from fever strictly so called in several respects which merit distinction. — that it is neither of foreign origin, nor the offspring of contagion - nor marsh exhalation. —— and its undoubted prevalence in seasons and situations, & under circumstances demonstrably unconnected with, and altogether free from the influence of those noxious powers, will tend, he presumes to afford some confirmation of the justness of this remark. - for that the Disease has committed its wonted ravages on the constitutions of strangers, at

+ Dr Chisolme has given us an account of a "malignant pestilential fever, introduced into Grenada, by the Yankey from Boullam: The treatment however, adopted with such singular success by Dr. C. (and formerly, I believe suggested by Dr Hunter of Jamaica) — should not have been so indiscriminately extended to the other Classes of febrile affection. The mercurial practice — I believe to have been productive of much harm, when carried to excess (as I have seen) in some cases of low fever: & if depended upon exclusively for the cure of the inflammatory Endemic "yellow Fever" — (which Dr. Chisolme, by the way, considered unallied to the particular disease on which he expressly wrote) — I fear, the test of Experience will prove its insufficiency.

at any period of their first arrival in the Country; —— in situations perfectly clear of moist or swampy ground —— at seasons particularly dry & (comparatively) healthy to those accustomed to the climate; experience must have afforded abundant testimony to every practitioner of attentive observation, who may have been in the habit of attending New-comers, at their first arrival even on the most healthy Positions under the torrid Zone ——

The author does not here presume to deny the occasional appearance of contagious fever in the West Indies:+ having had sufficient proof of its existence at different times in different situations: and had, moreover the opportunity of observing in the Summer of 1796 the progress of a most malignant Typhus, which swept away in little more than three Months two Thousand of the Charaibes at Baliscau —— a small, dry

dry rock in point of locality remarkably healthy —

The Disease alluded to above: — and which will demand more particular mention in a succeeding Essay, was introduced into Baliseau from Saint Vincent by the Charaibes themselves: and appears to have owed its generation to the accumulated Horrors of War: hunger, fatigue, exposure to the inclemencies of season, despondency &c it was confined to these wretched people until their arrival at Baliseau: when the infection partly extended to the Garrison, but without much farther progress — or being marked by any serious Mortality —

With respect to marsh Exhalation as a cause of Fever — the Author has farther to observe, that in many situations on almost every West India Island, — it occurs an evident Source

of the severest remittent and intermitting Fevers: as a residence at several stations where military posts are necessarily situated to leeward of noisome swamps: has too sufficiently afforded many melancholly proofs as well to others as to the Author: whose Tour of duty (it may not be impertinent to add) has given him the fullest opportunities of observation in a majority of these Colonies-

But he must take leave to remark that such fevers are very unlike the Disease of which he is now expressly treating: although equally, nay, probably more destructive. They arise from the operation of different Causes: make their attack, in general on a different Class of subjects: appear to be dissimilar in every essential circumstance of their Nature: & as such - to require in many respects an entirely opposite Conduct both for their prevention & cure.

Cold, moisture, marsh exhalation, vitiated human effluvia &c with other reputed causes of idio=pathic fever: seem to produce under every climate — when they occasion fever strictly so called, a peculiar depression of strength: so as to leave little room for doubting the directly sedative nature of their hurtful principle. But the tropical affection we speak of in these pages as being incidental, almost exclusively, to strangers: —— is caused by the direct action of powerful stimuli; — is, at the attack highly inflammatory —— — invades the sanguine and vigorous constitution with a decided preference: — When formed, shews little appearance throughout its natural course of salutary re-action: in other words: —— it evinces no active disposition to cure itself; is in no wise, (that I could ever discover) obedient to any of the Laws of Crises or critical days: but on

on the contrary, if not assailed at its commence=ment with such formidable weapons as might be found fatally injurious in low marsh or contagious fever: — it will proceed (in the instance of a severe attack) to inevitable destruction —

I am therefore induced to regard, from these with other considerations — the fatal Endemic of strangers on their arrival within tropical latitudes (the "Yellow Fever") a Disease essen=tially different, both from Typhus and the Fevers of Type: — indigenous to hot cli=mates — & <u>not</u> transferible to northern regions: and, were it not in my opinion of the first practical necessity to adopt this distinction between morbid affections of such opposite character: I should be more than commonly anxious to make the reader every apology for the tedious

length of these preliminary remarks ——

When a youthful and healthy person first arrives in these islands from a northern Cli=
=mate; Though he should repair to a situa=
=tion perfectly clear of marsh — and free from every probability of infection. — Though the season of the year should be accounted healthful by those accustomed to the Cli=
=mate: and the surrounding atmosphere devoid of any preternatural moisture or other noxious principle of general operation. While all around are in health and vigour, — to the new-comer, an attack of the inflammatory endemic ("yellow fever") may occur, at any hour — as one of the ill consequences of his late transition; but more especially if he has been particularly exposed to the Sun's rays under violent Exercises, or

intemperance — his habit of body being, at the same time probably, — in a condition of peculiar aptitude to take on inflam=matory Disease. And we may farther remark, that until the constitution becomes inured to the change of climate: every new-comer to it, must necessarily continue thus liable to these consequences of such transmigration from his native country into the torrid Zone —

The arrival of every regiment affords Examples of the above; but the Force which left North america at a cold season for the west Indies, gave a still more dreadful testimony of its truth on their arrival within the Tropics — This Observation has been well illustrated by a recent learned writer on this subject, who compares the effects of these sudden trans=itions with those which succeed to the immer=sion of a frost bitten Limb in hot water —

The degree of external temperature agreeable to health; — appears to be regulated and determined in a very considerable degree by habit: since the constitutions both of animals and vegetables seem (to a certain extent) to be adapted by the laws of nature to the climate under which they may have been originally placed: and to whose influence alone they have hitherto been accustomed. If we consider for a while the ill health which is so often occasioned, even in temperate regions by sudden alterations in the condition of climate: we shall not be much surprized at the more important shocks which supervene to the rapid transition from the one to the other extreme. — neither can we have room to question the powerful agency of excessive & permanent

heat: when, from time to time we have had so many opportunities of observing in others and moreover of experiencing in ourselves the effects of so general, direct, & violent a stimulus, which, on application to the yet unassimilated constitution of the stranger — even in as moderate a degree as may be supposed; rarely fails in exciting some degree of inflammatory tumult: as every new comer who exposes himself to its influence will bear evidence beyond dispute — Nor need we remind practitioners who deny the power of extreme heat (as experienced by strangers in tropical latitudes) in producing the "Yellow Fever", of the too frequent occurrence of idiopathic phrenzy & the affection so aptly termed Coup de Soleil, which sometimes instantaneously follow an exposure of the head

+ "The heat of the Sun is very often fatal with us, as well as in other Countries — I have seen Labourers, returning from the Plough, fall down and die" —

"I have seen similar effects in the electorate of Hanover" —

"In France a child was seen to lose its memory during the Summer heats" —

"Titsingh says that at Curaçao, Europeans on their arrival are commonly attacked with ardent Fever" — Zimmermann on Experience in Physic — See Note at the end of the Manuscript transcribed from the London prints lately —

to the Sun's rays.+

1. Exposure to the intense & permanent heat of the climate while unaccustomed to its influence —

2. Intemperance of every kind.

3. Violent Exercises,

These affecting in a greater or less degree, constitutions prone to inflammatory Disease: — sometimes aided in their seperate or united Force by auxiliaries not altogether so perceptible or obvious in their operation: are regarded by the Author fully adequate to the production of the inflammatory Endemic ("Yellow Fever") under every degree: in confirmation of which, abundant testimony might be

+ A moderate increase of external temperature induces perspiration: and in those who readily part with their heat or who perspire freely: no other effect will supervene: except in some instances a degree of lassitude. When however the external heat is farther raised & kept up, as in the instance of those who expose themselves to the Sun in the West Indies, (to a degree of heat generally approaching to 130°—) this inordinate stimulus produces painful sensation: —— appears to excite the Capillaries into unusual action; — inducing at length a constriction of the Vessels on the surface. — The perspiratory discharge is in consequence suppressed: While the heat in the system being now retained; soon induces an increased action of the vascular system. Hence appears to arise the symptoms of the first stage of the Disease. When however the living principle becomes exhausted by continued over exertion, relaxation seems to succeed the previous violent constriction. But this relaxation does not appear to be the salutary Criterion of the solution of febrile action, or critical in any shape: but is merely a symptom of the debility which follows over exertion: And its farther consequence is not a healthful perspiration with salutary

brought forward here; were it within the limits of these cursory Observations to adduce particular examples of its having occurred in many instances within the Author's knowledge the immediate and evident consequence of such exposure as mentioned above; under circumstances in which, neither infection, nor marsh exhalation, nor any peculiar condition of the Atmosphere, otherwise than from heat, could in the least be suspected —+

An inflammatory Diathesis occurs a principal pre-disponent Cause of this Disease: of which we have additional testimony in the contemplation of its favorite Subjects. These have ever been found amongst the full, plethoric, youthful & robust; —

Note Continued

salutary Crisis: — but, on the contrary, a cold, clammy sweat preceding Mortification & Death —

those of less sanguine constitution — of spare habit — sedentary and abstemious disposition and conduct, more frequently escape — — such as have resided long in the country, and who have become somewhat reduced by, as well as, in other respects inured to the continual heat of the climate — The natives (who have not lately returned from a residence in colder countries) are rarely, if ever the subjects of this disease; Women, from their peculiar habits & more temperate conduct, have been found much less liable than Men: — while age and infancy have appeared to carry with them a still surer exemption —

Such are amongst the leading circumstances of predisposition and subject: to which

however many exceptions may frequently obtain —

Thus, while we have always remarked the sanguine and healthful youth to be the constant, nay almost the exclusive victim of this Disease: and that only, so long as he retains the bloom and vigour of his native clime: — the subjects of the Remittents of marshy situations, are commonly the converse in several essential respects. Hence those who have become enervated by a long residence in tropical climates; or weakened by inanition, or depressed by despondency & also women, children, habitual &, consequently debilitated Drinkers. — These are principal in that class of subjects

whom we have perceived to be the most liable to marsh and contagious Fever when the first effects of climate have been gradually done away by Habit — who, escaping from the mortal Terrors of the "Yellow Fever", and at length inured to change of climate: become almost living skeletons in the grasp of long continued attacks of intermitting and remittent Fevers: which, arising from marsh effluvia are not peculiar to hot Regions.

These having resisted with unconquerable obstinacy, for many months every other remedy however judicious and esteemed: very surprizingly give way to change of air or climate. Should however recourse not

not be had to this sovereign means of Cure: we can scarcely form any calculation of the time they may continue their insi=duous and exhausting encroachment on the constitution: While, on the other hand, the progress of the inflammatory endemic of Strangers in the West Indies ("the Yellow Fever") is, as it were a rapid combustion, whose fatal course is frequently finished within a few hours, unless it be extinguished in its Birth —

The Effects of marsh exhalation are severely experienced both by the native inhabitants and Strangers: and the residence which inures the latter to change of Climate, &

+ I have glanced, in some pages of this Manuscript, at a Report which I made in 1801 - to the Head of the medical Department in the West Indies - on a fever which attacked the Royals during the dry & sultry months of July & August soon after their arrival - in this report I find it is noticed that " During the whole period of this sickness — the native inhabitants — The Creoles from other islands - also Negroes - the Men who composed the detachment of the black regiment: and such europeans as were inured to the Climate, — preserved their wonted health - but new comers to the Country, not belonging to the army, were equally attacked with the Soldiery, " amongst whom there were but few instances of exemption. At the conclusion of this Report I find it remarked - that " no sooner had this (inflammatory) Disease quitted us at Head Quarters in October: than the heavy rains which set in during the latter end of November were accompanied by many & severe attacks of remittent Fever in a part of the Island which had hitherto nearly escaped the first fiery Ordeal - probably from its much

and thence secures them, in great measure from an attack of the inflammatory endemic — affords them (as before remarked) no protection from the Fevers caused by vitiated human or marsh Effluvia — And while the ardent or "yellow Fever", may possibly attack a New comer in any situation, under this intem=perate region: the marsh Fever is not only confined to certain Islands; but is restricted in these to particular spots of Ground —— generally shewing them=selves only at seasons which favor the production of their exciting Cause — into whose essential Nature or mode of operation it is not, at present my intention to enquire.

Note Continued

"Cooler situation to windward - But which in its turn now began to suffer by the exhalations derived from a neighbouring Marsh - In these attacks, the tonic plan (aided by change of air & situation) with very moderate evacuations fully answered our most sanguine hopes" - While in the Summer fever at Head Quarters, our Sheet Anchor was venaesection and free purging - employed early in the attack" -

To re-capitulate — The inflammatory Endemic "endemial Causes" — "concentrated Endemic" or "yellow Fever" — has been considered in the foregoing pages, as a disease, sui generis: — peculiar to strangers on their arrival within the Tropics from northern regions — As being occasioned neither by vitiated human nor marsh effluvia. but on the contrary. by the direct operation of excessive and permanently continued heat: probably accompanied by fatigue and intemperance; — and as being liable to subjects of inflammatory Habits — indigenous to the climate, — never infectious, — nor liable to be transferred to other regions. Hence we have also been induced to regard it

as but little allied to idiopathic fever: which, (as we have observed it in the West Indies) we apprehend to consist in a state of manifest debility from the accession. While the producing Causes, both pre-disponent and occasional; — as likewise the symp=toms of the Disease which at present engages our attention: — equally tend to evince its highly inflammatory nature at the attack: A fact we have reason to presume still more strongly substantiated in the pointed success experienced by many respectable practitioners — from a method of treatment adopted on this opinion: but which could not have failed to prove injurious, had the same been

employed under an opposite consideration.

If the remittent Fever (for Example) which is derived from the influence of a most noisome swamp directly to windward of the military post at Prince Rupert's Dominique: which most commonly seizes upon the weakly, enervated and worn out soldier — his wife or Child; —— were to be considered, (under the popular name of "Yellow Fever") as the inflammatory endemic of the Country which attacks only strangers — and were treated with the liberal use of evacuants which this latter affection requires for its reduction during the first period of its attack: little doubt, I can presume, will be entertained of the

the injurious consequence of such mis=
=apprehension — at least by those who
have learned in this climate to estimate
appearances so remarkably ambiguous
as we find many of the symptoms of
complaints, essentially different in their
real Character: and who have consequently
attended to the depression of strength & mental
energy which, from the commencement
attends the description of marsh Fever alluded
to above —

These, with some other considerations have
induced the Author to think that, important
errors have arisen in West India practice,
from an exclusive regard to analogy

in symptoms — without correspondent attention to the Nature and Operation of their producing Causes: which we should always do well to ascertain: as upon our acquaintance with these, alone can we hope to direct any efficient rule for the prevention of Disease — a knowledge in which is even more to be coveted, than the discovery of a successful indication of cure.

NB The Manuscript "Essay" from which the above "remarks" — have been extracted, has been written with a view to recommend a practice long since adopted by certain professional men of eminence. This is the antiphlogistic treatment in the first stage of the complaint, in opposition to the directly stimulating — the universally evacuant — or the (lately fashionable) mercurial plan of cure

— Note —

I have here subjoined - 1st. A General State of the weather &c Thermometer in the West Indies, taken from a daily Register, on which the remarks were made at 6 o Clock A.M. - 9 - 12 - 3 P.M. & 6 o Clock in the Evening -

2 - A General State of the weather &c - during a Voyage from Grenada in the West Indies, to the British Channel, as daily observed (when circumstances would permit) at 9 o Clock A.M. 12 - and 6 o Clock P.M:

and I have 3rds - transcribed from the public prints some remarks made on the same subject during the present Summer - by which, amongst other things it appears that when the Thermometer was at 56 o. in the Channel during a Fog — it was as high as 87 o. in London — the month following -

The analogy between the consequences of this suddenly encreased degree of Temperature, and the permanent excessive heat of tropical Climates, appears striking; & if pursued, might tend to useful investigation.

General State of the Weather and Thermometer during part of the years 1805 – 6. 7 and 1808. exhibiting Monthly Abstracts of the Sick in Garrison Hospital Grenada

1805	Weather			Remarks	Thermometer				Abstract of Sick							Diseases							
					Highest		Lowest																
Months	No. days fair	No. light rain	No. heavy rain		Morning Degs.	Noon Degs	Morning Degs	Noon Degs	Present Strength of the Garrison	Remained in Hospital since admitted		Total	Discharged	Died	Remaining	Fever	Bowel Compt.	Ulcers	Venereal	Debauchery	Convalescent		
May	15	10	6		81	86	79	84	723	55	60	115	64	3	48	11	10	18	6	1	3		
June	12	15	3	Three days heavy rain Therm 73	81	87	78	73	657	48	65	113	71	4	38	8	10	17	3	.	..	.	.
July	5	18	8	Thunder & Lightening	82	87	79	82	707	38	115	153	92	8	53	17	13	12	8	.	3		
August	9	6	16	Thunder & Lightening	82	87	77	75	679	53	86	139	95	11	33	14	7	7	3	.	2		
Sept.	6	18	6	Thunder & Lightening	81	871	78	77	679	33	135	168	97	13	57	14	27	14	1	-	1		
Oct.	5	17	9	Thunder	81	86	78	82	860	57	132	189	113	8	68	11	29	23	1		4		
Nov.	7	20	3		80	861	77	75	838	68	85	153	89	12	62	13	17	26	3		3		
Dec.	12	12	7		80	85	76	79	824	62	68	130	65	10	50	9	3	30	3		5		

General Remarks

1. The Thermometer used was Fahrenheit – placed in the Shade in a large open Room –
2. Circumstances frequently interrupted, regular remarks: When the Numbers are incomplete therefore, no Observation was made.
3. Greatest height of the Thermometer exposed to the Sun, at any time observed, has been 136 Degrees –
4. The Thermometer at the Grand Etang, – a situation in the interior of the Island about 1115 Feet above the level of the Sea, usually falls 9 Degrees lower than in Saint Georges.
5. The prevailing Diseases – remittent Fever – Diarrhoea – Dry belly ache & Ulcered Legs – especially amongst the Black Soldiers –

Thunder & lightening

1806

Months	Weather: No. of days fair	No. Light rain	No. heavy rain	Remarks	Thermometer: Highest Morning Deg	Highest Noon Deg	Lowest Morning Deg	Lowest Noon Deg	Percent of Strength	Abstract of Sick: Remained	Since admitted	Total	Discharged	Died	Remaining	Diseases: Fever	Synochus	Ulcers	Venereal	Rheumatism	Convalescent	Dropsy	Scurvy	Hepatitis
Jan.	12	16	3		78	84	73	79	893	50	60	110	63	9	38	4	4	26	1	1	2			
Feb.	12	8	9		79	84	73	76	870	30	50	96	58	7	31	3	3	18	2	2	1	1	1	
Mar.	12	8	11		80	85	72	79	840	31	46	77	40	2	35	2	1	22	2		5	3		
April	12	10	8		80	86	78	79	879	35	36	71	41	4	26	5	1	15			3	1		1
May	16	8	7		81	87	78	79	888	26	49	75	43	2	30	5	4	11	1	2	5	1		1
June	6	5	19		80	85	78	78	850	30	42	72	35	5	33	7	6	14	1	2	3			
July	2	18	11	Thunder	81	85	78	80	849	33	43	76	46	4	26	2	3	13	.	3	5	..		
Aug.	9	16	5	Thunder	83	88	78	82	853	26	74	100	48	10	42	8	5	20	3	1	3	2		
Sept.	8	16	6	Thunder	82	88	78	82	869	42	64	106	71	4	31	6	8	11	3	1	2			
Oct.	15	10	6	Thunder	82	87	78	81	870	31	67	98	56	3	39	3	13	11	3	4	3	2		
Nov.	9	17	4	Stormy	82	86	79	78	883	39	64	103	49	7	47	9	11	14	3	5	2	2	1	
Dec.	10	14	7		80	85	75	81	876	47	90	137	88	4	45	13	9	13	4	1	5	..		

1807.

Months	Weather: No. of days Fine	No. Light rain	No. heavy rain	Remarks	Thermometer Highest: Morning Deg	Noon Deg	Lowest: Morning Deg	Noon Deg	Abstract of Sicks: Patients Present	Remained Since admitted	Total	Discharged	Died	Remaining	6 Diseases: Fevers	Dysentery	Liver	Diarrhoea	Pulmonic	Venereal	Dry belly ache	Colic	Paralysis	Convalescents	Rheumatism	Epilepsy	Catarrh	Pumicted
Jan.	15	7	3		80	86	75	81	830	45	90	135	74	6	55	14	2	15	3	2	6	12							
Feb.	21	7	..		81	85	70	82	821	55	112	167	111	3	53	7	3	12	9	1	1	15	1	1	3				
Mar.	26	5	..		82	85	79	81	810	53	105	158	116	7	35	3	2	9	3	1		7		1	2	2	1		
April	29	1	..		83	86	81	84	1120	109	52	161	129	2	30	2		22	2					1	1	2			
May	17	14	.	Thunder		88		83	1225	30	107	137	62	4	71	3	8	34			1			1	19	3		2	
June	5	23	2	Thunder	81	85	78	78	1137	71	63	134	56	6	72	1	2	31	3	3	2	2	2	14	3	.	1	0
July	7	16	8	Thunder	81	85	78	78	998	72	81	153	83	8	58	.	12	22		3	1			1	6	1	4	8
Augt	11	10	10	Thunder	82	86	79	82	949	58	68	126	64	8	54	2	5	26		1		2		1	5		5	7
Septr	17	8	5	Thunder	82	86	79	80	923	54	71	125	62	5	57	1	6	33			1	5	1		5		2	3
Octr	10	16	5		83	86	76	80	929	57	62	119	64	4	51	4	2	31							8	.	.	1	5
Novr	10	18	2		80	84	76	80	860	51	97	148	90	1	57	10		19	1	1	3	2	1		13			4	3
Decr	5	20	6		79	83	76	78	850	57	91	148	89	6	53	7	.	20	1	2	1	.	2	1	14	.	.	2	3

On the 9th Septr at Noon the Thermometer at the Grand Stang sunk to 75° being 86° in Town.

21 Septr. Comet seen.

Thunder & lightning

1808

Months	Weather: No. days fair	Weather: No. light rain	Weather: No. heavy rain	Remarks	Thermometer Highest: Morning Deg	Thermometer Highest: Noon Deg	Thermometer Lowest: Morning Deg	Thermometer Lowest: Noon Deg	Hygrometer Deg	Abstract of Sick: Patients Admitted	Abstract of Sick: Remained since adm.	Abstract of Sick: Total	Abstract of Sick: Discharged	Abstract of Sick: Died	Abstract of Sick: Remaining	Diseases: Fever	Diseases: Dysentery	Diseases: Ulcer	Diseases: Rheumatism	Diseases: Pulmonic	Diseases: Catarrh	Diseases: Diarrhoea	Diseases: Paralysis	Diseases: Venereal	Diseases: Boils	Diseases: Epilepsy
Jan	16	12	3		78	82	73	76	H 65 L 56	848	53	55	108	59	3	46	2	.	18	1	5	8	1	2	4	5		
Feb	10	17	2		78	82	73	76	H 63 L 55	939	46	79	125	66	8	51	8		24		1		1	2	3	8	1	1
Mar	16	12	3		80	84	76	78	H 65 L 52	913	51	58	109	51	4	54	12	1	14		3		4	2	3	13	2	..
April	14	2	.	.	80	86	79	83	H 60 L 54																		

H. implies greatest degree of moisture indicated by the instrument
L. ——— Lowest ——— do.

General State of the Weather &c during a Voyage from Grenada to the British Channel -

Days	Weather	Thermometer 9 Deg.	Thermometer 12 Deg.	Thermometer 6 Deg.	Hygrometer 9	Hygrometer 12	Wind	Longitude Deg. min	Latitude Deg. min	Remarks
APRIL 21	Calm	82	85	"		56				Sailed from Grenada 19
22	Calm		85			56				
23	Calm		85			57				
24	Rain		85			56				
25	Rain		85			56				
26	Rain		85			56				
27	Rain		84			57				Anchored at Tortola
28	Rain		85			57				
29	Gale	83	81			60	N E			
30	Gale	77	74			62	N E			Lightening
MAY 1	Clear	"	81	77	61		E			Rain in the Evening
2	Clear	"	77	78	59		E			Sailed from Tortola
3	Calm	"	81	"	58		"			
4	Calm	"	80	"	57		E b S			Heavy rain at Night and Lightening -
5	Light air	"	80	77	59		"			Rain in the Evening
6	Breeze	"	81	"	60	"	"	64-29	22	Rain afternoon
7	Breeze	76	84	77	62	60	S E	63-37	22-38	
8	Calm	76	82	"	60	59		63-29	23-15	Brisk Gale
9	Breeze	76	75	75	60	62	E N E	63-44	23-33	Cloudy Brisk Gale
10	Breeze	75	75	74	62	61	E b N	64-27	24-37	Gale in Night
11	Breeze	77	77	76	61	63	S E	63-25	26-2	Strong wind & rain
12	Breeze	75	73	74	64	68	S b E	60-04	"	Lightening. Thunder
13	Hazy	72	77	72	76	76	W	60-38	28-50	Light. & rain, squalls
14	Hazy	70	"	"	77	"	S b E	59-30	"	Thunder, squalls, rain
15	Hazy	70	70	69	81	81	S	57-38	30-40	Gale, heavy rain, thunder & lightening

Days	Weather	Thermometer 9	12	6	Hygrometer 12	6	Wind	Long: Deg. min	Lat: Deg. min	Remarks
MAY 16	Hazy	68	70	68	85	85	S W	56-39	31-35	Breeze
17	Hazy	68	70	"	85	85	S W	55-19	32-33	Fog
18	Hazy	68	70	"	81	"	S b W	53-41	33-32	Fresh Breeze
19	Hazy	68	68	66	80	80	S	50-11	34-39	Fresh Breeze
20	Hazy	67	68	66	79	75	S	48-21	36-8	Fresh Breeze
21	Hazy	66	70	68	78	76	S b E	45-76	37-16	Rain at Night
22	Hazy	68	69	68	75	79	W S W.	46-11	38-23	Rain at Night
23	Rain	68	70	66	75	75	S W	42-27	39-20	Rain at Night
24	Fair	60	61	62	69	66	E b S	42-11	39-39	Rain at Night
25	Cloudy	61	61	61	75	75	E b S	41-42	40-51	Gale
26	Fair	60	62	58	73	65	E N E	42-13	42-7	Light air
27	Fair	56	56	60	66	66	N E	40-17	42-34	Gale
28	Fair	58	58	58	63	63	N b E	38-25	42-28	Breeze
29	Cloudy	60	63	61	63	61	N W	36-57	42-50	Breeze
30	Fair	58	62	61	67	67	W	34-57	43-36	Light air
31	Fair	62	65	62	73	73	S W	32-45	44-38	Breeze
JUNE 1	Fog & rain	60	64	60	78	78	S W	29-44	45-56	Strong Breeze
2	Fog & rain	66	62	60	86	80	W N W	27-37	46-23	Breeze
3	Fog & rain	64	62	62	89	90	N W	24-31	47-17	Breeze
4	Fog & rain	"	"	62	85	85	S	22-47	46-23	Breeze
5	Clear	60	60	58	85	85	W	21-55	47-17	Breeze
6	Clear	60	64	58	87	88	S W	19	47-56	Breeze
7	Clear	58	59	"	89	88	W	15-33	48-23	Breeze
8	Fog	60	60	60	87	85	W S W	14-33	48-40	Calm
9	Fog & rain	58	60	58	87	87	S W	12-18	48-60	Breeze
10	Clear	57	58	"	85	90	S	10-4	48-55	Calm
11	Calm	58	60	56	80	81	N E	9	49-1	Cloudy
12	Breeze	56	59	59	70	70	W	8-36	49-7	Cloudy
13	Breeze	58	59	59	80	80	W S W	8-6	48-41	Cloudy

Days	Weather	Thermometer 6	9	12	Hygrometer 12	6	Wind	Long: °	min	Lat: °	min	Remarks
14	Fog	58	58	57	90	88	SW	6		49	1	Breeze - Soundings
15	Fog	58	59	"	88	80	NE	"		49	3	Clear P.M
16	Clear	57	60	"	75	"	NE	"		49	33	Clear Land disc.d
17	Fog	57	56	"	78	"	W			"		

"On the 14 July - The Thermometer under the Northern entrance of the Royal exchange at noon was 87°. On the 15th - in the Shade, in the open air opposite St. James' Park (without any reflection of heat — at 3 o'clock P.M 88½ and the day following at 94°."

"We have accounts communicating numerous distressing consequences of the late extraordinary heat of the Weather. A Man at Corby, in Lincolnshire, on Wednesday, while hoeing Thistles, was so overcome by the Heat, that he died in the Field — A Woman employed in making hay in a field adjoining the Town of Huntingdon, complained of being ill from the heat, & died before she could get home. A Woman at Bellesdon, in Leicestershire, on wednesday, died of excessive heat. The Statement from which the above is taken (18th July) enumerates several instances of the Deaths of Horses

at this period, from the same Cause —

July 13th — "At Hayes in Middlesex the Thermometer was, in the shade at 92½ degrees — In Kent at 98°. in various parts of London 100°. and exposed to the Sun at its greatest height, at 147° —"

"Dr. Pole, of Bath states, on the 12th July the heat at 8 A. M: — 75°. at the meridian 91°. at 9 in the Evening 77° —"

July 25th — "Two privates of the 2nd Regimt are stated to have died on their march from Ipswich to Harwich for embarkation, owing to the heat of the Weather. & a third, it is added, died on the Beach, on reaching Harwich" —