T T E R S,

ESSED CHIEFLY TO

A YOUNG GENTLEMAN,

UPON

ubjects of Literature:

Including a TRANSLATION of

UCLID'S SECTION OF THE CANON;

AND HIS TREATISE ON HARMONIC;

With an EXPLANATION of the GREEK

USICAL MODES,

According to the Doctrine of PTOLEMY.

By CHARLES DAVY, M. A.

RECTOR OF ONEHOUSE, IN SUFFOLK.

IN TWO VOLUMES.

VOL. II.

BURY ST. EDMUND'S:

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MDCCLXXXVII.

LETTERS.

LETTER I.

October 24, 1780.

DEAR CHARLES,

THAT account of the Earthquake, at Lisbon, upon the first of November, 1755, which you wish to perule again, is mislaid; but I will endeavour to send it by the middle of next week, as soon as I can find leisure to look over my papers, which, at present, are rather in a state of confusion: The narrative is extremely interesting, and contains, in

the compass of a few
fuller and a clearer, bu
to believe, a more authentic relation of
the complicated miseries of that dreadful
day, than the Public hath yet seen. It
was written, in the form of a letter, to
the Reverend and learned Dr. Sandby,
Chancellor of the Diocese of Norwich,
by Mr. Braddock, an intimate friend of
his, who had connections with our Fac-
tory at Lisbon, and was upon the spot
when that horrid catastrophe happened:
his notes were taken at a period neither
too near the event, nor too remote from
it—at a time when he was sufficiently
composed for recollecting, with precision,
the most important circumstances re-
specting every situation, in which he had
been an eye witness, of its dreadful ef-
fects and the ensuing ruins of the city
still before him; whilst influences of par-
ticular distress were easily recalled to me-
mory,

n their impreſſions too deeply ſtamped upon his heart to be in any degree effaced.

I may, perhaps, hereafter, with Dr. Sandby's * permiſſion (provided Mr. Braddock in the mean time ſhould not render it unneceſſary) publiſh the narrative, which is ſo extremely accurate and circumſtantial, that very few perſons, I believe, in his ſituation, however diſtinguiſhed for their Genius, would have been capable of equalling it. The preſence of mind he appears to have poſſeſſed, in ſuch tremendous ſcenes of horror, ſhows him to have been an extraordinary man, and his generous and tender feelings do him ſtill greater honour: I have heard the general tenor of his conduct throughout life ſpoken of, as having been

* That permiſſion is very politely given, and the publiſher is informed, that Mr. Braddock has now (in 1782) been dead many years.

regulated by the prin-
virtue; and nothing
have kept him firm and unappalled, when he was not only threatened with the terrors of immediate deſtruction, but had reaſon to apprehend, he was going down alive into the Pit, and that the Earth would ſhut her mouth upon him, whilſt all his ſenſes were perfect, and his imagination was quickened by every circumſtance around him, to paint the horrors of ſuch a living death, in the ſtrongeſt and moſt gloomy colouring.

Some extraordinary ſymptoms of a violent commotion in the bowels of the earth, before the paroxiſm which overturned this ſtrong and populous city, were affirmed to have been perceived in many parts of England, and with great force in Derbyſhire and Cornwall; how well theſe reports were authenticated, I am not able to ſay. But I ſhall give you a

particular

p[illegible]s of an extraordinary appearance I myself observed, upon the day preceding its deſtruction, and you will excuſe a minute detail of circumſtances, trifling of themſelves, as they ſerve to aſcertain the day and hour with exactneſs.

You have often heard me ſay, that a long friendſhip had ſubſiſted between Mr. Auditor Fowle and your Grandfather; his affection for his old Friend was extended to his family, for the Auditor and Mrs. Fowle were your ſponſors. I was earneſtly requeſted to paſs the laſt week of October with him, in the year 1755, at Brome, in Norfolk, to keep up his ſpirits, which had been rather low; I accepted the invitation, and went over from Southwold, upon the morning of the 27th, (which was Monday) and what with airings in the coach, reading, and chatting, the days paſſed on pleaſantly enough; he was a polite worthy Gentleman, a man

of ſenſe and reading
did not often ſay the moſt brilliant things,
a lively expreſſion was not thrown away
upon him, and he never ſpoke a ſevere one.
Mrs. Fowle had wit, and humour, but
quickened ſometimes with rather too
much of the poignant. It was a Family
I loved to viſit. I was permitted to be
at my eaſe; there was a neatneſs and ele-
gance without Parade, and every thing in
it was conducted with the ſtillneſs of a
Monaſtery. Mr. Fowle ſeemed better
after two or three days, than when I firſt
went; and as I made it a general rule to
return to my pariſhioners ſooner than I
was abſolutely obliged to it, I deſired,
upon the Friday morning, that my horſe
might be brought out as ſoon as the
groom had dined. The Auditor that day
was taken ill at table, and Mrs. Fowle
prevailed with me to have the horſe un-
ſaddled, and to ſleep with them another
night,

1707.2

n[illegible]ut four o'clock he had a ſlight epileptic fit, but as the effects of it ſoon wore off, we thought a walk upon the lawn might be of ſervice to him, its width to the ſouth from the houſe is not much above thirty yards, the weſt end of it ſlopes downward to a moat, and from the houſe again with a very gentle fall towards an iron palliſade, which terminated both the moat and the lawn; and to prevent the water's gulling down the bank, there was a brick wall from the bottom of the moat, riſing to a level with the green-ſod; how far below the top of the wall the water ſtood at this time, I do not at preſent recollect, but believe not many inches at the lower and extreme end of it next the iron rails. The afternoon was remarkably fine, and as we ſtopped not far from the palliſade, to look towards a new plantation, the water in the moat roſe ſuddenly, as I conceived

about eight or ten in
and flowing over the wall, came running
forward, and obliged us haſtily to retreat,
but falling again as ſuddenly, wē returned
toward the place we had quitted, won-
dering what might be the cauſe of ſo
ſtrange an effect: for my own part, I con-
cluded it was owing to a large herd of
cattle plunging haſtily into the moat, or
that the dam of ſome pond above it had
ſuddenly given way, neither of which
ſuppoſitions could poſſibly be the caſe;
the latter was abſurd enough, for the wa-
ter, upon receiving a freſh influx, would
not have fallen again immediately; theſe
conjectures were not long in paſſing
through the mind, they were barely men-
tioned, and whilſt we were looking on,
within leſs than the ſpace of two mi-
nutes, the water flowed and ſunk again as
before; there was nothing left to which we
could now impute this extraordinary ap-
pearance,

p[illegible]nleſs to a ſudden guſt of wind by the corner of the houſe, but as we had not perceived the leaſt breath of air ſtirring, we determined not to let it puzzle us any longer, but to go in and puzzle Mrs. Fowle with an account of what we had obſerved; when we deſcribed this troubling of the water to her, ſhe thought it ſeemed like ſomething *ſupernatural*, a term which ſhe occaſionally made uſe of, with the peculiar action of rubbing the balls of her thumb and fingers over each other, after ſilently attending to the tales of a perſon in the neighbourhood, as much as to ſay, this is what may be felt; but ſhe obſerved, that as no aſſurances had been given of any farther ſupernatural effects to be expected from this troubling of her fiſh-pond, like that of the Pool of Betheſda, muſk and ſalt of hartſhorn muſt be perſiſted in for the cure of Mr. Fowle's fits; and I have no doubt that ſhe ſuppoſed us taking off this perſon, who had exerciſed

her

her fingers' ends but a
As the ſun was not quite ſet ...
ended our walk, this brings the ſwell of the water nearly to a quarter before five o'clock, which preceded the Earthquake at Liſbon 17 hours; and the direction of the impulſe, I had obſerved, was from the N towards the S E corner of the moat.

My old friend Dr. Stukely was of opinion, that all Earthquakes are, in great meaſure, owing to electric ſhocks, of which the ocean, or the water in large rivers, may be ſuppoſed to act as principal conductors; more, perhaps, may be ſaid for his idea, than he has urged in a little pamphlet upon the ſubject. The firſt impulſes of the Earthquake at Liſbon ſeem to have been in the direction of the River, (upon whoſe northern bank the city was built, down to the water's edge) and to have come on between nine and ten o'clock in the morning of the day which ſucceeded that upon which the motion of the water was obſerved at Brome; ſo that

if [illegible]rance was owing to the ſame cauſe as the Earthquake, the electric ſhock advanced nearly at the rate of ſixty-five or ſeventy miles an hour, through the earth and ocean: for, I apprehend, the diſtance between the two places, may be roughly eſtimated at *about* eleven hundred miles in a line*. My ideas of Electricity, at that time, were not very enlarged; I preſume, the ſyſtem of my ingenious worthy friend has been confuted or eſtabliſhed before now, for, I remember, Dr. Prieſtly, in his Hiſtory of Electricity, takes notice of the pamplet, as worthy of attention.

I am, &c.

* The electric fire might deviate in its paſſage, like lightening, from a direct path into many angular directions, occaſioned by the influence of metallic ſtrata, in the body of the earth.

LETTER

LETTER II.

Liſbon, Nov. 13, 1755.

DEAR SIR,

I FLATTERED myſelf I ſhould have been able to write to you upon a more agreeable ſubject than the preſent, and had ſufficient reaſon to believe, I ſhould have had the pleaſure of ſeeing you 'ere this in London; but God has been pleaſed to order it otherwiſe; I ſhall not trouble you with a detail of the many delays and mortifications I met with, in the proſecution of my law-ſuit, ſince I wrote to you laſt; it will be ſufficient to ſay, I had at length brought it to an iſſue, and obtained a final ſentence in my favour, with coſts, damages, and intereſt: but whether I ſhall

e leaſt benefit from the
now very uncertain, as the face of things here is ſo changed at preſent, that every one is much more concerned about his perſonal ſafety, than the loſs of his fortune.

As no inſtance of the kind hath happened in theſe parts of the world for ſome ages, I herewith ſend you an account of one of the moſt dreadful cataſtrophes recorded in Hiſtory, the veracity of which you may entirely depend on, as I ſhared ſo great a part in it myſelf.

There never was a finer morning ſeen than the firſt of November, the ſun ſhone out in its full luſtre; the whole face of the ſky was perfectly ſerene and clear; and not the leaſt ſignal or warning of that approaching event, which has made this once flouriſhing, opulent, and populous city, a ſcene of the utmoſt horror and deſolation, except only ſuch as ſerved to

alarm,

alarm, but ſcarcely lef
to fly from the general

It was on the morning of this fatal day, between the hours of nine and ten, that I was ſat down in my apartment, juſt finiſhing a letter, when the papers and table I was writing on, began to tremble with a gentle motion, which rather ſurprized me, as I could not perceive a breath of wind ſtirring; whilſt I was reflecting with myſelf what this could be owing to, but without having the leaſt apprehenſion of the real cauſe, the whole houſe began to ſhake from the very foundation; which at firſt I imputed to the rattling of ſeveral coaches in the main ſtreet, which uſually paſſed that way, at this time, from Belem to the Palace; but on hearkening more attentively, I was ſoon undeceived, as I found it was owing to a ſtrange frightful kind of noiſe under ground, reſembling the hollow diſtant

rumbling

in [illegible] thunder; all this paſſed in ſo [illegible] minute, and I muſt confeſs I now began to be alarmed, as it naturally occurred to me, that this noiſe might poſſibly be the forerunner of an Earthquake, as one I remembered, which had happened about ſix or ſeven years ago, in the Iſland of Madeira, commenced in the ſame manner, though it did little or no damage.

Upon this I threw down my pen, and ſtarted upon my feet, remaining a moment in ſuſpence, whether I ſhould ſtay in the apartment, or run into the ſtreet, as the danger in both places ſeemed equal; and ſtill flattering myſelf that this tremor might produce no other effects than ſuch inconſiderable ones, as had been felt at Madeira; but in a moment I was rouſed from my dream, being inſtantly ſtunned with a moſt horrid craſh, as if every edifice in the city had tumbled down at once.

The

The houſe I was in th
lence, that the upper
fell, and though my
was the firſt floor) did not then ſhare the ſame fate, yet every thing was thrown out of its place in ſuch a manner, that it was with no ſmall difficulty I kept my feet, and expected nothing leſs than to be ſoon cruſhed to death, as the walls continued rocking to and fro in the frightfulleſt manner, opening in ſeveral places; large ſtones falling down on every ſide from the cracks; and the ends of moſt of the rafters ſtarting out from the roof. To add to this terrifying ſcene, the ſky in a moment became ſo gloomy, that I could now diſtinguiſh no particular object; it was an Ægyptian Darkneſs indeed, ſuch as might be felt; owing, no doubt, to the prodigious clouds of duſt and lime, raiſed from ſo violent a concuſſion, and as ſome reported, to ſulphureous

nalations, but this I cannot however it is certain, I found myſelf almoſt choked for near ten minutes.

As ſoon as the gloom began to diſperſe, and the violence of the ſhock ſeemed pretty much abated, the firſt object I perceived in the room, was a woman ſitting on the floor, with an infant in her arms, all covered with duſt; pale, and trembling; I aſked her how ſhe got hither: but her conſternation was ſo great, that ſhe could give me no account of her eſcape; I ſuppoſe that when the tremor firſt began, ſhe ran out of her own houſe, and finding herſelf in ſuch imminent danger from the falling ſtones, retired into the door of mine, which was almoſt contiguous to her's, for ſhelter, and when the ſhock increaſed, which filled the door with duſt and rubbiſh, ran up ſtairs into my apartment, which was then open: be

it as it might, this v
oſity. I remembe
aſked me, in the utmoſt a
not think the world was at an end;
the ſame time ſhe complained of being choked, and begged, for God's ſake, I would procure her a little drink; upon this I went to a cloſet where I kept a large jar with water (which you know is ſometimes a pretty ſcarce commodity in Liſbon) but finding it broken in pieces, I told her ſhe muſt not now think of quenching her thirſt, but ſaving her life, as the houſe was juſt falling on our heads, and if a ſecond ſhock came, would certainly bury us both; I bade her take hold of my arm, and that I would endeavour to bring her into ſome place of ſecurity.

I ſhall always look upon it as a particular Providence, that I happened on this occaſion to be undreſſed, for had I dreſſed myſelf, as I propoſed, when I got out of bed,

r to breakfaſt with a friend, in all probability have run into th et, at the beginning of the ſhock, as the reſt of the people in the houſe did, and conſequently have had my brains daſhed out, as every one of them had; however, the imminent danger I was in, did not hinder me from conſidering that my preſent dreſs, only a gown and ſlippers, would render my getting over the ruins almoſt impracticable: I had, therefore, ſtill preſence of mind enough left, to put on a pair of ſhoes and a coat, the firſt that came in my way, which was every thing I ſaved, and in this dreſs I hurried down ſtairs, the woman with me, holding by my arm, and made directly to that end of the ſtreet which opens to the Tagus, but finding the paſſage this way entirely blocked up with the fallen houſes to the height of their ſecond ſtories, I turned back to the other end which led

into the main ſtreet, (t
roughfare to the Pala
helped the woman over a vaſt heap of
ruins, with no ſmall hazard to my own
life; juſt as we were going into this ſtreet,
as there was one part I could not well
climb over without the aſſiſtance of my
hands, as well as feet, I deſired her to let
go her hold, which ſhe did, remaining
two or three feet behind me, at which
inſtant there fell a vaſt ſtone, from a tot-
tering wall, and cruſhed both her and the
child in pieces, ſo diſmal a ſpectacle at
any other time would have affected me in
the higheſt degree, but the dread I was
in of ſharing the ſame fate myſelf, and the
many inſtances of the ſame kind which
preſented themſelves all around, were too
ſhocking to make me dwell a moment on
this ſingle object.

I had now a long narrow ſtreet to paſs,
with the houſes on each ſide four or five
ſtories

, all very old, the greater part [illegible] thrown down, or continually falling, and threatening the paſſengers with inevitable death at every ſtep, numbers of whom lay killed before me, or what I thought far more deplorable—ſo bruiſed and wounded that they could not ſtir to help themſelves. For my own part, as deſtruction appeared to me unavoidable, I only wiſhed I might be made an end of at once, and not have my limbs broken, in which caſe, I could expect nothing elſe but to be left upon the ſpot, lingering in miſery, like theſe poor unhappy wretches, without receiving the leaſt ſuccour from any perſon.

As ſelf-preſervation, however, is the firſt law of nature, theſe ſad thoughts did not ſo far prevail, as to make me totally deſpair. I proceeded on as faſt as I conveniently could, though with the utmoſt caution, and having at length got clear

of this horrid paſſage, I
and unhurt in the large c
St. Paul's church, which
down a few minutes before, and buried a great part of the congregation, that was generally pretty numerous, this being reckoned one of the moſt populous pariſhes in Liſbon. Here I ſtood ſome time, conſidering what I ſhould do, and not thinking myſelf ſafe in this ſituation, I came to the reſolution of climbing over the ruins of the weſt end of the church, in order to get to the river ſide, that I might be removed, as far as poſſible, from the tottering houſes, in caſe of a ſecond ſhock.

This, with ſome difficulty, I accompliſhed, and here I found a prodigious concourſe of people, of both ſexes, and of all ranks and conditions, among whom I obſerved ſome of the principal Canons of the Patriarchal church, in their purple

robes

chets, as theſe all go in the [illegible] hops; ſeveral Prieſts who had run from the altars in their ſacerdotal veſtments in the midſt of their celebrating maſs; ladies half dreſſed, and ſome without ſhoes; all theſe, whom their mutual dangers had here aſſembled as to a place of ſafety, were on their knees at prayers, with the terrors of death in their countenances, every one ſtriking his breaſt, and crying out, inceſſantly, *Miſerecordia meu Dios.*

Amidſt this crowd, I could not avoid taken notice of an old venerable Prieſt, in a ſtole and ſurplice, who, I apprehend, had eſcaped from St. Paul's. He was continually moving to and fro among the people exhorting them to repentance, and endeavouring to comfort them. He told them, with a flood of tears, that God was grievouſly provoked at their ſins, but that if they would call upon the Bleſſed Vir-

gin, ſhe would interced
one now flocked arou
begging his benediction, and happy
that man think himſelf, who could get near enough to touch but the hem of his garment; ſeveral I obſerved had little wooden crucifixes, and images of Saints, in their hands, which they offered me to kiſs, and one poor Iriſhman I remember held out a St. Antonio to me for this purpoſe, and when I gently put his arm aſide, as giving him to underſtand, that I deſired to be excuſed this piece of devotion, he aſked me, with ſome indignation, whether I thought there was a God. I verily believe many of the poor bigotted creatures, who ſaved theſe uſeleſs pieces of wood, left their children to periſh. However, you muſt not imagine, that I have now the leaſt inclination to mock at their ſuperſtitions, I ſincerely pity them, and muſt own, that a more affecting

was never ſeen. Their tears, the [illegible]ghs and lamentations, would have touched the moſt flinty heart. I knelt down amongſt them, and prayed as fervently as the reſt, though to a much properer object, the only Being who could hear my prayers, to afford me any ſuccour.

In the midſt of our devotions, the ſecond great ſhock came on, little leſs violent than the firſt, and compleated the ruin of thoſe buildings which had been already much ſhattered. The conſternation now became ſo univerſal, that the ſhrieks and cries of *Miſerecordia* could be diſtinctly heard from the top of St. Catherine's hill, at a conſiderable diſtance off, whither a vaſt number of people had likewiſe retreated; at the ſame time we could hear the fall of the pariſh church there, whereby many perſons were killed on the ſpot, and others mortally wounded. You may judge of the force of this ſhock, when I

inform

inform you, it was [illegible] could ſcarce keep on [illegible] was attended with ſo[illegible] ſtill more dreadful than the former.—On a ſudden I heard a general outcry, "The ſea is coming in, we ſhall be all loſt."—Upon this, turning my eyes towards the river, which in that place is near four miles broad, I could perceive it heaving and ſwelling in a moſt unaccountable manner, as no wind was ſtirring; in an inſtant there appeared, at ſome ſmall diſtance, a large body of water, riſing as it were like a mountain, it came on foaming and roaring, and ruſhed towards the ſhore with ſuch impetuoſity, that we all immediately ran for our lives, as faſt as poſſible; many were actually ſwept away, and the reſt above their waiſt in water at a good diſtance from the banks. For my own part, I had the narroweſt eſcape, and ſhould certainly have been loſt, had I

not

large beam that lay on the ... till the water returned to its channel, which it did almoſt at the ſame inſtant, with equal rapidity. As there now appeared at leaſt as much danger from the ſea as the land, and I ſcarce knew whither to retire for ſhelter, I took a ſudden reſolution of returning back with my cloaths all dropping, to the area of St. Paul's: here I ſtood ſome time, and obſerved the ſhips tumbling and toſſing about, as in a violent ſtorm; ſome had broken their cables, and were carried to the other ſide of the Tagus; others were whirled round with incredible ſwiftneſs; ſeveral large boats were turned keel upwards; and all this without any wind, which ſeemed the more aſtoniſhing. It was at the time of which I am now ſpeaking, that the fine new quay, built entirely of rough marble, at an immenſe expence, was entirely ſwallowed up, with all the people

people on it, who [illegible]
ſafety, and had reaſon[illegible]
out of danger in ſuch a [illegible]
time a great number of boats and ſmall veſſels, anchored near it (all likewiſe full of people, who had retired thither for the ſame purpoſe) were all ſwallowed up, as in a whirlpool, and never more appeared.

This laſt dreadful incident I did not ſee with my own eyes, as it paſſed three or four ſtones' throws from the ſpot where I then was, but I had the account as here given from ſeveral maſters of ſhips, who were anchored within two or three hundred yards of the quay, and ſaw the whole cataſtrophe. One of them in particular informed me, that when the ſecond ſhock came on, he could perceive the *whole* city waving backwards and forwards, like the ſea when the wind firſt begins to riſe; that the agitation of the earth was ſo great even under the river, that it threw up his large

om the mooring, which
ſw. termed it, on the ſurface of
the r; that immediately upon this extraordinary concuſſion, the river roſe at once near twenty feet, and in a moment ſubſided; at which inſtant he ſaw the quay, with the whole concourſe of people upon it, ſink down, and at the ſame time every one of the boats and veſſels that were near it were drawn into the cavity, which he ſuppoſes inſtantly cloſed upon them, inaſmuch as not the leaſt ſign of a wreck was ever ſeen afterwards. This account you may give full credit to, for as to the loſs of the veſſels, it is confirmed by every body; and with regard to the quay, I went myſelf a few days after, to convince myſelf of the truth, and could not find even the ruins of a place, where I had taken ſo many agreeable walks, as this was the common rendezvous of the factory in the cool of the evening. I found

found it all deep wa
ſcarcely to be fathoi

This is the only
which was ſwallowed up in or about Lis-
bon, though I ſaw many large cracks and
fiſſures in different parts, and one odd phe-
nomenon I muſt not omit, which was
communicated to me by a friend who has
a houſe and wine-cellars on the other ſide
the river, viz. that the dwelling-houſe
being firſt terribly ſhaken, which made
all the family run out, there preſently fell
down a vaſt high rock near it, that
upon this the river roſe and ſubſided in
the manner already mentioned, and im-
mediately a great number of ſmall fiſ-
ſures appeared in ſeveral contiguous pieces
of ground, from whence there ſpouted
out like a *jet d'eau* a large quantity of fine
white ſand, to a prodigious height. It is
not to be doubted the bowels of the earth
muſt have been exceſſively agitated to
cauſe

rizing effects, but whether ere owing to any ſudden explo- various minerals mixing together, or to air pent up, and ſtruggling for vent, or to a collection of ſubterraneous waters forcing a paſſage, God only knows; as to the fiery eruptions then talked of, I believe they are without foundation, though it is certain, I heard ſeveral complaining of ſtrong ſulphureous ſmells, a dizzineſs in their heads, a ſickneſs in their ſtomachs, and difficulty of reſpiration, not that I felt any ſuch ſymptoms myſelf.

I had not been long in the area of St. Paul's, when I felt the third ſhock, which though ſomewhat leſs violent than the two former, the ſea ruſhed in again, and retired with the ſame rapidity, and I remained up to my knees in water, though I had gotten upon a ſmall eminence at ſome diſtance from the river, with the ruins of ſeveral intervening houſes to break its force. At this time

time I took notice th
impetuouſly, that ſom
quite dry, which rode
water: the river thus
nately ruſhing on and retiring ſeveral times together, in ſuch ſort, that it was juſtly dreaded, Liſbon would now meet the ſame fate, which a few years ago had befallen the city of † Lima, and no doubt had this place lain open to the ſea, and the force of the waves not been ſomewhat broken by the winding of the Bay, the lower parts of it at leaſt would have been totally deſtroyed.

The maſter of a veſſel, which arrived here juſt after the firſt of November, aſſured me, that he felt the ſhock above forty leagues at ſea ſo ſenſibly, that he really concluded he had ſtruck upon a rock, till he threw out the lead, and could find no bottom, nor could he poſſibly

† This happened in 1746.

gueſs

cauſe, till the melancholy deſolate city left him no t of it. The two firſt ſhocks in fine were ſo violent, that ſeveral pilots were of opinion, the ſituation of the bar, at the mouth of the Tagus, was changed. Certain it is, that one veſſel, attempting to paſs through the uſual channel, foundered, and another ſtruck on the ſands, and was at firſt given over for loſt, but at length got through. There was another great ſhock after this, which pretty much affected the river, but I think not ſo violently as the preceding, though ſeveral perſons aſſured me, that as they were riding on horſeback in the great road leading to Belem, one ſide of which lies open to the river, the waves ruſhed in with ſo much rapidity, that they were obliged to gallop as faſt as poſſible to the upper grounds, for fear of being carried away.

I was now in ſuch a ſituation, that I knew not which way to turn myſelf; if

I remained there, I wa
the ſea; if I retired furth
the houſes threatened cer
and, at laſt, I reſolved to g the Mint,
which being a low and very ſtrong build-
ing, had received no conſiderable da-
mage, except in ſome of the apartments
towards the river. The party of ſoldiers,
which is every day ſet there on guard,
had all deſerted the place, and the only
perſon that remained, was the command-
ing officer, a nobleman's ſon, of about
ſeventeen or eighteen years of age, whom
I found ſtanding at the gate. As there
was ſtill a continued tremor of the earth,
and the place where we now ſtood (being
within twenty or thirty feet of the oppo-
ſite houſes, which were all tottering)
appeared too dangerous, the court yard
likewiſe being full of water, we both
retired inward to an hillock of ſtones
and rubbiſh: here I entered into conver-
ſation with him, and having expreſſed
my

on that one ſo young ſhould
urage to keep his poſt, when
every one of his ſoldiers had deſerted
theirs, the anſwer he made, was, *though he were ſure the earth would open and ſwallow him up, he ſcorned to think of flying from his poſt.* In ſhort, it was owing to the magnanimity of this young man, that the mint, which at this time had upwards of two millions of money in it, was not robbed; and indeed I do him no more than juſtice, in ſaying, that I never ſaw any one behave with equal ſerenity and compoſure, on occaſions much leſs dreadful than the preſent. I believe I might remain in converſation with him near five hours; and though I was now grown faint from the conſtant fatigue I had undergone, and having not yet broken my faſt, yet this had not ſo much effect upon me as the anxiety I was under for a particular friend, with

whom I was to have din[illegible]
who lodging at the top [illegible]
houſe in the heart of the c[illegible]
a ſtranger to the language, [illegible] but
be in the utmoſt danger: my concern, therefore, for his preſervation, made me determine, at all events, to go and ſee what was become of him, upon which, I took my leave of the officer.

As I thought it would be the height of raſhneſs to venture back through the ſame narrow ſtreet I had ſo providentially eſcaped from, I judged it ſafeſt to return over the ruins of St. Paul's to the river ſide, as the water now ſeemed little agitated. From hence I proceeded, with ſome hazard, to the large ſpace before the Iriſh convent of Corpo Santo, which had been thrown down, and buried a great number of people who were hearing maſs, beſides ſome of the friars; the reſt of the community were ſtanding in the area, looking,

th ejected countenances, to-
ruins: from this place I took
my o the back ſtreet leading to the Palace, having the ſhip yard on one ſide, but found the further paſſage, opening into the principal ſtreet, ſtopped up, by the ruins of the Opera-houſe, one of the ſolideſt and moſt magnificent buildings of the kind in Europe, and juſt finiſhed at a prodigious expence; a vaſt heap of ſtones, each of ſeveral tons weight, had entirely blocked up the front of Mr. Briſtow's houſe, which was oppoſite to it, and Mr. Ward, his partner, told me the next day, that he was juſt that inſtant going out at the door, and had actually ſet one foot over the threſhold, when the weſt end of the Opera-houſe fell down, and had he not in a moment ſtarted back, he ſhould have been cruſhed into a thouſand pieces.

From hence I turned back, and attempted getting by the other way into

the great Square of the P[illegible] large as Lincoln's-Inn-Fie[illegible] which had been taken up by th[illegible] quay I ſpoke of, now no more; but this paſſage was likewiſe obſtructed by the ſtones fallen from the great arched gate-way: I could not help taking particular notice, that all the apartments wherein the Royal Family uſed to reſide, were thrown down, and themſelves, without ſome extraordinary miracle, muſt unavoidably have periſhed, had they been there at the time of the ſhock. Finding this paſſage impracticable, I turned to the other arched-way which led to the new Square of the Palace, not the eighth part ſo ſpacious as the other, one ſide of which was taken up by the Patriarchal church, which alſo ſerved for the Chapel Royal, and the other by a moſt magnificent building of modern architecture, probably indeed by far the moſt ſo, not yet compleatly finiſhed; as to the former, the roof

and

he front walls were thrown he latter, notwithſtanding their ſolidity, had been ſo ſhaken, that ſeveral large ſtones fell from the top, and every part ſeemed disjointed. The Square was full of coaches, chariots, chaiſes, horſes, and mules, deſerted by their drivers and attendants, as well as their owners.

The nobility, gentry, and clergy, who were aſſiſting at divine ſervice when the earthquake began, fled away with the utmoſt precipitation, every one where his fears carried him, leaving the ſplendid apparatus of the numerous altars, to the mercy of the firſt comer: but this did not ſo much affect me, as the diſtreſs of the poor animals, who ſeemed ſenſible of their hard fate; ſome few were killed, others wounded, but the greater part which had received no hurt, was left there to ſtarve.

From this Square, the way led to my friend's lodgings, through a long ſteep

and narrow ſtreet: the ne
horror I met with here, exc
ſcription; nothing could be
ſighs and groans, I did not meet with a ſoul in the paſſage who was not bewailing the death of his neareſt relations and deareſt friends, or the loſs of all his ſubſtance; I could hardly take a ſingle ſtep without treading on the dead, or the dying: in ſome places lay coaches, with their maſters, horſes, and riders, *almoſt* cruſhed in pieces; here, mothers with infants in their arms; there, ladies richly dreſſed, prieſts, friars, gentlemen, mechanics, either in the ſame condition, or juſt expiring; ſome had their backs or thighs broken, others vaſt ſtones on their breaſts; ſome lay almoſt buried in the rubbiſh, and crying out in vain to the paſſengers for ſuccour, were left to periſh with the reſt.

At length I arrived at the ſpot oppoſite to the houſe where my friend, for whom

I was

s, reſided, and finding this
ntiguous buildings thrown
nade me give him over for
loſt) I now thought of nothing elſe but ſaving my own life in the beſt manner I could, and in leſs than an hour got to a public-houſe, kept by one Morley, near the Engliſh burying-ground, about half a mile from the city, where I ſtill remain, with a great number of my countrymen, as well as Portugueſe, in the ſame wretched circumſtances, having almoſt ever ſince lain on the ground, and never once within doors, with ſcarcely any covering to defend me from the inclemency of the night air, which, at this time, is exceeding ſharp and piercing.—Perhaps you may think the preſent doleful ſubject here concluded; but, alas! the horrors of the firſt of November, are ſufficient to fill a volume. As ſoon as it grew dark, another ſcene preſented itſelf

little

little leſs ſhocking than th
ſcribed—the whole city a
blaze, which was ſo bright
eaſily ſee to read by it. It may be ſaid, without exaggeration, it was on fire at leaſt in an hundred different places at once, and thus continued burning for ſix days together, without intermiſſion, or the leaſt attempt being made to ſtop its progreſs.

It went on conſuming every thing the earthquake had ſpared, and the people were ſo dejected and terrified, that few or none had courage enough to venture down, to ſave any part of their ſubſtance; every one had his eyes turned towards the flames, and ſtood looking on with ſilent grief, which was only interrupted by the cries and ſhrieks of women and children calling on the Saints and angels for ſuccour, whenever the earth began to tremble, which was ſo often this night,

and

[illegible]y ſay, ever ſince, that the [illegible] or leſs, did not ceaſe for a [illegible] hour together. I could never learn, that this terrible fire was owing to any ſubterraneous eruption, as ſome reported, but to three cauſes, which all concurring at the ſame time, will naturally account for the prodigious havock it made; the firſt of November being All Saints Day, a high feſtival among the Portugueſe, every altar in every church and chapel (ſome of which have more than twenty) was illuminated with a number of wax tapers and lamps, as cuſtomary; theſe ſetting fire to the curtains and timber work that fell with the ſhock, the conflagration ſoon ſpread to the neighbouring houſes, and being there joined with the fires in the kitchen chimnies, increaſed to ſuch a degree, that it might eaſily have deſtroyed the whole city, tho' no other cauſe had concurred, eſpecially as it met with no interruption.

But

But what would appe[illegible] o you, were the fact leſs p[illegible] - rious, is, that a gang of h[illegible] , who had been confined, and got out of priſon when the wall fell, at the firſt ſhock, were buſily employed in ſetting fire to thoſe buildings, which ſtood ſome chance of eſcaping the general deſtruction. I cannot conceive what could have induced them to this helliſh work, except to add to the horror and confuſion, that they might, by this means, have the better opportunity of plundering with ſecurity. But there was no neceſſity for taking this trouble, as they might certainly have done their buſineſs without it, ſince the whole city was ſo deſerted before night, that I believe not a ſoul remained in it, except thoſe execrable villains, and others of the ſame ſtamp. It is poſſible ſome among them might have had other motives beſides robbing, as one in particular being apprehended (they ſay he

he [illegible] condemned to the gallies§) co[illegible] gallows, that he had ſet fire [illegible] King's Palace, with his own hand; at the ſame time glorying in the action, and declaring with his laſt breath, that he hoped to have burnt all the Royal Family. It is likewiſe generally believed, that Mr. Briſtow's houſe, which was an exceeding ſtrong edifice, built on vaſt ſtone arches, and had ſtood the ſhocks without any great damage, further than what I have mentioned, was conſumed in the ſame manner. The fire in ſhort, by ſome means or other, may be ſaid to have deſtroyed the whole city, at leaſt every thing that was grand or valuable in it. The damage on this occaſion is not to be eſtimated, but you may judge it muſt have been immenſe, from the few following particulars:

All the fine tapeſtry, paintings, plate, jewels, furniture, &c. of the King's Pa-

§ Thirty-four of theſe wretches were executed in a few days.

lace,

lace, amounting to man
the rich veſtments and c
of the Patriarchal chu
(where ſervice was performed with no leſs pomp than that of the Pope's own chapel); all the riches of the Palace of Braganza, where the crown-jewels, and plate of ineſtimable value, with quantities of the fineſt ſilk tapeſtries, interwoven with gold and ſilver thread, and hangings of velvet and damaſk, were kept; all the rich goods and ſpices in the India Ware-houſes under the Palace, thoſe belonging to the merchants of different nations in the oppoſite Cuſtom-houſe, as well as thoſe in the merchants own houſes, and diſperſed among the numerous ſhops, *were utterly conſumed, or loſt*; even thoſe *few* effects that had the luck of eſcaping the firſt flames, found no ſecurity in the open ſpaces they were carried to, being there either burnt with the ſparks that fell



f e, or loſt in the hurry and
le were then in, or (which
been the caſe of many per-
ſons property) ſtolen by thoſe abandoned villains, who made their doubly wicked advantage of this general calamity.

With regard to the buildings it was obſerved, that the ſolideſt, in general, fell the firſt §, among which, beſides thoſe already mentioned, were, the Granaries of the public Corn Market; the great Royal Hoſpital in the Roçieu, that called the Miſerecordia, for the maintenance of poor orphan girls, moſt of whom periſhed; the fine church and convent of St. Do-

§ This circumſtance ſeems to favour Dr. Stukeley's opinion, that Earthquakes are, in a great meaſure, owing to electrical ſhocks; and I remember, when the Earthquakes were felt in London, that the greateſt force was reported to have been perceived by thoſe perſons who were placed with their backs near the ſouth wall of the Courts of Chancery and the King's-Bench, in Weſtminſter-Hall, where its thickneſs was ſaid to be not leſs than ſeven or eight feet.

mingo,

mingo, where was one of
nobleſt libraries in Eur
church of the Carmelite
two rows of white marbl
the miraculous image of our Lady of Mount Carmel, who could not ſave her favourite temple from ruin; the old Cathedral, which was of an exceſſive thickneſs; the magnificent church of the regular Canons of St. Auguſtine, not much unlike our St. Paul's, though not to be compared to it for bigneſs, and reckoned by connoiſſeurs, the fineſt piece of architecture in Europe, where lay the bodies of the late King John, and ſeveral of the Royal Family, whoſe monuments, by the fall of the cupola, were cruſhed in pieces; the Caſtle, or Citadel, wherein the antient archives and records were repoſited; the Priſon of the Inquiſition, or Holy Office, as it is called, with that of the Limoeira, which was a Palace of the

Mooriſh

er which, the ſu-
e was held, for the
In ſhort, it is im-
the particular da-
mages in buildings only; to ſay all in one word, every pariſh church, convent, nunnery, palace, and public edifice, with an infinite number of private houſes, were either thrown down, or ſo miſerably ſhattered, that it was rendered dangerous to paſs by them. As to the people who loſt their lives on this occaſion, to ſay nothing of thoſe who were cruſhed to death in their own houſes, in ſome of which, no leſs than forty perſons were killed, (as a family lived on every floor) either meeting with immediate death, or having had their limbs broken by the fall of the ſtones in the ſtreets; you may eaſily judge what prodigious numbers muſt have periſhed in the churches and convents, as the firſt ſhock happened at high maſs,

when they were aſſembled a
tions. I have already given
ſtances, and you may judge o
what follows:

In the large convent of St. Francis, which conſiſted of near three hundred friars, the roof fell down as they were ſinging in the choir, and, at the ſame time, a high gallery over the weſt door fronting the great altar, and buried all, except about eighteen of the community, with the numerous congregation below. In the monaſtery of Santa Clara, one hundred and fifty of the nuns, with their waiting women; in that of the Calvario, which ſtands in the road leading to Belem, moſt of the nuns then in the choir, as well as a great part of the congregation in the body of the church, ſhared the ſame fate. The Engliſh nunnery was likewiſe thrown down, but whether any were killed I cannot learn. In the con-

vent

ve[illegible]inity, I am credibly in-
fo[illegible]teen hundred were killed.
T[illegible] other church and chapel
ſuffered in proportion. In the priſon of Limoeira, near four hundred were cruſhed by the ſudden falling down of a wall, though the greateſt villains there, eſcaped to do further miſchief.

The whole number of perſons that periſhed, including thoſe who were burnt, or afterwards cruſhed to death whilſt digging in the ruins, is ſuppoſed, on the loweſt calculation, to amount to more than ſixty thouſand; and though the damage in other reſpects cannot be computed, yet you may form ſome idea of it, when I aſſure you, that this extenſive and opulent city, is now nothing but a vaſt heap of ruins, that the rich and poor are at preſent upon a level, ſome thouſands of families which but the day before had been eaſy in their circumſtances, being

now ſcattered about in the [illegible] ng
every conveniency of li [illegible] ng
none able to relieve them

Amidſt ſuch ſcenes of univerſal affliction, the fate of individuals may ſeem of too little conſequence to be taken notice of, however I cannot forbear mentioning two or three inſtances, eſpecially as I was acquainted with the unhappy ſufferers, and believe you had ſome knowledge of them: the firſt is of Mrs. Perichon, who running out of her houſe at the beginning of the ſhock, in company with her huſband, whom ſhe followed at a ſmall diſtance, was buried under the ruins of a building, which ſuddenly fell down before he perceived it; and when he looked back expecting to find her near him, there was not the leaſt appearance of her, and to attempt any ſearch in ſuch a place, would have been only expoſing his own life. The ſecond is of a Mr. Vincent,

who

wh[illegible] bſent from Liſbon a conſide[illegible]ne, at a town, called Martinico, eighteen leagues from Liſbon, but his ill fate prompted him to come to this city, at which he arrived upon the evening of the fatal day, in order to partake of ſome diverſions; but he never left the houſe he ſlept in, being ſuddenly cruſhed to death before he was dreſſed, and buried in the ruins, which is the only tomb he is ever like to have, for though his friends after many fruitleſs ſearches, diſcovered, as they ſuppoſed, the remains of his body, they found them ſo putrid, broken, and ſcattered, that it was impoſſible to remove them. The laſt caſe is ſtill more lamentable; it is of a young lad, brother to Mr. Holford of London, remarkable for his modeſty and affable behaviour: he was walking through one of the ſtreets near the front door of a pariſh church when the firſt ſhock happened, at which

time he had both his leg [illegible] he fall of a large ſtone: ir [illegible] ble condition he lay ſome ti[illegible] be-ſeeching the terrified paſſengers to take ſome pity; at length a tender-hearted Portugueſe, moved by his cries, took him up in his arms, and carried him into the church, as imagining this a ſafer place than the open ſtreet; at this inſtant, the ſecond ſhock entirely blocked up the door, and the body of the church being ſoon all on fire, the lad was burnt alive, with his generous aſſiſtant, and many other poor wretches, who hoped to have found there ſome ſhelter.

A few days after the firſt conſternation was over, I ventured down into the city, by the ſafeſt ways I could pick out, to ſee if there was a poſſibility of getting any thing out of my lodgings, but the ruins were now ſo augmented by the late fire, that I was ſo far from being able to

diſtinguiſh

individual ſpot where the
hat I could not even diſtin-
eet, amidſt ſuch mountains
rubbiſh which roſe on every
ſide. Some days after, I ventured down again with ſeveral porters, who, having long plied in theſe parts of the town, were well acquainted with the ſituation of particular houſes; by their aſſiſtance, I at laſt diſcovered the ſpot; but was ſoon convinced, to dig for any thing here, beſides the danger of ſuch an attempt, would never anſwer the expence, and what further induced me to lay aſide all thoughts of the matter, was the ſight of the ruins ſtill ſmoaking, from whence I knew for certain, that thoſe things I ſet the greateſt value on, muſt have been irrecoverably loſt in the fire.

On both the times when I attempted to make this fruitleſs ſearch, eſpecially the firſt, there came ſuch an intolerable

ſtench from the dead bodie
ready to faint away, and tho
ſeem ſo great this laſt tim
like to have been more fatal to me, as I contracted a fever by it, but of which, God be praiſed, I ſoon got the better. However, this made me ſo cautious for the future, that I avoided paſſing near certain places, where the ſtench was ſo exceſſive that people began to dread an infection; a gentleman told me, that going into the town a few days after the earthquake, he ſaw ſeveral bodies lying in the ſtreets, ſome horribly mangled, as he ſuppoſed, by the dogs; others half burnt; ſome quite roaſted; and that in certain places, particularly near the doors of churches, they lay in vaſt heaps, piled one upon another. You may gueſs at the prodigious havock which muſt have been made, by the ſingle inſtance I am going to mention: There was an high arched paſſage, like one of

ates, fronting the weſt door
cathedral, on the left hand
ous church of St. Antonio,
ight ſome private houſes, ſe-
veral ſtories high. The whole area ſur-
rounded by all theſe buildings, did not
much exceed one of our ſmall courts
in London. At the firſt ſhock, numbers
of people who were then paſſing under
the arch, fled into the middle of this area
for ſhelter: thoſe in the two churches, as
many as could poſſibly get out, did the
ſame; at this inſtant the arched gate-way,
with the fronts of the two churches and
contiguous buildings, all inclining one
towards another with the ſudden violence
of the ſhock, fell down and buried every
ſoul as they were ſtanding here crowded
together. They have been employed now
for ſeveral days paſt, in taking up the
dead bodies, which are carried out into
the neighbouring fields, but the greater

part

part ſtill remain under th[illegible]or
do I think it would be [illegible]re
them, even though it we[illegible]e,
on account of the ſtench: the King, they ſay, talks of building a new city at Belem§, but be this as it will, it is certain he will have no thoughts of rebuilding the old, until thoſe bodies have lain long enough to be conſumed.

I ſhall mention only one circumſtance more, relating to this dreadful affair, as there appeared ſomething very extraordinary in it. One Mr. Burmaſter, a Hamburgh merchant of this place, had received a letter from his partner at Hamburgh, adviſing him to remove a large quantity of Flax, and other valuable ef-

§ A fortified town of Portugal, in Eſtremadura, ſeated on the north ſide of the Tajo, about a mile from Liſbon, deſigned to defend the entrance to that city; here all the ſhips which ſail up the river muſt bring to. And here they inter the Kings and Queens of Portugal.

fects,

the houſe he then reſided in, liſtant warehouſes in different e city, giving as a reaſon for his defiring him to uſe this precaution, that he had dreamed for fourteen nights together, the city of Liſbon was all on fire. You may depend on the veracity of the fact, as here related, ſince Mr. Burmaſter publicly ſhowed this letter to every body. But whether the advice was owing to any ſupernatural warning, or merely accidental, it was of no manner of ſignification, as he did not pay the leaſt regard to it; ſo that his goods ſhared the ſame fate with the reſt of his neighbours.

Thus, my dear friend, have I given you a genuine, though imperfect account, of this terrible judgment, which has left ſo deep an impreſſion on my mind, that I ſhall never wear it off; I have loſt all the money I had by me, and have ſaved no other cloaths than what I have on my back;

back; but what I regret moſt
reparable loſs of my books and
add to my preſent diſtreſs, tho
whom I could have applied on any other occaſion, are now in the ſame wretched circumſtances with myſelf. However, notwithſtanding all that I have ſuffered, I do not think I have reaſon to deſpair, but rather, to return my gratefulleſt acknowledgments to the Almighty, who hath ſo viſibly preſerved my life amidſt ſuch dangers, where ſo many thouſands periſhed; and the ſame good Providence, I truſt, will ſtill continue to protect me, and point out ſome means to extricate myſelf out of theſe difficulties.

As the place is in ſuch diſorder and confuſion, that the adminiſtration of juſtice is put a ſtop to, and it is not likely that any buſineſs will be carried on for ſome time, I intend to take my paſſage for England as ſoon as a convenient opportunity offers.

I am, &c.

LETTER II.

Henſted, Oct. 1774.

DEAR CHARLES,

I HAD no pleaſure in the thought of ſetting about a compendium of the rules of Accent, which is one reaſon of your not receiving it ſo ſoon as you expected; another which has operated in the delay with more force, is, that the Learned having left many things uncertain with reſpect to an application of the accentual marks, which they have ſometimes likewiſe confounded with the real accents of the voice, I have found it more difficult than I at firſt ſuppoſed it would be, to render what was to be ſaid upon the ſubject clear and conſiſtent, or to compile

pile an abſtract, which ſhoul
time be not very incomple
taking in too much; and co
out being very defective. I fondly pre-
ſumed, the whole of what is neceſſary might have been compriſed in little more than half a ſheet of paper, but in one of the grammars I have juſt looked into, in uſum Scholæ regiæ Weſtmonaſterienſis, and that not the moſt prolix of them, the chapter of Accents takes up ſeven and fifty pages of cloſe printing. His head I hope is now well at reſt who compoſed it. What a taſk have I undertaken! Something, however, muſt be done, in conſequence of my promiſe.

I think it pretty clear, that ſoon after the introduction of accentual marks, which I apprehend to have been many years before the death of Cicero; the number of them was *four*, which I was not apprized of when I wrote to you concern-

ing

i[illegible] time ſince, or at leaſt I did
r[illegible]rcumſtance to mind at the
[illegible]eed, all the grammars for
the [illegible]bols, which I have hitherto
looked into, mention only the *Acute*,
the *Grave*, and the *Circumflex*. The
Acute, *aſcending* from the left hand to
the right [′], the Grave, *deſcending* from
the left hand toward the right [`], and
the Circumflex; which laſt was formed
by joining the other two together at the
top, thus [^]; though the waving line
[˜] as pointing out its effect upon the
ear, hath in general ſucceeded into its
place. The *Acute* accentual mark de-
noted, that the ſyllable over which it was
placed, was to be raiſed in utterance; the
Grave, that the voice was to be relatively
depreſſed; and the *Circumflex*, that the
voice was to be raiſed and lowered again
upon the ſame ſyllable. Thus far is re-
petition, for the ſake of diſtinguiſhing the

fourth

fourth accentual mark, wh[illegible] in ſimple ſtroke of the pen, [illegible] h-dicularly, [ı] thus; from [illegible] c-quired the name of τόνος ορθυς, or the up-right accent, to intimate, that a riſe or fall of the voice was not intended by it, but ſomething different; what that was ſhall be taken notice of hereafter.

The Acute accentual character [′] was drawn over

The Ultimate,
The Penultimate, or
The Antepenultimate
} ſyllable.

The Grave accentual character [`] was drawn over

The Ultimate only; and

The Circumflex [^] was drawn over

The Ultimate, or
The Penultimate
} ſyllable;

but never over the Antepenultimate.

When the Acute was placed over the ultimate ſyllable of a word, as Θεός, ſuch word was called an Oxytone. And

All

upon the laſt ſyllable, of
ce fell, though not actually
a Grave, as λόγος, were
es.

When the Acute was placed upon the Penultimate ſyllable of words which had more than two ſyllables, as ᾽οικίζω, they were generally called Paroxytones. And

When the Acute was placed upon the Antepenultimate ſyllable, as τύπτομαι, words ſo accented, were called Proparoxytones.

Cicero appears to have conſidered the riſe of the voice, or the accent properly ſo called, as limited by *Nature* to one of the three laſt ſyllables of a word; and as he has not aſſigned any reaſon for thus attributing it to a natural Principle, I ſhall hazard a word or two upon the ſubject, but lay no great ſtreſs upon my opinion; you will judge for yourſelf.

I have already obſerved §, that to converſe, or hold up a diſcourſe, in one un-

§ Vol. i. p. 13.

varied tone of voice is n[illegible]-
ſiſtent with our natural [illegible]y
in ſounds, as well as in e[illegible]e,
but that it muſt be extrem[illegible], or
rather, impoſſible to be done. The raiſing our voice upon one ſyllable only of every word, whatever number of ſyllables they may be compoſed of, certainly gives, though not a *neceſſary*, yet a proper diſtinctneſs to them, by ſeparating each from the antecedent and ſubſequent one in every ſentence, which would otherwiſe blend and run together; why it was proper to do this upon the laſt ſyllable, upon the laſt but one, or the laſt but two, is the queſtion to be determined. Now the reaſon appears to me to be this; that if the acute accent, or the riſe of the voice in utterance was carried back beyond the third, to the fourth or fifth ſyllable of a word, for inſtance from the laſt, there would of courſe be too many ſyllables remaining

e uttered *nearly* at the ſame
er to compleat it: two ſyl-
ining *two* times, that is to
rt ſyllables, or two ſyllables
comprehending three times, that is to ſay, one long ſyllable and one ſhort, being as many as can be pronounced in immediate ſequence at the ſame pitch, after a fall of the voice from the elevation of the acute accent, or indeed in *any* caſe with facility, or with an agreeableneſs of utterance: but the third ſyllable from the ultimate incluſive, I am inclined to *believe*, is in fact the middle ſyllable of moſt long words in Greek which are uncompounded, for in general theſe do not exceed the number of five ſyllables: I have not enquired into this matter with the ſtricteſt attention, and offer it to you rather as a conjecture, though I preſume it is the truth; but you may eaſily conceive, that if the generality of words conſiſted

of more than *five* or *ſix* ſy
the voice were limited for
ſake to a ſingle acute accen
word (which ſeems to have
mined with great judgment) the melody of verbal *ſounds*, or the variety of utterance, would be ſo confined by the neceſſity of pronouncing a number of ſyllables in immediate ſucceſſion, either before or after the Acute, at the *ſame* pitch, that the muſic of ſpeech would be as heavy as the drone of a bag-pipe; ſo that the Antients did the beſt they could to render their language as ſweet as poſſible, by confining the Acute in general to the middle ſyllable of their long words, and determining the times of the ſyllables which were to ſucceed it, at moſt to three.

Whether what I have ſuppoſed of the number of ſyllables in general in their long words be well founded or otherwiſe, muſt be left to thoſe perſons who have more

nd inclination for word
have at preſent, but I
add another obſervation
in this place, the truth of which I have not the leaſt reaſon to doubt, namely, that thoſe ſpeakers amongſt the Greeks, who were tolerably exact in tuning the melody of their ſtyle, were no leſs careful not to utter a number of Oxytones or Barytones, or words of any particular accentual character [ὁμοιότονα] in immediate ſequence, than they were not to join a number of Spondees, or Dactyls, or Anapæſts, or Cretics, &c, in uninterrupted ſucceſſion, to hurt the meaſure of their Rythmus, and the force of their expreſſion; though an attention to the laws of verſe would ſometimes neceſſarily prevent their ſtrict obſervance of the above rule reſpecting accents, the failure of which, was covered in a degree by the muſic of the numbers.

I am, &c.

LETTER III.

Henſted, Nov. 1774.

DEAR CHARLES,

THE Paſſage of Cicero referred to in my laſt, is as follows: Ipſa enim *Natura* quaſi modularetur Hominum orationem in omni verbo poſuit acutam, nec una plus, nec a poſtrema ſyllaba citra tertiam, quo magis Naturam Ducem ad aurium voluptatem ſequatur Induſtria; for as he goes on to obſerve, our ordinary ſpeech contains in it a ſpecies of melody, eſt enim in dicendo quidam *cantus* obſcurior [Orator § xviii.] though at the ſame time he condemns the Carian and the Phrygian Rhetoricians for an affected manner of chanting as it were their perorations,

which means, they con-
fe[illegible]e branch of Elocution with
Song. The cenſure, probably, was juſt;
but however accurate and learned Cicero's
ear was in reſpect to Rythmus, the ſcience
of which had been long cultivated with
the Romans from its connection with
verſification, or rather, as the ſource of
it, I have ſome reaſons for doubting
whether he was equally ſkilled in the
doctrine of Accents, which depend upon
the Principles of *Tune*. That he had
not employed his thoughts much upon
the ſubject is clear, for in an Epiſtle to
Atticus, written not long before his aſſaſ-
ſination, he laments the not having had
an opportunity of peruſing a popular diſ-
ſertation upon Accents, written by Ty-
rannio, and accuſing his friend of un-
kindneſs in reading it in his abſence,
earneſtly deſiring at the ſame time, that
the volume might be ſent to him into

Greece, if I remember ri
then was, in the laſt diſtre
public, though he tells h
treatiſe itſelf could not poſſibly pleaſe him more than *his* approbation of it.

Whatever may have been the merit of this diſſertation, it is entirely loſt, with ſome other curious pieces of the ſame author, a learned Greek, who lived in Cicero's family after his return from baniſhment, and is ſaid to have been the ſlave of his wife, but whether of his firſt or ſecond I do not at preſent recollect: we may preſume, that it related chiefly to the *Roman* manner of Accentuation, for amongſt Tyrannio's other diſquiſitions, there was an expreſs treatiſe upon the Roman Language, to which, this was, probably, a ſuppliment. It ſeems to have been ſubmitted by the author, to Atticus's correction, and as there is ſomewhat peculiar in the manner of Cicero's rallying

iend for having treated him
n this occaſion, in which he
neſt, now the volume is be-
fore me, I ſhall tranſcribe this paſſage likewiſe, eſpecially as I ſuſpect you have not an opportunity of turning to the original.

Ain' tu?—verum hoc fuit?—ſine me?—at *ego* quoties eſſem *otioſus*, ſine *te* nolui. Quo modo ergo lues?—uno ſcilicet: ſi mihi Librum miſeris. Quod ut facias iterum atq; iterum rogo; etſi me non magis Liber ipſe delectabit, quam tua admiratio delectavit—*and again*, Librum ſi me amas mitte, tuus eſt enim quoniam quidem eſt miſſus ad te.

It appears from this ſame Epiſtle, which is the ſixth of the twelfth book in my edition, that Atticus himſelf had begun a Treatiſe upon the ſame ſubject, which ſeems to have been novel at that time amongſt the Learned, by its engaging ſo ſtrongly

ſtrongly the attention of Cicero: at leaſt, that the Accentuation had not then ſettled.

I have ſaid, in more places than one, that the voice was both elevated and depreſſed by the circumflex, which is properly a double accentual mark. You will remember, therefore, that it can be placed only upon a *long* ſyllable, which contains two times, one of which muſt be aſſigned to its acute half, and the other to the grave portion of it; that is, one time to the elevation of the voice, and the other to its depreſſion, or the ſinking of it.

It is clear, from the ſame obſervation, that the circumflex could never be placed farther from the end of a word, than the penultimate ſyllable, whatever increaſe a word might admit of which ſeemed to require a different poſition of it; let us take

t[illegible]ῶμα for an inſtance, which h[illegible]umflex character upon the p[illegible]he ω muſt be pronounced nearly like two ομικρονς, [σόὸμα] with an acute upon the former, and a grave upon the latter, though ſlurd as it were togegether; if the genitive caſe of the ſame word was required, σώματος, this, according to a general rule, ſhould retain the ſame original accent upon the ſame ſyllable, namely, the firſt; but if this were done, the word would appear to conſiſt of four ſyllables, three of which would follow the acute, which, by the eſtabliſhed *Principle*, does not allow a ſequence of more than two ſyllables; ſo that the latter part of the circumflex muſt be omitted, and the acute half of it only retained, or, according to the grammar rule, the circumflex muſt be changed into an acute, and the word pronounced σώματος, that is, the voice muſt not ſink till the utterance

ance of the ſecond ſyllable
falling upon the ſame ſyll
it was elevated.

The gentleman, who aſked you why I placed a circumflex mark over the ablative caſe of latin nouns of the firſt declenſion, was by no means impertinent in his queſtion, and you may tell him, if you pleaſe, that as I was taught to do ſo when a boy, I have generally continued it from habit only ſince that time, for it is unneceſſary as a mere mark of diſtinction, and I ſuppoſe he conſidered me as doing it upon that account. The reaſon of this character having been impoſed upon the ablatives ſingular of the firſt declenſion, by ſome one of the Grammarians, whoſe authority was reſpected, (and you have my free liberty to attribute it to Tyrannio, if you think proper, till the merit of it is claimed in favour of ſome other critic) was, probably, on account of this being

a con-



lable, originally written with a double vowel aa, ht certainly to make a diſ- utterance of it from the nominative caſe with a ſingle vowel; and I have not the leaſt doubt of the Antients ſo doing, though this is now abſurdly neglected: but the utterance of a double vowel pronounced quick, yet ſtill preſerving the ſound of each, reſembles the riſe and fall of the voice pointed out by by the Greek circumflex, and of courſe lengthens the ſyllable, and it is not unlikely, that all circumflexed ſyllables in Greek, both of Nouns, Verbs, and Participles, were ſuch as had been originally written with a double vowel, tho' I dare not venture to affirm it.—You will apply what I have here ſaid, to the circumflexed genitive caſe ſingular of Latin nouns in the fourth declenſion, which was thus accented, I ſuppoſe, for

a ſimilar

a ſimilar reaſon, as manus [illegible] y written manûs and man [illegible] s anuis, which ſtill occur [illegible] n Terence, where the old fo [illegible] d for the ſake of the Rythmus ; ûs the genitive, and â the ablative, were, therefore, long ſyllables, in exception to the general proſodial rules reſpecting finals.

I ſhall give you a compendious ſyſtem of rules reſpecting Accentuation in my next, but how long it may be deferred I ſhall not ſay, in the mean time I ſhall think attentively upon the ſubject, and if I cannot execute what I intend perfectly, at leaſt I will endeavour to be clear.

I am,

Dear Charles, &c.

PS. The very learned Julius Scaliger, in the fifty-eighth chapter of his ſecond book de Cauſis Linguæ Latinæ, which I have turned to ſince I wrote laſt, hath

aſſerted,

[illegible] his uſual confidence, that [illegible] reaſons whatever can be given, for [illegible]ute accent of the voice not being drawn beyond the third ſyllable from the end of a word, foraſmuch as we are capable, in his opinion, of pronouncing as many ſyllables as we may think proper at the ſame pitch in immediate ſucceſſion, either after the acute or before it, juſt as we may ſound as many notes as we pleaſe at the ſame height in the ſcale with the harp or the flute: his concluſion is, therefore, that this reſtraint of the Roman and Greek accents was an arbitrary determination of Grammarians, in which, Nature was no way concerned. There is this reaſon for ſuppoſing Scaliger to be in an error, that the caſes upon which he builds his argument as ſimilar, are not ſo in reality, foraſmuch as the organs of the human voice cannot be held at the *ſame* preciſe degree of tenſion and aperture

whilſt

whilſt uttering a number
immediate ſucceſſion, whic
to ſound them at the ſame
ſame manner as a muſical in
be fixed, to repeat the ſame n
ber of times ſucceſſively without raiſing or ſinking it in the ſmalleſt degree; and it goes beyond the limits of conjecture, I am *certain*, that it muſt be *extremely difficult* to pronounce more than two or three ſyllables ſucceſſively, at the ſame preciſe elevation of voice, with our ordinary volubility of utterance, though I cannot ſay it is utterly impoſſible; I am, nevertheleſs, perſuaded, that this difficulty of preventing the voice from riſing and falling, that is, of holding it to the ſame degree of tune in utterance, is the natural Principle which Cicero alludes to, ſo far are we from converſing, as is commonly ſuppoſed, at any time in a monotony. A deciſive judgment concerning this

t[illegible]ngs rather to the philoſo-
[illegible]nuſician, than the profound
[illegible]the ſame learned and acute
w[illegible]ure of the Greeks as abſurd with reſpect to the uſe of the dipthongs αι and οι at the end of words, which they always conſidered as ſhort ſyllables in accentuation, whilſt they uttered them as long ones, moſt undoubtedly is juſt, and what may certainly be called, an arbitrary and capricious deſignation of Grammarians, for Nature does not authoriſe inconſiſtencies.

I am, &c.

LETTER

Henſted, Dec. 1774.

WHAT rules I ſhall lay down, my dear C. will afford you a general idea, and are as many as you will think of fixing in your memory at preſent.

I ſhall conſider in what inſtances the *Acute*, the *Grave*, and the *Circumflex*, are uſed, with reſpect to Monoſyllables, Diſſyllables, or Polyſyllables, which, I preſume, is the plaineſt method I can purſue, and of courſe will be the eaſieſt for you to recollect; and firſt of

The ACUTE *accentual Character.*

I. The Acute is placed over *Monoſyllables* which are not contracted, as νύξ, χθών,

[illegible] &c. or over thoſe monoſyl-
[illegible] remain after an apocope, as
[illegible] obſolete χρῆμι, except δῶ
for δωμα, [illegible] χρῖ for χριθή. But if mo-
noſyllables are either contracted or cur-
tailed by Aphæreſis, in theſe inſtances
they are circumflexed, as φῶς from φάος,
φῆν for ἔφην, as are likewiſe the monoſyl-
lables ὗς, σῦς, μῦς, δρῦς, πῦρ, and ſome
others.

II. The Acute in *Diſſyllables* is placed over the latter of adjectives in νός, τός, ρός, and ύς, as likewiſe over the latter ſyllable of theſe five indefinite imperatives, 'ειπέ, λαβέ, 'ελθέ, 'ευρέ, and 'ιδέ, which is a peculiarity, to diſtinguiſh them from the third perſons ſingular of the ſecond aoriſt indicative, for other imperatives acute their antepenultimate ſyllable if they have more than two, if not, they acute the penultimate; and it may be laid down as a general rule, that the acute accent of

verbs, is removed from th
lable as far as poſſible, v
rule interferes.

III. The Acute accent in *Diſſyllables* is placed over the former:

1*ſt*. When both ſyllables are long, as Ἥρως Heros, – –

2*dly*. When the former ſyllable is ſhort, and the ſecond long, as ἔρως amor, ˘ –

3*dly*. When each ſyllable is ſhort, as λόγος ſermo, ˘ ˘

IV. The Acute accent in *Polyſyllables* is placed upon the laſt ſyllable:

1*ſt*. Of adjectives in κός, λός, νός, ρός, σός, τός, and ής, firſt of the contracts.

2*dly*, Of verbal adjectives in τής, τήρ, τός, and μός.

3*dly*. Of ſubſtantives in άν, άς, ίς, ύς, ᾽εδών, ᾽ηδών, δών.

4*thly*. Of ſubſtantives in εύς of the third, and in ώς of the fourth declenſion of contracts.

5*thly*. Of

meral ſubſtantives, as μονάς ἁς the ternary number.

γ. Of names of months, as Ἑκατομβαιών June, and ſome derivatives.

V. The Acute Accent in *Polyſyllables* is placed upon the penultimate:

1*ſt*. Of nouns whoſe laſt ſyllable is long, as ἀνθρώπε.

2*dly*. Of ſubſtantives in ἰά, from verbs in ευω, as βασιλεία.

3*dly*. Of derivatives in δης, της, σκος, and ἴα.

4*thly*. Of diminutives in ιον, as παιδίον.

5*thly*. Of words compounded with a noun, or with a verb of one ſyllable only, as ἀπόδος redde, from απο-δος, the ſecond aoriſt imperative active.

6*thly*. Of verbal adjectives in εος or εον, as λεκτέος, λεκτέον, from λέγω.

7*thly*. Of adverbs (as they are called) of number, as τετράκις quatèr.

8*thly*. Of

8*thly*. Of participles of th
five, as τετυμμένος.

VI. The Acute Accent
is placed upon the antepenultimate:

1*ſt*. When the laſt ſyllable is ſhort, as
Ἄνθρωπος.

2*dly*. When the laſt ſyllable, though naturally long, is claſſed with ſhort ſyllables, which is the caſe of the final dipthongs ᾰι and ᾰο, reſpecting the rules of accent when a conſonant does not follow at the beginning of the next word, except in the adverb ὄικοι (as it is called), and the third perſons ſingular of the optative mood active, in which caſe, theſe dipthongs are deemed long, with reſpect to accents.

3*dly*. It is placed on the antepenultimate of the attic caſes of nouns, as λέξεως.

4*thly*. Of

oxytones compounded with α, εν, and ſome other particles, particularly monoſyllables which draw the accent towards the beginning of a word, as παιδευτὸς ἀπαίδευτος.

5*thly*. Of ſubſtantives ending in ια and ειρα from ſubſtantives maſculine, as ψάλτρια from ψαλτὴρ, δώτειρα from δωτὴρ.

6*thly*. Of ſubſtantives in εια, from the firſt declenſion of contracted nouns in ης, as ἀληθεια from ἀληθὴς.

7*thly*. Of nouns which end in οια, from νῦς, ῥῦς, πλῦς, πνῦς, as ἔυνοια, &c.

8*thly*. When paroxytones are compounded, as from ὥρα πρόωρος.

The GRAVE *accentual Character*.

The *Grave Accent* is never marked except upon the laſt ſyllable, but is ſuppoſed to have place upon every ſyllable

ſyllable which is ur
truth it does not ſo p
an accent, as the privat
or a fall of the voice
from whence it roſe to the acute.

The CIRCUMFLEX *accentual Character.*

VII. The Circumflex is placed over the laſt ſyllable:

1*ſt*. In the names of ſome trees, as Αμυγδαλῆ, &c.

2*dly*. In words ſignifying the hides of beaſts when flayed, as τραγῆ, κερδαλῆ, which are properly contracted adjectives to agree with δορὰ underſtood.

3*dly*. Over genitives and datives of oxytones of the firſt three declenſions in every number; and over the genitives plural of all nouns of the firſt and ſecond declenſion, with very few exceptions, as Μεσῶν, μαχαιρῶν, &c.

4*thly*. Over

er εῦ and οῦ finals, except ἰδοῦ
nd ἰού heu.

er vocatives in οι, as ὦ φειδῶοι.

6*thly*. Over the laſt ſyllables of adverbs derived from the genitives plural of adjectives, as αισχρῶς, καλῶς.

VIII. The Circumflex is placed over the penultimate ſyllable:

1*ſt*. When the penultimate is long by the nature of its vowel, and the laſt ſyllable ſhort, as σῶμα, except ὥσπερ, and εἴπερ.

2*dly*. When the penultimate is long by nature, and the ultimate long only by poſition or accident.

3*dly*. In words ending in ᾶιος, ῆιος, ῆιον, ᾶχος, ᾶτος, ῆλιξ.

4*thly*. When the ultimate ſyllable, tho' long, is conſidered as ſhort, by a rule of accentuation only, as κεῖμαι, οἶκοι.

If this compendium is not ſufficient for your purpoſe, you muſt have recourſe to

your Port Royal Grammar o
I ſhould have obſerved to you,
and participles retain in all th
original accent upon the ſame
which it was placed in the nominative, except a ſpecial rule oppoſes it, as ἄνθρωπος ἄνθρωπε, upon account of the laſt ſyllable being long in the genitive caſe, which was ſhort in the nominative, and removes the acute from the antepenultimate to the penultimate ſyllable. The accents of verbs likewiſe remain upon the ſame ſyllables over which they were placed in the theme or root, unleſs ſome ſpecial rule oppoſes it, as the ſecond future of the active voice changes the acute for a circumflex, and the ſecond aoriſt infinitive does the ſame; the aoriſts of the ſubjunctive paſſive circumflex the laſt ſyllable; and in the ſubjunctive preſent, verbs in μι are thus circumflexed, as τιθῶ διδῶ; the ſecond perſon ſingular of the ſecond aoriſt

cative middle, and the ſecond
gular of the ſecond aoriſt im-
iddle, circumflex the laſt ſyl-
lable. But I ſhall refer you for theſe variations to the tables in your grammar, they are not many, and are eaſily remembered. I have not forgotten the atonics and enclitics, but obſervations upon theſe muſt be reſerved for another letter.

I am,

My dear C. &c.



LETTER V.

January, 1785.

DEAR CHARLES,

ATONICS and Enclitics are to be the ſubject of my preſent letter.—The ideas I entertained of theſe things, as in general of other grammatical matters, when I firſt thought about them, was very much confuſed, for want of a little previous information concerning their Principle: in truth I conſidered the Doctrine of Atonics as abſolutely incompatible with the general law, that every word, however inconſiderable, was to have a full and free enjoyment of an accent of its own, proprio ut unaquæq; vox gaudeat accentu, ſaid an old Grammarian.

Now

fact, as I have ſince learned, is is:—that certain minute *parts* of ſpeech, having a tendency in quick utterance to join with the foregoing word, were conſidered as really conſtituting part of ſuch word; which they could not do whilſt they held a ſeparate accent, without the principle of unions being deſtroyed; for if they were important enough to have their own accent, they were certainly diſtinct words, and it was a determined caſe, that no ſingle word could have two accents. The following monoſyllables, therefore, were ſuppoſed to have no accent independent of the words to which they were caſually united: ὁ, ἡ, οἱ, αἱ—ἃ, ἃκ, οὐχ—εἰ, ὡς—ἐν, εἰς, ἐς—ἐκ, and ἐξ. The firſt four of theſe are forms of the prefixed article. The next three the negative adverb, which received an accent when conſtituting as it were a ſentence by itſelf, as ἃκ ἔτω μαίνο-

 μαι;

μαι; ἐν. And in chap. xiii. of
thew's Goſpel, ver. 29, ὁ δὲ, ἐ
next atonic particle is ἐι, or th
ing particle of contingency; ὡς the ninth,
that which connects by ſimilarity of circumſtances or reſemblance; and the remaining five atonics anſwer to the Latin præpoſitions—in, ad, a, ab, ex, ſo that in reality the atonics are no more than ſeven, and each of theſe might receive an accent when compounded, as ὅδε.

Thoſe words which are *ſometimes* found with their diſtinct accentual characters, and *ſometimes* reſting theſe characters upon preceding words under certain circumſtances, were, upon that account, called *enclitics*, and ſuch not only occur amongſt *particles*, or the minuter parts of ſpeech, but amongſt words of the more perfect claſſes; and I have hinted, in a letter of an old date §, that whenever oppoſition

§ See Letter xii. of vol. i.

or

diſtinction was intended, ſome accentual mark at leaſt was placed over them, as a hint to the reader: but what change of the voice in utterance was determined by it, I do not remember that we are any where told; at the time of writing that letter, I preſumed this mark to be an acute, which by elevating the voice a little higher than its ordinary pitch, might give ſomewhat of diſtinction ſimilar to the effect of emphaſis. Upon mature conſideration, I have no doubt of its having been pointed out by the upright accentual character, mentioned in my letter of October laſt; and I can never bring myſelf to believe, that a peculiar mark of accent, diſtinct at leaſt in the manner of its upright poſition from the acute, the grave, and the circumflex, was confined merely to a few *enclitic pronouns* when they happened to be emphatic from contradiſtinction, but in oppoſition to the opinion I had entertained too haſtily, and

aſſerted, with too little diffide
Antients having uſed no acce
to diſtinguiſh ſuch words or
were emphatic, I am now perſuaded, this perpendicular ſtroke was *generally* applied upon *all* requiſite occaſions, though it probably was very ſoon laid aſide, or confounded with the grave and the acute accents.

Cicero and Quintilian have both aſſerted, that the Roman language never admitted an accent upon the laſt ſyllable of a word, for which no ſufficient reaſon can be aſſigned, and in fact we find, that an accent was placed over the laſt ſyllable of præpoſitions, and certain other words, by Grammarians abſurdly enough called adverbs, for they ought to have been claſſed with different parts of ſpeech; intereá for inſtance, pridié, proculdubió, &c. had their final ſyllable acuted §; tho' it muſt be owned, that the Latin tongue,

§ Scaliger de cauſis LL. lib. ii. chap. lxii.

like

Eolian, from which it was confisted in general of barytones. I am much inclined, therefore, to believe, that the upright accent, as implying *emphasis*, was the only accent which was never allowed upon a final syllable in the Roman language. This is an opinion which I would undertake to support, but I think it not improbable, and am *certain* that an emphasis upon the last syllable of a word is always exceedingly disgusting, though I could give two or three examples of it from the best Latin authors.

Enclitics, or those words which inclined their acute accent, or gave it to the last syllable of an adjoining word, are these which follow:

1*st*. The particle τις as an indefinite in every case and number; but τίς the interrogative pronoun, was *always* acuted on the first syllable in all its inflections.

2*dly*. The

2dly. The pronouns μοῦ, [illegible] σοὶ, σὲ, ἐ, οἷ, ἕ, σφᾶε, [illegible] σφᾶς, and σφῶ.

3dly. The verbs ἐιμὶ and φημὶ in all persons of the present tense indicative, except the second person singular, and but rarely ἐςὸν in the dual number.

4tbly. The adverbs ποτὲ, ποθὲ, or ποθὲν, πȣ̃, πῶ, πῶς, πῆ.

5thly. The conjunctions κε and τε: and

Lastly. The *mere* expletives without number, if such things there be, of which I have my doubts:—as ρὰ, γὲ, νὺ, πὲρ, τὸι, &c. &c.

I shall refer to your Grammar for particular rules concerning enclitics, after observing, that they become absolute atonics, whenever the ultimate of a foregoing word was already occupied by an acute or a circumflex, or when its penultimate was acuted, for that two acutes cannot exist upon syllables immediately

sequent

feq[illegible] no explanation; as likewiſe, tha[illegible] neither loſe their accent, nor in[illegible] it with reſpect to a word immediately preceding in a different ſentence.

I am, &c.

P S. The Engliſh language is no ſtranger to atonics nor enclitics, reſpecting their adherence to an adjoining word.

The effect ſeems in fact to ariſe from the natural volubility of ſpeech, and is, probably, common to all languages whatever. Our articles *a*, *an*, and *the*, are always to be conſidered as atonics, though the laſt makes ſome advances towards being emphatic, when underſtood definitely in oppoſition to the general article *a*; and is then ſeparated in ſome meaſure from its ſubſtantive, and may be called an enclitic from this circumſtauce: *no* and *not* anſwer equally to the Greek negative adverbs,

verbs, and are capable in li[illegible] of ſtanding as a ſentence by t[illegible] or uniting with another word; [illegible] and *for*, *in*, *out*, anſwer to the Greek præpoſitions, and are ſometimes capable of receiving an emphatic diſtinction; and the pronouns *me*, *thee*, *him*, &c. incline their accent occaſionally, and are truly enclitics, as put *me* a caliver into Wart's hand, hang *him*, dull rogue, &c.; and the ſubſtantive verb [*is*] with the verb [*ſay*] incline like ἐιμί and φημί: to multiply examples is needleſs. I ſhall take the opportunity of mentioning here, that the prefixed article ὁ, ἡ, το, anſwer to our definitive article [*the*], as ὁ ἀνήρ *the* man, and that the relative pronoun ὃς, which is ſometimes, and with propriety, called, the ſuffixed article, ſerves to form the terminations of the caſes of nouns, by being ſuffixed, or added, to its radical letters, as λογ-ος nominative, λογ-ου genitive, λογ-ω dative,

da[illegible]v acquiſitive, &c. I ſhall lea[illegible]carry on the remark to other dec[illegible]but why, ſay you, the acquiſitive, and not accuſative? Becauſe I apprehend, accuſative to be a corruption of acquiſitive; and that this caſe was ſo called from its acquiring the action of the verb, which paſſes over to its object in this third caſe, for it can have nothing to do with accuſation: in Greek it is called, πτῶσις αἰτιατική, as receiving an effect from a cauſe, from αιτιαομαι, which ſignifies acceptum ferre, as well as accuſare: but it is time to put an end to this Poſtſcript.

LETTER

LETTER VI.

TO THE

REV. MR. J. HINGESTON.

DEAR SIR,

I HAVE many reaſons for ſuppoſing our Friend miſtaken in the opinion he has entertained concerning the Antediluvians: That the Arts were in no mean degree of perfection in the antediluvian world is *probable*, from the longævity of the artiſts, who had time to improve their firſt eſſays after the experience of ſome centuries; but it is almoſt *certain* from their uſe of metals, the ſeparating and refining of which, eſpecially copper and iron,

ir[illegible]oſt intractable of them all, an[illegible]d preparing them for the ha[illegible]ire no inconſiderable degree of ſkill in one branch of chemiſtry; Tubal Cain is repreſented by Moſes as the inſtructor of every artificer in braſs and iron, from a tradition of whoſe employment, and a corruption of his name by the antient Hetruſcans Deſcendants of Peleg, the Romans, probably, derived their Vulcan, the inventor of hoſtile weapons and mechanic tools. Diodorus tells us, that Vulcan was one of the Ægyptian Demi-Gods, who lived before the age of Menes, that is in the opinion of moſt chronologers, I believe, before the Flood; and the *Huſband of Venus* in the language of chemiſtry, which is ſaid to have been received from the antient Ægyptians, means no more than a Maſter Refiner of Κυπρις, or the *common proſtitute* copper, which is ſo called, from its ſubmitting to

any

any menſtruum whatever; wh[illegible], ſilver, lead, iron, and tin, hav[illegible] favourite diſſolvents, and eith[illegible] reſiſt all others, or ſuffer their attacks a conſiderable time without yielding: but his ſkill in metallic chemiſtry ſeems farther to be confirmed by the tradition of his having detected the amours of Venus with Mars; alluding either to his finding out the peculiar tendency of copper to unite with iron, (which renders it ſo exceedingly ſerviceable to us, a circumſtance which Tubal Cain could not, in all likelihood, be unacquainted with) or to his unfolding the great chemical ſecret of their perfect amalgama.

A Treatiſe, which goes under the name of Baſil Valentine, aſſerts, that Mars and Venus together make Sol, that is, were capable of producing gold: but if we ſuppoſe this known to Tubal Cain, he, probably, reſerved the ſecret to himſelf,

and

did ſo, whatever it was, ſeems ied in the following part of the mythologic fable, for the product of this mixture was, Harmonia married to Cadmus, who is reported to have carried metallurgy into Greece §; and that Vulcan previouſly gave her a bracelet, which proved her deſtruction: now we may conceive this bracelet to have been an addition either of arſenic or antimony to the compoſition, which by conſtringing the parts of the metal, either prevented its being malleable, or deſtroyed it by its fumes: in this view every thing is intelligible, we may trace its original deſign in the ſeveral circumſtances of the fable, which the Helens who ſucceeded the Pelaſgi in Greece ſtrangely miſunderſtood, and within a few centuries, the real perſon of Tubal Cain, or Vulcan, was con-

§ See Plutarch's Life of Pelopidas.

founded in their mythology [illegible] ſhiped under the name of [illegible] Conſumer. We have here a [illegible] of what ſome of the philoſophers have aſſerted, that Fear made the Gods; ſince this ſpecies of idolatry the worſhip of Fire, was in all probability founded in a general apprehenſion derived from the Sons of Noah, that this element would in time prevail over the reſt, to deſtroy the earth, and as they conceived, would endanger the univerſe:

——— affore tempus
Quo mare, quo Tellus, correptaq; Regia Cœli
Ardeat, et *mundi moles operoſa laboret.*

I am, &c.

PS. The learned Profeſſor Boerhave tells us, that copper adheres ſo ſtrongly to the ſtony matter with which it is found incorporated, that it is a wonder it ſhould

ever

parated at all, and that the pro-
ce[illegible] dangerous as it is difficult, for if a ſingle drop of water ſhould fall upon it in a ſtate of fuſion, or if the moulds it is caſt in, ſhould have ever ſo little moiſture, it flies into a million of fragments with incredible noiſe, and deſtroys all the perſons near it; upon which account the Swediſh miners are very cautious of admitting any perſon during this operation, leſt chancing to ſpit or ſneeze, they ſhould bring inſtant deſtruction upon them all. With reſpect to iron, though Providence hath diffuſed it over the whole globe, and the ſeeds of it are ſaid to exiſt even in animal and vegetable ſubſtances, yet there is no metal ſo difficult to be diſcovered: other ores ſhow theirſelves in a *metallic form*, whereas this is *always* concealed under a diſguiſe that hath no reſemblance of metal, or which could occaſion an ordinary obſerver, to ſuſpect

any ſuch ſubſtance to be cont[illegible]
upon the ſurface of the groun[illegible]
be only a dark-coloured coa[illegible]
mines it is ſhut up under the form of ſtone, except ſome very ſmall ramifications in the fiſſures of the rock, which are extremely rare, if they exiſt at all, (for the fact it ſeems is doubted); an exceeding intenſe heat is required to melt it, and after the firſt fuſion it is ductile, neither hot nor cold, but remains as brittle as a flint till it hath been ſoftened at leaſt by a ſecond melting, and it often requires a third to purge off the matter which adheres to it, and render it ſufficiently malleable.

LETTER VII.

TO THE

REV. JAMES HINGESTON.

DEAR SIR,

I THINK it exceedingly probable, as I ſaid in my laſt letter, that the Arts were advanced to a very high degree of perfection in the Antediluvian world, which I deduced from men's great longevity, and from their knowledge of the ſcience of Metallurgy; but it is more than probable, that being without a ſenſe of virtue and religion, their advancement

of the Arts, as naturally tended
their vices, and at the ſame ti
the deformity of them from
for we learn, not only from the prophane hiſtory of Beroſus, that the Antediluvians were a ſet of the moſt abandoned wretches, as well as the moſt luxurious; the addreſs of Lamech to his wives is a preſumption of the violence of their manners, if the ſcripture had not poſitively declared it; but even the ſons of God are ſaid to have beheld the daughters of men fair, and to have *taken* them wives of all that they choſe; that is, they gazed till they were enamoured, and then ſeized *by violence*, for the original word which is here rendered to *take* in our tranſlation, is the ſame that is made uſe of in the xxxivth chapter of Geneſis, where Shechem is ſaid to have *taken* the daughter of Jacob, and defiled her; ſo that Milton's deſcription of antediluvian manners in the xith book

of

o[illegible]ſe Loſt, is, probably, not leſs agr[illegible] to truth than it is beautiful:—

——— Adam beheld
A bevy of fair women, richly gay,
In gems and wanton dreſs; to th' harp they ſung
Soft am'rous ditties, and in dance came on;
The men, tho' grave, ey'd them, and let their eyes
Rove without rein, till in the am'rous net
Firſt caught, they lik'd, and each his liking *feiz'd*.

A vague and unbridled luſt is ſo cloſely connected with the fiercer paſſions, and urges men ſo ſtrongly to its gratification, no wonder that the earth was filled with violence, and that the thoughts of men's hearts thus devoted to the purſuit of impure pleaſures, ſhould be only evil continually; that rapine, cruelty, and murder, ſhould univerſally prevail, and the whole earth be defiled with blood §; it was but the natural conſequence of ſubjecting Reaſon to the moſt violent of all the appetites, nor was a Græcian Princeſs

§ Geneſis, chap. vi. from ver. 1 to 14.

the firſt Beauty who ſet the
arms; and there is a tradition
amah, or Naomi, the ſiſter of
the Helen of the Antediluvians. You will excuſe another obſervation, though not very ſtrictly connected: I am inclined to believe, the title given to Noah, by St. Peter, of a *Preacher of Righteouſneſs*, means more than a preacher of juſtice and mercy as they are due from *human* creatures to each other, namely, that we are to underſtand by it, a preacher of that juſtice likewiſe, which is due to God for the introduction of ſin into the world, upon which the neceſſity of a Mediator is founded. A *diſbelief* of this neceſſity is ſhown by Dr. Kennicott, in a moſt learned and ingenious diſſertation, to have been the cauſe of Cain's offering being rejected, ſo early had a difficulty of conceiving it given riſe to infidel Principles; which propagated amongſt his deſcendants,

da[illegible]em moſt probably to conſider fi[illegible] *perfection* of our human nature[illegible] which not meriting any puniſhment, ſo it could require no attonement, and as naturally produced the fruits of an impure life, till there was no diſtinction of the Sons of Men and the Sons of God remaining, for *all* Fleſh had corrupted his way, that is, the way of God upon the earth. The plain interpretation of the whole therefore is, that the doctrine of redemption from *Death the wages of ſin*, by a vicarious ſacrifice appointed of God, and graciouſly promiſed to our firſt Parent, together with the practice of all moral virtue, were confined to the ſingle family of Noah.

I am, my dear friend,

Your's, moſt affectionately,

C. D.

LETTER

LETTER VIII.

Nov. 12, 1780.

DEAR CHARLES,

I SHALL add a ſort of ſupplement to Mr. Braddock's narrative of the miſeries at Liſbon, upon the firſt of November, 1755, taken from a ſmall pamphlet, of which a few copies only were printed, in the year following, by Antonio Pereira, of the congregation of the Oratory, who was likewiſe an eye witneſs of the deſtruction of that devoted city. He tells us, that the firſt ſhock, which came on about ten o'clock, continued with very ſhort intervals for the ſpace of *ſeven* minutes, preceded and accompanied with horrid noiſes, owing, as it ſeemed, to violent

le[illegible]s underground, whilſt the air wa[illegible] ſerene and bright, and the ſea [illegible]hat upon the firſt concuſſions the beams and rafters of the houſes ſtarting from the walls, the tiles were ſeen to fly along like feathers driven by the wind, and the roofs and floors of many inſtantly ſunk in; ſolid arches were ſhortly after broken up, the bells clang'd in the ſteeples, and the walls of their towers at length opening, they fell down with a tremendous craſh, raiſing clouds of duſt, which involved the city in thick darkneſs, as it were the horrors of a ſecond night; but the ſun ſhining out again upon their diſperſion, the whole tract of country about Liſbon was ſeen to heave like the ſwelling of the billows in a ſtorm, ſometimes from eaſt to weſt, and again from north to ſouth; thoſe walls which were not yet thrown down waving backward and forward with alternate pulſations, and the thunderings underground continuing, the

city

city ſeemed not only to be ſh[illegible]o be violently torn from its [illegible]aſt foundations.

As many circumſtances in this author's account are deſcribed with a pathetic tenderneſs, and an extraordinary animation, I ſhall give them in the original Latin, that I may not lower them by a tranſlation :— " Oliſiponenſes interea inſolito et repentino malo perculſi et exangues, alii ex ædibus in templa profugere, alii relictis templis domos petere ; quidam extinctas uxores lugere, quidam liberos ; diſſipatos quærere ; plerique manus ſupplices ad cœlum tendere, *Beatiſſimam Virginem invocare* ; omnes ante-actæ vitæ ſcelera deteſtari, reos ſe coram ſacerdotibus profiteri ; ſupplicium ab irato numine deprecari, concurſare, trepidare ; omnia clamoribus luctuq; miſcere. Fuerunt qui extremi judicii diem adventare ; fuerunt qui *adeſſe* crederent ; tum vero plurimos paſſim exanimatos cerneres, cum intra domos, tum

in

in [redacted]ateis et angiportibus; alios fo[redacted]a illiſos, alios parietum ruina op[redacted]roſq; ruderum mole, tignorumque et lapidum acervis obrutos intercluſoſq; inde vivi extracti quidam poſt diem quartum, quidam poſt ſextum, nonnulli poſt nonum; quibus tamdiu vitam duraſſe mirum, ex his vivit etiamnum ſalva et incolumis Dionyſia Roſa Maria quindecim annorum adoleſcentula, *quæ ſub ipſo ædificiorum tremore, Beati Antonii Oliſiponenſis imaginem mordicus amplexa, ac paulo poſt ruinis involuta poſt dierum octo inediam, inter cadavera reperta, indemnis erepta eſt*; preſente Joanne Mello Sampaio Baſilicæ Patriarchialis Præſule, Regis a conſiliis, virtutibus æque ac natalibus claro.——" Nuſquam tamen major, nuſquam fædior ſtrages fuit, quam in templis, utpote quo ob Diei celebritatem § maxima virorum fæminarumq; multi-

§ The Feſtival of All Saint's, on which their Auto de Fe, as I have been informed, was uſually celebrated.

tudo

tudo convenerat, alibi igitu[illegible]i-
ginta, alibi centum, alibi [illegible]bi
pauciores interiere.—" In qu[illegible]cate
pios ac religioſos animos *maxime* percel-
lebat ſacrarum imaginum acerbus caſus:
quarum aliæ penitus conſciſſæ et laceratæ
ſunt; aliæ ruinis obrutæ, aliæ flammis
abſumptæ. *Ex his memorandum imprimis
eſt nobile ſimulacrum Chriſti Domini crucem
ferentis, eximia Luſitanorum Regum, Pro-
cerum, totiuſque populi veneratione perce-
lebre, ob idq; quotannis per urbem circum-
ferri ſolitum. Hoc diu multumq; conquiſitum
ac die octavo tandem repertum, extrahendum
e ruinis curarunt* Joannes Brigantinus
Regis Patruelis," &c. &c. The religious
author concludes his lamentation over
theſe unfortunate images and pictures,
with expreſſing the horror of his mind at
the very thought of what befell the Pyxes
in which the conſecrated wafers were de-
poſited, ſome of which were deſtroyed by
the fire, and others buried in the ruins,

[illegible]re

ſo[illegible]ter to have been found by th[illegible]igent ſearch. I have choſen to [illegible] part of the narrative *particularly* in the very words of the author, leſt you ſhould think I miſrepreſent him, and ſurely as the Iriſhman put the queſtion to Mr. Braddock, no man who believes there is a God, can have any doubt of a wooden image of St. Antony working miracles by *his* power alone, for a portion of the tree moſt probably was applied to ſome of the common uſes mentioned by Iſaiah§, and there was no peculiar power or holineſs in one part of it it above the reſt, when the carpenter ſtretched out his rule and took meaſure of it for a Saint; and who can entertain a doubt of the ſupernatural inſinuated fact, atteſted by a perſon of too ſacred a character to deceive others, and too wiſe as a counſellor of ſtate to be impoſed upon himſelf.

§ Chap. xliv. 16.

Mr.

Mr. Braddock has mentio[illegible]- cond ſhock upon the firſt of [illegible]r, which Pereira tells us comm[illegible]ut an hour after the firſt, and was o[illegible]ater violence, though of ſhorter duration; three other ſhocks likewiſe of equal force with this ſecond, he ſays, ſucceeded; *one* upon the eighth of the ſame month juſt before day-break, *another* upon the eleventh of December before break of day likewiſe, and the *third* upon the twenty-firſt of December, about nine in the morning; but beſides theſe, we learn, that there were ſeveral other leſſer concuſſions felt between the firſt of November 1755, and the firſt of May following, according to this author, whoſe account I make no doubt is ſufficiently accurate, they amounted to the number of two hundred and fifty in all, by which the remains of many of the public edifices, and moſt of the private buildings were levelled with the ground. In ſome places

he

he[illegible] wells were rendered turbid wit[illegible]nſive ſmell; this I ſhould ſuppoſ[illegible]d of courſe happen, from a diſturbance of the ſeveral ſtrata through which it roſe, and the introduction probably of other minerals than thoſe which were originally lodged in them.

This writer conceives the number of perſons who loſt their lives in the earthquake not to have been ſo great as Mr. Braddock has given it, upon an earlier eſtimate, at a time when it was natural to exaggerate, but he does not appear to have taken in the number of thoſe who ſunk down with the new Quay, or thoſe who were loſt in the boats and other ſmall veſſels moored near it, ſuppoſed to have been many thouſands; or to have reckoned thoſe who periſhed whilſt digging early in the ruins; the infirm and weak whoſe deaths were haſtened, or the numbers who expired from horrour only, though

before in perfect health: [illegible] is the extraordinary riſing of [illegible]nd tells us, that it ruſhed [illegible]han five furlongs beyond its uſual boundary, that bridges were broken down by it, and walls overturned, that piles of an immenſe ſize and weight were torn up and carried forward upon the ſhore, and that at Caſcais, Setuval, Peniſch, and in Algarves, numbers of people were drowned by the inundation.

His deſcription of the inhabitants of the city endeavouring to make their way to the ſuburban villages and fields, exhibits a moſt affecting picture, and the terrors of the night ſucceeding, raiſe our utmoſt pity for them, even whilſt we are congratulating their eſcape:—"Sic everſa urbe, Mariq; inhoſpito, ſalutis nihil reliquum erat afflictis civibus, niſi ſuburbana petere; catervatim ergo egrediuntur omnes; alii parvos liberos, alii

ſanctorum

ſanc[illegible] imaginies amplexi; pleriq; incerti [illegible] tandem conſiſtant: nova autem hic occurrebat moleſtia, nam frequentes ruinarum acervi, ſic intercluſerant iter, ut progredi nemo niſi maximo cum labore poſſet, præruptæ ruderum moles alicubi ſuperandæ, alicubi reptandum, quibuſdam in locis infirmo et fatigato ſexui niſi aſſultando penitus negata eſt via: hac ſacræ virgines palantes, et inconditæ: illac Principes Matronæ, acervos lapidum, et cadaverum paſſim calcantes, ſpeciem intuentibus admodum miſerandam præbebant; quædam nudis pedibus, quædam ſola ſubuculâ indutæ, exangues, ſqualidæ, paſſis crinibus graderentur. Noctem ſub dio pleriq; tranſigebant inſomnes, terra enim ſubinde vibrante, et fumante tota urbe, dormire nemo audebat, aut ſi quos demum complecteretur ſomnus, clamores populi circumfuſi, Dei miſericordiam, *ſanctorumq; auxilium implorantis*, continuo excitabant.

Who would have ſuppoſ[illegible]le, adds this author, that the i[illegible] of a city ſo populous, ſo wealth[illegible] magnificent in its buildings, and ſo flowing in all the luxuries of life, in one day's time could poſſibly be reduced to ſuch extremities, as to want even a defence from the inclemencies of the weather, and to ſuch a ſcarcity of proviſions, that thoſe who had a morſel of dry bread only, were looked upon as abundantly rich and happy: his account of the number of thieves and villains about the town accords with that of Mr. Braddock, but he has added a circumſtance which you will think wonderful, that they were ſo little affected with the general calamity, as to rob the mangled carcaſſes, (and as I have ſince been told, as well the dying as the dead) taking from the men their watches, their buttons, and their ſpados; and the fans, the rings, their pearls and other jewels, from the women.

In

ing up the churches and mo-
n ich were deſtroyed either by
th ke, or the fires which ſuc-
ceeded, I could not help being aſtoniſhed at the variety of appellations given to the Mother of our Saviour, to whom ſo many of them were dedicated, namely, to *our Lady of the bleſſed Sacrament*, *to our Lady of the Martyrs*, *to our Lady of the Wounds*, *to our Lady of Grace*, *to our Lady of the Mountain*, *to our Lady of the good Hour*, *to our Lady of the French Rock*; *of the Light*; *of Nazareth*; *of Loretto*; *of the Incarnation*, &c.; for the occaſion of theſe names, as we want the compleat collection of what has been written concerning the Virgin, which we are told in this treatiſe Father Dominic Pereira had ſpent ſeveral years of his life in getting together, aſſiſted by the generous munificence of the King, and which, alas! was burnt with the library

of the congregation of Orator[illegible]t be contented only to gueſs a[illegible]

The variety of theſe titles [illegible]ot-withſtanding, remind you of the addreſs of the old Heathens to invoke their Deities by a favourite name, whenever they had ſome extraordinary petition to make. The Votariſts of the Virgin at Liſbon could not be at a loſs, having ſuch a number to chooſe out of, and of churches conſecrated to her worſhip under theſe ſeveral titles in which to offer up their prayers to her with the ſtricteſt propriety, to engage her attention; though I make no doubt of her readineſs to hear them in every place, if ſhe can hear them in any, of which the Romaniſts, it is to be ſuppoſed, poſſeſs much better aſſurances than other Chriſtians, or ſomewhat more than a preſumption, that God himſelf will hearken to thoſe prayers which are ſo confidently offered up to

Saints,

Saints before their images or pictures, in like manner as if offered to his Deity; but, according to the Sacred Scriptures, (as we read them) no other perſon whatever can be entitled to religious veneration but He alone, in whom dwelleth all the fulneſs of the Godhead bodily.

I am, &c.

LETTER IX.

Henſted, 1770.

MY DEAR CHARLES,

YOU will ſmile at a letter from me, upon Dancing; and I make no doubt but Mr. Burney will ſmile with you; I ſhall, nevertheleſs, hazard ſome remarks upon it, certain that he will not be diſpleaſed with what I ſhall advance upon the ſubject: for if the natural movement of the affections in vocal language produced *Poetry*, by which I underſtand here, not figurative expreſſion, but the meaſured rythmus of periods only, a repetition of which is properly Verſe; ſo I think it no leſs clear, that the natural ſigns of them by action, produced Dancing; which, according to my idea,

may,

may be defined, the expreſſion of ſome *amia.* affection or emotion of the heart, [comprehending thoſe of heroiſm and patriotic valour] by correſponding movements of the body and limbs, in muſical time; as Song is the expreſſion of ſimilar affections by a correſpondent movement of ſignificant vocal ſounds, adapted to a ſuitable melody; thus far he muſt acknowledge I have not derogated from the honour of his profeſſion, for which I know he ſtands up firmly.

That Providence hath appointed a different diſpoſition of the features, with certain movements of the eyes and limbs, as well as proper tones, elevations, and depreſſions of voice, with a ſuitable ſucceſſion of them, to accompany the different ſentiments and paſſions of the heart and mind, is a general obſervation by which all men in ſome meaſure regulate their conduct, reſpecting thoſe perſons with

with whom they converſe; and they form an opinion of their and characters even at a firſt I am not miſtaken in the author of the Book of Eccleſiaſticus, Solomon hath ſomewhere ſaid, that a man may be known by his look; that the diſpoſition of his features are expreſſive of his character; and that a man's gait will ſhow what he is: agreeably to this remark, Ariſtides hath aſſerted from the Principles of rythmus, what gait expreſſes rectitude and firmneſs of diſpoſition; what denotes the warm and paſſionate man; what ſteps expreſs a mean and vulgar ſpirit; what the diſſolute and abandoned character; and what inequality of ſteps and combinations of them, denote inſanity or madneſs. Cicero accordingly calls geſture, which includes the movement of the hands and arms together with the gait and expreſſion of the features, the *Lan-*

guage

guage of the Body, which he ſuppoſes to be univerſally underſtood, for as much as the conceptions and emotions of the human ſoul being uniform, we diſcern them in the ſame external movements of others, by which we ourſelves expreſs them; and we know that it was a ſource of entertainment to him with his friend Roſcius, to contend, which could raiſe the ſame ſentiment, or expreſs it with moſt vivacity and force, Cicero by the power of words, or the comedian by the power of geſtures. Omnis enim motus animi, as he ſays in the Treatiſe de Oratore, ſuum quendam a Natura habet, et vultum, et ſonum, et geſtum, aliud vocis genus iracundia ſibi ſumit, aliud miſeratio ac mæror, aliud metus, aliud voluptas, &c. omnes autem hos motus ſubſequi debet geſtus.

Quintilian is very diffuſe upon this ſubject, who ſpeaking particularly of the hands, ſays, they are almoſt as copious in expreſſion

expreſſion as the tongue; nam cum cæteræ partes loquentem adjuvant, hæ propè eſt ut dicam, ipſæ loquuntur. Love, Joy, Fear, Hope, Anger, Pity, Admiration, Gratitude, and every ſtrong emotion and paſſion of the mind, hath its diſtinct expreſſion, diſcoverable by looks and actions, as well as words; the countenance alone in moſt men, even without geſtures, is leſs capable of deceiving than the tongue, for being leſs under the government of the *will*, it becomes a ſtanding evidence againſt falſehood and deceit; and we may conſider this involuntary conſent of the countenance with the mind, as a guard, placed by Providence, to counteract the deſigns of a treacherous heart, that no perſon might be capable of uttering falſehood with the becoming confidence and appearance of *truth*, till he hath, by a long habit of diſſimulation, in ſome degree, gotten the better of Nature,

ture, whoſe renitency to evil may in all caſes be overcome: but as Art can never perfectly aſſume the graces of Nature, it is impoſſible to be compleatly eloquent in words and geſtures (which join together to perſuade) when a man is conſtrained to ſpeak what he does not *think*, and to expreſs by action what he does not *feel*, ſo that no one but an honeſt good man can be a perfect orator.

That there is an untaught natural language made up of certain modulations of voice, and certain geſtures, united as hath been ſaid with the air of the countenance, is capable of the following proof: —That if words have no meaning but what is given them by compact, ſuch a mutual compact muſt of neceſſity have been prior to the uſe and application of words; but no ſuch agreement or compact could ever have been made, had there not been a ſufficient number of ſignificant

nificant active ſigns, or ſounds, or tones of voice, providentially before eſtabliſhed, by which men were capable of expreſſing their meaning, and of underſtanding each other's intentions.

After an artificial language of words indeed hath been long uſed, the inſtinctive ſigns of this natural language of action, may be laid aſide, as not being abſolutely neceſſary either in the common buſineſs of the world, or in reaſoning; but ſtill they conſtitute the Language of the Paſſions, whoever ſpeaks to *theſe*, muſt make uſe of action together with words, or he will fall far ſhort of his intended purpoſe, and it may be owing to the copiouſneſs and preciſe expreſſion of the Engliſh tongue perhaps, that our geſtures and manner in converſation are ſaid to be leſs ſpirited and ſignificant than even thoſe of Dutchmen; for which reaſon, a judicious Painter would prefer a

company

company of their boors for the ſubject of a picture, to the tame inexpreſſive countenances and geſtures of a polite aſſembly of Engliſhmen, and our Britiſh ruſtics have more of awkward ſheepiſhneſs, and and are leſs animated in their converſe with one another than the lower people in moſt other countries.

Ideas conveyed by words alone, however accurate and preciſe they may be, if not in all caſes, yet in general are leſs forcible to move and raiſe the virtuous affections, than ſuch as are communicated by action and geſtures only, and certainly the tender ſentiments which are inſpired by the reclining head, the falling hands, and the downcaſt eye, are ſufficient inſtances (if there were no other) that eloquent expreſſion is not confined to words only, but that there is a ſilent oratory, if I may be allowed the expreſſion, which is at leaſt equally perſuaſive, and ſinks as deep if not

ſtill deeper into the ſoul, than any ſounds of artificial language ever did or can do. When his bleſſed Maſter turned and looked upon Peter in the Palace of the High-Prieſt, that glance of ſeverity and tenderneſs; with whatever expreſſion of the features and bodily geſtures or motions of the hand it might be accompanied, ſpoke daggers to his conſcience, upbraiding him at once, with pride, ingratitude, and cowardice, and left him only tears to vent the anguiſh of his heart.

The Ægyptian ſymbol of ſpeech, as we learn from Horapollo, was a tongue with an eye and a hand placed under it; and I think he ſays, that as the eye is moſt expreſſive next the tongue, ſo the hand was added in the third place, not becauſe it executes the orders of the tongue, which ſome perſons had imagined, but becauſe of its extraordinary powers in compleating

the

the expreſſion of the voice. I remember once being very much concerned, that Mr. Jefferies threw an admirable ſketch into the fire, in which he had given the fineſt expreſſion to the countenance of the principal figure, becauſe he thought the hand did not conſent with it to expreſs preciſely the ſame ſentiment.

The hands and eyes, as I have ſaid, are peculiarly eloquent; little hath been dictated by the Antients about the management of the former, but they reſtrained the motions of the latter within the limits of gracefulneſs by a few ſimple rules, founded upon their obſervations of the modeſt expreſſions of Nature when not agitated by the violence of extreme paſſion, and driven as it were into convulſions: and they conſidered a perfect knowledge of theſe rules as a neceſſary qualification for the Forum as well as for the Stage.

There always was an altar in the moſt conſpicuous part of their theatres, which by the way ſhows the idea of them originally to have been ſacred, ex arâ hinc ſume verbenas tibi, ſays Davus in the play to Miſis. The Ode and Epode were performed to ſolemn meaſured movements, expreſſive of religious joy and adoration round it, accompanied with the melody of flutes, which were very properly called *Dances*. Three different dances were deſigned by Vulcan upon the ſhield of Achilles; the Fandango, or that of Vintage; the Hymeneal dance; and the Cretan, or the Maze. Hiſtorical and moral dances were common entertainments of the antient theatres: they danced the Triumphs of Bacchus; the Judgment of Paris; the Loves of Endymion and Luna; of Polypheme and Galatæa; the Death of Adonis; the Huntings of Diana, &c. upon the ſtage, or in the orcheſtra,

cheſtra, between that and the firſt ſeat. One of their theatric moral dances, if I am not miſtaken, hath deſcended down to modern times, and hath always been admired, namely, the Marriage of Honour and Virtue, which came to us thro' France from Venice, where the form and manner of the Græcian tragedy continued longer without alteration than in any other part of Europe, and gave riſe to the Italian Opera, as it is performed at preſent.

I need not tell Mr. Burney, that the dance I mean here is the Minuet, which excels all others in the dignity of its movements, and the gracefulneſs of its expreſſion: vulgar maſters lay moſt ſtreſs upon the motion of the feet in its performance, or upon the minuet ſtep, as it is called, together with the figure of it, which the French maſters corrupted from the line of Beauty to that of Z, but its

effect depends much more upon the modeſt ſenſible expreſſion of the eyes, and the preciſe graceful motions of the arms and wriſts, which ſuch perſons are but wretchedly inſtructed in the Principle, even to execute, and much leſs to teach, than upon this inferior movement, tho' the elegance of the whole figure, and the gently-ſwelling wave-like progreſs of it require, that the ſtep ſhould be accurately attended to, though not principally.

I ſay nothing of the Ionic dances, from which all modeſty and decency of character and behaviour were baniſhed, together with the Graces; but if dancing took its riſe from expreſſive action, regulated by Principles eſtabliſhed upon Nature, it might undoubtedly be capable of being applied to every emotion of the heart and ſoul, and religious dances, like that of David before the ark of God, may be *imagined* perfectly in harmony with our moſt ſolemn

lemn feelings, ſo far from being ridiculous: ſome of the Antients ridiculouſly enough ſuppoſed Dancing to have been originally practiſed in the Iſland of Crete; and the ſole invention of Theſeus: but a late ingenious writer§ hath aſſerted, *elegant wantonneſs* to be the Principle and the *Perfection* of it, and that ſerious dancing are contradictory terms, in oppoſition to the common ſenſe of all the world, that graceful meaſured movements are neither inconſiſtent with modeſty, as having the leaſt tendency to lewdneſs, nor in any degree incompatible with a gravity of manners, unleſs they have been rendered ſo by a vicious, and unnatural aſſociation of ideas: and how *ſerious dancing* is any more a contradiction than *ſerious ſinging*, which no one ever imagined to be inconſiſtent terms, it would have been

§ Mr. Hogarth, in his Analyſis of Beauty.

difficult for the ingenious writer to have explained: for not to mention the mournful ſubjects of ſome ſongs, inſtrumental melody alone, is capable of affecting the mind with a vague kind of ſorrow, in the indulgence of which, there is a ſpecies of tender virtuous pleaſure, and of drawing ſighs, and even tears, from an audience without ceaſing to be muſic.

You may, perhaps, think from all which I have thus far advanced upon the ſubject, that my account of Dancing ſeems entirely to confound it with what may be more properly termed Acting, as expreſſive of the emotions of the heart. I have already hinted in the beginning of this letter, a diſtinction between them; let us enquire into their diſtinctions a little more particularly.

Now one difference between acting and dancing, is ſimilar to that which exiſts between ſpeaking and ſinging, acting being limited

limited to a ſmaller number of ſteps, and ſpeaking to a ſhorter ſcale of notes. A variety of agreeable ſteps in muſical time is a proper definition of the loweſt ſpecies of dancing, juſt as a variety of muſical notes in any agreeable air, though without a determinate meaning, may be called muſic. When all the movements of the body conſent with the emotions of the mind intended to be expreſſed, a dance may be commended, as effecting its end or deſign, and if beſides an agreement with the nature and intention of the ſubject, every movement hath a gracefulneſs of turn, at the ſame time, in the change from one attitude to another, as well as an elegant variety in each particular ſtep, theſe together conſtitute what may be called *fine Dancing*, independent upon the figure of the whole; but a capacity of being performed in muſical time and cadence is *eſſential* to every ſpecies of dancing; and

it is this, if I am not miſtaken, which conſtitutes the principal diſtinction between acting and dancing: whether the ſacred, the tragic, the comic, or the burleſque, for acting may be juſt, and expreſs with a degree of elegant preciſion what is intended, and yet be incompatible with muſical time, nay, in ſome caſes, to be juſt, it muſt be abſolutely *inconſiſtent* with it, but whenever a dance becomes incompatible with muſical time, it is no longer to be conſidered as dancing, it degenerates into common proſaic acting, if I may ſo expreſs myſelf, or into frantic incoherent deſultory movements not reduceable to concinnous rythmus: and as the malevolent paſſions are inconſiſtent with any regular graceful order of ſteps, and are as ill ſuited to the progreſſion of pleaſing melody or harmony, it points out, with a degree of exactneſs, what ſubjects a maſter ought to decline, and

what

what to ſelect for the ſubjects of his Ballets. I am well aware you will object, that Æſchinus's Dance of Furies, of which you have heard ſo much, is a full confutation of what I have juſt been ſaying: this exhibition, it is true, hath been called a Dance; becauſe the ſtrophe and antiſtrophe, were in general performed to meaſured movements, and in muſical time, but the account which is given of the effects of this horrid ſcene, is abſolutely inconſiſtent with a ſuppoſition, that any thing concinnous either in melody or action, could have been obſerved in it; in truth, the intention of the ſublime Poet was not to pleaſe, but to *deter*: upon which account, although I think him ſufficiently juſtified for introducing theſe implacable miniſters of divine vengeance upon the Athenian ſtage, yet I am perſuaded, that the fierceneſs of their threatening and ungraceful movements

no more reſembled dancing, than their yells and ſhrieks, although accompanied moſt probably with inſtrumental enharmonic diſcords, reſembled muſic, or the frightful maſks they wore, reſembled female beauty; his aim was to inſpire the utmoſt horrour; and he ſucceeded in his deſign.

I am, &c.

P S. One of the Antients, I think Plutarch, calls Dancing a ſilent Poetry, and affirms, that whatever action was a proper ſubject for Tragedy, Comedy, or Farce, might be the ſubject of a Ballet. True: but as in Tragedy ſome actions are too horrid for the ſtage, and others too immoral and indecent, or too mean and vulgar for repreſentation in Comedy, or even in Farce, the ſame holds good with reſpect to Dances: and when the ſubject was defective in Decorum, a dance

of

of that kind degenerated into the buffoonery of the Saltatores by profeſſion, unbecoming any perſon who was neither drunk nor mad, nor ſhameleſs, as Cicero hints in his defence of Murena againſt Cato; but Dancing by the way was in leſs eſteem with the Romans than with the Greeks, and of courſe was not carried to that degree of elegant refinement and perfection at Rome, as it was at Athens.

LETTER X.

TO THE

REV. DR. GOOCH,

ARCHDEACON OF SUDBURY, IN THE DIOCESE OF NORWICH, AND PREBENDARY OF THE CATHEDRAL CHURCH OF WELLS.

MY DEAR SIR,

I HAVE tranſcribed thoſe remarks upon the manner of celebrating divine Worſhip, which in *general* I believe you approved. Your good taſte and piety in early life, which were cheriſhed in the lap of a moſt amiable parent, led you to a conſideration of the ſubject, and you have now additional reaſons for attending

to

to it, from that ſtation in which the providence of GOD hath placed you.

Were men wholly ſpiritual, there would be no neceſſity of urging them to expreſs a devotion to their Maker in thankſgiving and prayer, from any other motive than that pleaſure which ariſes from the exerciſe of gratitude, and the propriety of publicly acknowledging our dependance upon him, for the continued gift of life; and of all its enjoyments, in that ſuperior rank and order of creation in which his goodneſs predetermined our exiſtence: but as we conſiſt of matter as well as ſpirit, between which there is ſo cloſe and intimate a union, that they mutually influence each other by an eſtabliſhed, though an incomprehenſibly effective ſympathy, and ſince our gracious Creator hath thought proper to frame us with a love of beauty, ſplendour, and magnificence, as well as of delight in

acts

acts of gratitude, and hath given us moreover an example of external pomp in the Ritual of his own appointment, we ſeem authoriſed hereby to intereſt our beſt corporeal propenſities and affections, in the exerciſe of religious worſhip, as well as our ſuperior faculties of ſoul, and to allure men to it, by every poſſible addreſs that is conſiſtent with a purity of manners, and at leaſt which hath no tendency to give unworthy ſentiment of the Supreme Being, who graciouſly invites his creatures to approach him thus, and to communicate their wants.

Now the pleaſures of the eye and ear holding a middle place by Nature, between the pleaſures of the groſſer ſenſes and thoſe of Mind which are purely intellectual, and the future joys of Heaven being pointed out by theſe, in holy Scripture; our employment likewiſe in that Place of Glory, where God diſplays the

ſplendour

ſplendour of his more immediate preſence, conſiſting in the contemplation of his power and goodneſs, and joining the ſeraphic choir in their ſublimeſt hymns of adoration, praiſe, and honour §; it follows, that if due regard be paid to the cautions above mentioned, namely, not to defile the purity of our thoughts, and that nothing which hath a tendency to debaſe our ſentiments of the Divinity be ſuffered to intrude, the Arts of Sculpture and of Painting, may ſtill lend their aid in embelliſhing the places ſet apart for divine worſhip amongſt Proteſtants; and that inſtrumental muſic, as the accompaniment of ſacred poetry, after the example of David's, is not improperly introduced into them, in order to exalt the power of numbers, to heighten the raptures of devotion, and prepare our hearts

§ Rev. c. iv. 2. c. xxi. c. v. 8. 11. 13.

for

for the reception of that heavenly influence, which is neceſſary to enlighten and ſupport them.

Our Artiſts ideas in Religion indeed, either from the want of due inſtruction in it, and a proper contemplation upon the divine attributes and perfections, or from a vicious courſe of manners, to which a livelineſs in converſation (poſſeſſed by thoſe who have the moſt of Genius, is apt to ſeduce them) are in general too groſs, or otherwiſe erroneous, to be allowed as commentaries upon Scripture; of which, not to mention modern painters, abundant inſtances from Angelo and Raphael might be given, whoſe ignorance, and vulgariſms, have really been adored in Catholic countries, as they are called, and abſurdly made the ſtandards of ſublimity and excellence by connoiſſeurs in others. A luxury and profuſion in works of this kind indeed, even of ſuch as have

the

the higheſt degree of merit and propriety ought to be avoided, and great caution ſhould be uſed to guard againſt the miſconceptions of the common people §. All Crucifixions and Madonas, and holy Families, ſhould be forbidden; no repreſentation of the Supreme Being ſhould be allowed under any form whatever; images of Saints and Angels ſhould have no place; nor the figure of a Dove, which is grounded upon the miſtake of a paſſage in the Goſpels, as ſignificative of the *manner* of the Holy Spirit's deſcent at the baptiſm of our Saviour: perhaps the pleaſing little figures, uſually called Cherubims, thoſe finely imagined emblems of the ſoul, or an unembodied ſpirit, with the powers of motion and underſtanding, &c. had better be omitted, though they

§ Strype's Annals, c. xxiii. and Pereira's account of the Earthquake at Liſbon. London: printed for G. Hawkins.

ſeem leſs liable to be miſtaken for real forms than any ; but ſcarcely any other perfect figures of the human ſpecies ſhould be allowed in churches, than ſuch imaginary characters, as the Parables of the old and new Teſtament preſent us with, and even theſe, not without the caution of a written explanation, for it is aſtoniſhing to think, what mere creatures of the imagination, a mind diſpoſed to ſuperſtition will convert into real Beings, and reſpect with unbecoming reverence.

A St. Chriſtopher, St. Veronica, St. Oreſte, and St. Amphibalus, with ſome other Saints altogether as ideal, are even now the objects of religious veneration in many countries, as well as St. Peter, St. Antonio, St. Philippo Neri, and St. Dominic, who had a real corporal exiſtence, and were men of like paſſions with ourſelves. I cannot help obſerving here, that I ſhould have been much ſurpriſed to find a St.

Catherine,

Catherine, if I remember right, and a St. Cecilia on either ſide of the communion-table in a Proteſtant chapel, if I had not known that the perſon who ordered them to be placed there, had no opinion of any Saintſhip as belonging to either of their characters; though it ſtruck me as an indecorum, and of conſequence a want of taſte, which the owner of it would have been aſhamed of, had he conſidered the affair in that light; not to mention that the paintings themſelves are far from excellent, not very *much* ſuperior in fact to the performances *attributed* to St. Luke. A peruſal of the Portugueſe narrative of the Earthquake at Liſbon, or of thoſe paſſages I have quoted from it in a letter to your old ſchoolfellow, will ſhow how prone the common people are, to run into idolatry, and that even perſons of a claſſical education, as this writer certainly was, may be trained up to believe, that ſenſe-

leſs ſtatues have occaſional intelligence, or that the invocation of an image of St. Antonio could be ſo acceptable to the Deity, that he would deliver men by miracle from death, in conſequence of it: but it would not be difficult to give ſufficient evidence, from ſome of the beſt writers of the Romiſh perſuaſion, that they believe a conſtant Power reſiding in the images themſelves, and that if properly invoked, they can extend their wooden arms to ſave. By the way it appears odd, that upon this particular occaſion, St. Philip Neri, the founder of the congregation of the Oratory, had not more invocations, who is ſaid to have delivered a Pope from being cruſhed under the ruins of a houſe thrown down by an earthquake; but the Virgin and St. Antony appear in a great meaſure to have engroſſed the veneration of the Portugueſe. As I have never travelled into

countries

countries under the influence of Popery, theſe inſtances of human folly ſeem to me almoſt incredible, and it ſtrongly excites my pity, to find that reaſon and common ſenſe can be ſo far obſcured in matters of Religion: Surely then too much caution can ſcarcely be applied, to guard againſt the conſequences of an unlimited reſpect for Saints, and holy men, when we conſider the ſtrange effects ariſing from a neglect of it. The ſalutation of an image, or the picture of a Saint, ſeems an innocent piece of folly, but theſe follies, trifling as they appear, lead to ſerious abuſes, and to idolatry. Enough of ſubjects for the ornamental paintings in our churches will be left, if we attend only to the Parables of the old and new Teſtament, as I have already hinted; ſuch emblematic deſigns would well become our ſacred walls, and with proper explanations annexed, would con-

tribute both to pleaſe and to inſtruct, by drawing men's attention to the intended meaning of them; though I do not wiſh that ſuch paintings ſhould be ſtrictly limited to the Parables only, ſome other portions of Scripture undoubtedly may be thought of, which are capable of being employed as ſubjects for Picture without danger of being miſunderſtood; and to ſtrip thoſe places ſet apart for religious adoration of all ornaments whatever that are becoming, and of all ceremonies which are innocent, and at the ſame time capable of fixing the attention of our minds, leſt weak perſons ſhould haply pervert and miſapply the uſe of them, would be as abſurd as to throw off all the decencies of dreſs and behaviour, leſt they ſhould adminiſter to pride. This was the conduct of ſome of the old Puritans, during the civil wars of the laſt century; they marched on boldly in the name of the

Lord,

Lord, correcting all abuſes both in Church and State, and cutting every thing down before them, till our Conſtitution was reformed into a Tyranny, and our Churches into Stables.

Such is the dulneſs of the human mind to contemplations of a ſpiritual nature, that a more than ordinary care is requiſite to keep up its attention to religious acts; our ideas naturally follow the train in which their connections are moſt pleaſing, and Reaſon is too weak in moſt men without aſſiſtance, to check our vain and idle day-dreams: If the eye is generally roving, and the ear is always open to receive impreſſions, thoſe objects ſhould be offered to them in a place of worſhip, which may *prevent* as much as poſſible the wandering of our thoughts, or call home our ideas of devotion and virtue. There is a little altar-piece in the chapel of Emanuel college, the propriety of which has always pleaſed

me from a boy; I believe it has a tolerable ſhare of merit with reſpect to compoſition, though I never critically examined it ſince I knew a little of the art; the ſubject, which is the Prodigal's return, might prejudice me to think it far ſuperior, in *every* reſpect, to ſome that are preferred to it at Cambridge; which is no great compliment indeed; for whatever beauties theſe poſſeſs, they are not eaſily diſtinguiſhed in a glare of light, or a deficiency of it. This may lead us to obſerve, that the circumſtances of ſituation operates greatly in every thing; and that either ornamental paintings, or a ritual of worſhip which might have much of merit amongſt men of bright parts and ſolid learning would not be proper for a public inſtitution, in which the dulleſt are preſumed to join; as well as the moſt ingenious. Some degree of outward ſplendour in the ceremonials and other

externals

externals of religion may be requiſite for *all* men, an impropriety in ſome things; has led them into idolatry, and an exceſs in others occaſioned their miſtaking the means of religion for the end; but a zeal may be by far too warm in endeavouring to avoid the dangers of ſuperſtition, and by ſpiritualizing the modes of our divine worſhip, beyond the pitch of common underſtandings, it may induce the generality of the lower claſs of people to neglect religious offices entirely, or diſpoſe others of more grateful hearts with warmer imaginations to run into all the wildneſs of enthuſiaſm: this is a danger which ſeldom enters the mind of a Reformer in Religion. Outward ceremonies ſpeak clearly to the ſenſes, and to the memory; they addreſs men in a language which they underſtand and can feel, and retain, and recollect with eaſe, and no juſt cauſe can be aſſigned why our refined

ſenſes

ſenſes ſhould not be engaged in the ſervice of GOD, as well as our Reaſon and our Faith; if they are not thus engaged, we know their active Principle inclines them to the indulgence of every floating reverie. The greatneſs of Place alone, has a wonderful effect; but the ſublimity of high embowed roofs, the long drawn ayles, and ſolemn light of a Gothic cathedral, as we call thoſe ſacred edifices erected between the reigns of Henry I. and Queen Elizabeth, inſpire a ſerioufneſs of thought, which may diſpoſe men's attention to the doctrines of the Scriptures, and prepare the mind for a reception of religious Principles; from whence it may be carried on to real piety, and an entire devotion of the ſoul to God. —That theſe edifices are much better adapted for the purpoſes of Religion than Temples of the nobleſt Græcian architecture, I ſhould have no ſcruple to affirm,

affirm, from the difference of my own feelings, (which are decisive indeed to myself only) upon entering St. Paul's Church, and Westminster Abbey: Ideas of mere grandeur are excited by the former, but ideas of *grandeur and religious sublimity* by the latter; nor is this the finest specimen of Gothic architecture; though I look upon Henry the Seventh's Chapel, which constitutes a part of it (in the approach to which, a defect is turned into a beauty) as one of the most perfect works in this sort that ever was designed; it is impossible to tell you how I have been struck with astonishment and awe, at looking up to the south arch of the tower from a point of view a little to the southward of that fine reclining statue of old Busby, which I call the point of religious contemplation; as upon turning the eyes the other way, and looking forward, you have the several antique private chapels

in

in the gloom of the receſs; to the right, the memorials of Chaucer, Shakeſpear, and Milton; and near, that of the greateſt of all earthly muſicians, Handel.

To ſet off again from whence I have digreſſed:—All men were not intended for Divines, but all men were intended to be virtuous, and holy, and devout; and unleſs they can in general be induced to diſcharge the duties of their ſeveral ſtations in the world, from a ſenſe of *Duty towards God*, this conſequence muſt follow: that ſelfiſhneſs, and the unlimited purſuit of ſenſual pleaſure, will defeat the very end of ſocial union, and render ſociety as bad or worſe than ſavage life, to a great part of thoſe who are united in it, and thus counteract the deſigns of infinite wiſdom and goodneſs. The too general neglect of common decency in ſome counties of this kingdom, not only in the outward appearance of many of our rural

pariſh churches is ſcandalous, but the total neglect of internal cleanlineſs likewiſe, is exceedingly diſguſting; and it ſeems unreaſonable, to expect that huſbandmen and farmers ſhould be capable of abſtracting their thoughts from the buſineſs of the world in them, when, if they have reſolution enough to lift up their eyes, it is impoſſible to do it without thinking of their barns; and it is abſurd to call that the Houſe of God, which there are few poor men but would be aſhamed, if not afraid to live in. Want of decency in any reſpect, includes a want of ſenſe, but where Religion is concerned, it is folly and impiety together.

Whatever may be ſaid againſt the uſe of ſtatues, or of pictures, in divine worſhip, as leaning too much towards the idolatry of the Church of Rome, (and much undoubtedly may be urged without

out the ſpirit of fanaticiſm) Muſic ſtands clear of the charge. Wanton muſic may have a tendency to inflame the appetites, but can naturally go no farther without the accompaniment of language, and this in every choir is limited to that of the holy Scriptures. Our *voluntaries*, as they are called, indeed are too often light and trifling, and ought to be more carefully conſidered: from a mind duly prepared, a voluntary is undoubtedly much more forcible than any *ſet* compoſition whatever, which can never be performed with equal force and ſpirit, to that which flows immediately from the heart; becauſe thoſe nice touches which produce the great effects, reſult from our immmediate feelings, and are the genuine eloquence of Nature; they may depend either upon the proper management of the ſtops in general, or upon that of ſome particular one, as upon the delicate gradations

dations of the ſwell in ſome inſtances; or upon giving the little more, or little leſs, than the juſt proportion of time to ſome notes, (for it is impoſſible to apply the puoco più and puoco meno to the notes of the organ in reſpect of tune) or upon ſome judicious pauſes of which, no written characters or rules, can poſſibly point out the meaſure with exactneſs. Not to mention the haſtening, or retarding of the time, with reſpect to ſome entire paſſages, & many other minutiæ of elegance which are only to be felt; the mind itſelf is not always in a ſuitable ſtate for the production of a voluntary; our beſt muſicians acknowledge their frequent incapacity to adapt the melody and harmony to the ſubject which it is ſuppoſed to lead to, and prepare us for conſidering: it is, therefore, to be wiſhed, we had a ſet of overtures compoſed for all the proper leſſons throughout the year, as well as for every

anthem;

anthem; theſe might be occaſionally made uſe of at the diſcretion of the organiſt; and if he deſerves the character of a muſician, he would be too much hurt by impropriety, to attempt what he had reaſon at the inſtant to believe himſelf incapable of executing, for the ſake of an uncertain excellence, and much leſs merely for the ſake of vanity. An anthem ſung in ſolemn melody engages the *whole* mind, and prevents the wandering of our thoughts, which is no inconſiderable advantage, if we reflect upon what hath been before obſerved; but muſic not only fixes the attention, and keeps the mind from wandering: when properly adapted, it gives a force to *ſentiment*, and by joining in the impulſe make a deeper as well a more pleaſing impreſſion: how differently doth the very ſame diſcourſe ſtrike us when it is hurried over with little or no regard to the manner in which

which it is delivered, to what it doth when ſpoken with becoming geſtures, and with *proper* accent, emphaſis, and cadence; and the ſame effect, my dear Sir, may certainly be expected from the power of muſical expreſſion, in the accompaniment of our devotions; the immediate influence of it upon us is evident; it wants no arguments to prove its power over the affections; and religious ſentiments would afterwards more readily occur to the mind, and would always bring with them connected ideas of ſatisfaction and pleaſure. The uſual complaints with libertines is, that religion is too gloomy in its nature, and that its exerciſe is too forbidding, to invite men to it; what the principles and practices of ſome of our enthuſiaſtic ſectariſts may be, muſt be left with *Charity* and *Candour* to ſettle for them; ſome particular characters amongſt them

them may be ſour and ſplenetic, and moroſe, but theſe diſpoſitions do not grow out of piety, which is all gentleneſs and harmony, and peace; and ſuré I am that the religion of Chriſt abridges our natural delights no farther than the laws of Virtue and Morality require; nor have his Apoſtles any where determined what reſtraints, or what degree of liberty is to be made uſe of, in eſtabliſhing the ceremonials of worſhip, leaving every church the power of adjuſting them, within the bounds of decency, without fixing its limits: and theſe muſt neceſſarily be defined in a great meaſure by the prevailing manners in every country, ariſing from the genius and temper of its inhabitants: ſo far as I am capable of judging in this caſe, the church of England ſeems in general to have conducted herſelf with propriety, neither burthening her members with a load of uſeleſs and unmeaning

ceremonies,

ceremonies, nor depriving the worſhip of God, of ſuch as are adapted to work upon a rational mind; yet all was not done which perhaps might have been done at the time of the Reformation in ſome few particulars, from a compliance with the prejudices of the age; and *more*, probably, than was requiſite in others.— If ſome ceremonies have loſt their power, it may be from an impropriety either of geſtures or tones, in which it is impoſſible to give ſome perſons inſtruction, who are concerned in the application of them: It hath frequently been obſerved by men of real piety and learning, that ceremonies can never be introduced into the church with too much caution, becauſe their force is both temporary and local, and much depends upon their being managed with propriety, it is allowed: but ceremonials plain and ſimple, ſuch as ſpeak the general language of devotion which

join to enforce the ſame ſentiments with the Scriptures, and are dictated by the energy of piety, can never hurt the mind, though their perverſion or abuſe indeed may do it; but the univerſal natural language of action can never err; when this happens not to be ſufficiently underſtood, by an inattention to Nature's genuine methods of expreſſion, or to be exaggerated by affectation, degraded by awkwardneſs, miſapplied by folly, or neglected by an *impious* indifference, it is then and only then, we have ſufficient reaſon to condemn, not the ceremonials or actions in themſelves, but their perverſion and abuſe.—To purſue this no farther: Men of *taſte* and *candour* will diſtinguiſh what is juſt; and thoſe who are but one degree above the vulgar by their education, and as much below them by their prejudices, will for ever cenſure what they are incapable of feeling through their own de-

fault,

fault, and are determined not to underſtand. I am far from wiſhing an increaſe of ceremonies in our church, but only a more reverend attention paid to thoſe our governors have already eſtabliſhed, as I am well perſuaded, that it was the lifeleſs manner in which they were too commonly performed, which occaſioned one of the greateſt ſcholars, and worthieſt divines § of the laſt age to obſerve, that though they were not bad enough to make men bad, they contributed but very little to make men good. The truly great Mr. Addiſon ſomewhere treating of the miſerable neglect of elocution, in thoſe whoſe profeſſion calls them to ſpeak in public, obſerves of our Liturgy, that it is hardly poſſible to conceive a form of words better adapted to expreſs the wants of dependent creatures; and at the ſame time their reliance upon his power and

§ Dr. Henry More.

mercy, to whom they are addreſſed.—However this may be denied by prejudice concerning ſome parts of it, every one will allow it to be true, of that which goes under the general title of the Pſalms of David; theſe when read, or ſet to muſic with a due regard to propriety in the various ſentiments of gratitude, adoration, and humility; of love, joy, hope, and affiance in the divine mercy, either deprecating God's vengeance, or celebrating his praiſes; theſe I ſay ſeldom fail to inſpire the mind with a rapturous devotion that is only to be felt. To paſs by, an impropriety of manner in reading them, which even ſome learned men have unhappily fallen into, it may truly be affirmed, that in our cathedrals, where we might expect divine ſervice to be celebrated with the utmoſt propriety, theſe divine compoſitions ſuffer the greateſt injury; for when every verſe is chanted in the ſame air, however various the ſentiment,

ment, though the ſolemnity of the place and office will prevent our being otherwiſe than ſerious; yet thoſe perſons muſt be deſtitute of natural feelings who do not find themſelves in ſome degree diſguſted; and that man muſt have a more than common underſtanding and extraordinary powers of abſtraction, who is capable of fixing his attention ſo entirely upon the *ſubject*, as really to be edified, when the artificial language of words unexplained by that of geſtures, and the natural language of ſounds ſpeak ſo totally different; and what Voſſius ſays upon the neglect of Rythmus, may be applied in this caſe with ſtrict propriety; Si huic defectui addas quoq; obſcuram verborum enuntiationem, nihil præter inanem ſupererit ſonum.

Singing either in reſponſes § or in antiphone hath a fine effect at all times;

§ In reſponſory hymns a queſtion was propoſed by the choragus, and anſwered by the whole choir, or by either part

many of the pſalms were compoſed with an intention to be ſo performed, and the ſacred Scripture repreſents the angels of God § thus alternately chanting forth his praiſes before the Throne. But the verſes of our pſalms for the moſt part not reſpecting their original diviſion into either ſpecies of ſong above-mentioned, inſtead of aiding the compoſition, as they are taken up by different parts of the choir, render the whole an inconſiſtent performance. In our common congregations, where the people's attention to the *general inſtruction* only of the pſalms, was intended to be kept up by their joining in the reading of them, the general uſefulneſs of theſe ſhort diviſions

part of it alternately; whereas it was not neceſſary to ſuch as were compoſed for antiphone, that any queſtion ſhould be aſked at all, but only that the ſong ſhould be divided into portions which were reſpectively performed by two or more diviſions of the choir.

§ Iſaiah vi. 3.

into verſes is evident, and the impropriety of theſe diviſions in many inſtances, may be thought ſufficiently compenſated, by the attainment of *this* end only, which is all that is to be expected; the words at leaſt being diſtinctly heard; but where the *perfection* of divine worſhip is aimed at, and an eſtabliſhed chorus educated and maintained for that purpoſe, it ſeems an omiſſion not to diſtribute the parts of the carmina amoibæa agreeably to their original diviſions; the want of which in many inſtances, not only deſtroys the beauty of the pſalm, but by confounding Perſons and Sentitiments, and Queſtions and Anſwers, frequently renders the meaning of it obſcure, if its juſt and preciſe meaning be intelligible at all.

The ſame obſervation may be made upon ſome of the prophetic leſſons; if the parts of theſe were read by different

canons

canons from oppoſite ſides of the church, it would contribute to render them not only more ſtriking to the intelligent hearer, but their ſenſe and meaning to be much more eaſily apprehended by the body of the people. It may be ſufficient to give the fifty and the ſixty-third chapters of Iſaiah, as inſtances of what is here meant.

A further impropriety in our manner of chanting muſt be evident to every one who attends to it, that the verſes of our pſalms being of differents lengths, and yet all included in the ſame air, it becomes neceſſary ſometimes to hurry over the principal member of a period, in order to have the words and tune cloſe together, and to lay the greateſt ſtreſs upon that part of it, which is of leaſt importance; not to mention that the diviſion of every verſe into two members by a colon, as they were originally pointed

to

to be *ſung*, no leſs than the diviſion into verſes ſo disjoins and breaks the ſentiment in many inſtances, as renders it ſtill more difficult to be underſtood; and the confuſion which muſt unavoidably ariſe from the quickneſs of pronouncing ſome parts of a period which happens to be longer than ordinary, can give the reſemblance only of broken inarticulate ſounds to thoſe who are unaccuſtomed to it, and is not very delightful to ſuch as are; foraſmuch as even the airs themſelves, however excellent they may be, tire and fatigue the ear at length by a too frequent repetition; and thus for want of a diſtinction in utterance, the ſervice is reduced to mere inſtrumental melody, and the choriſters in this caſe are but like ſo many mere organ-pipes, capable of inſpiring only vague, indeterminate emotions of piety, without inſtructing the underſtanding: but ſuppoſing *ſome* of the words

to

to be heard, and that the people are ſo well acquainted with the reſt, as to be able to ſupply what is wanting by their memory, or to run their eye over the book with ſufficient quickneſs to follow through the whole, (which is not the caſe in general) yet it is well known that ſome paſſages in the pſalms ought to be ſung without any accompaniment at all; that the effect of others muſt depend upon the pauſe both of voice and inſtrument, which our chant doth not allow of, and that where this is not obſerved, though it is poſſible the ear may ſtill be in ſome degree pleaſed, yet the influence upon the imagination and affections is in a great meaſure loſt, and the judgment and the underſtanding at the ſame time leſs informed.

In what manner it may be aſked then, ought this part of divine ſervice to be performed; the general anſwer is obvious;

after

after ſuch a manner as may improve our devotion and underſtanding in proportion as it raiſes our delight; if it be thought neceſſary that the whole congregation ſhould join in it, (as they ought to join in moſt of the pſalms) it may admit of a doubt, whether ſimple reading, or a ſpecies of recitative *adapted to our own cadences and manner of ſpeaking*, (not to the Italian mode of utterance) with a ſuitable accompaniment of the organ, would not be moſt likely to attain the end of edification; but if the utmoſt propriety is aimed at in the celebration of divine worſhip, the choriſters and canons ſhould perform the whole of ſuch pſalms as are reſponſive or in counter ſong, except in ſome few inſtances, as in the 136th, the conſtruction of which requires a different conduct, the whole congregation cloſing the ακροτελευτεια, as was the cuſtom of the early ages, which is ſaid to have reſembled

ſembled the voice of thunder. What effect the powers of muſic with the language of the inſpired writings is capable of producing upon an audience, we have now every where ſufficient proofs in the attention paid to our ſacred Oratorios, and it is much to be wiſhed that Mr. Handel's Anthems, which are ſome of the very beſt compoſitions he hath left, were ſung more frequently in our churches; not to aim at perfection in the worſhip of God, implies in it ſome degree of irreverence; but if thoſe in whoſe power alone it is to reform our Taſte in muſic, as in every thing elſe, if the learned and the great would take our church muſic again under their patronage, we ſhould ſoon have that light, broken, and unmeaning ſtyle at leaſt baniſhed, which is a diſgrace to the poetry it accompanies. We might expect that the ſimple and majeſtic ſounds of ſome of the old maſ-

ters,

ters, joining once more with the ſublimity of the ſacred writings, would contribute to raiſe our affections above the trifling purſuits and amuſements that engage the attention of mankind, and convince us by experience, that the moſt exalted pleaſure we can know on this ſide heaven, is that of piety and devotion, thus kindled into rapture.

Muſic, ſaith the judicious Hooker, in the 38th Section of his 5th Book, delighteth all ages, and beſeemeth all States, it is ſeaſonable both in grief and in joy; there is, that draweth to a grave and ſober mediocrity, one kind, apt to ſtay and ſettle our affections; and another, to move and ſtir them up: there *is*, alſo that carrieth us as it were into extaſies, filling the mind with a heavenly joy, and for a time in a manner ſevering it from the body; ſo that although we altogether lay aſide the conſideration of ditty or matter,

ter, the very harmony of ſounds being framed in due ſort, and carried from the ear to the ſpiritual faculties of our ſouls, is, by a native puiſſance and efficacy, greatly available to bring to a perfect temper, whatſoever is *there* troubled; apt as well to *quicken* the ſpirits, as to allay that which is too eager; ſovereign againſt *melancholy* and *deſpair*; forcible to draw forth tears of devotion, if the mind be ſuch as can yield them; able both to move and to moderate all affections.—He obſerves, that all oſtentation of art in ſacred muſic, either wanton, light, or unſuitable to the ſubject, ſuch as pleaſeth the ear only, and doth not aid thoſe impreſſions upon the mind, which the matter that goeth with it requires, is a *blemiſh* and *diſgrace* to divine worſhip, but that on the other ſide, theſe faults prevented, the force and efficacy of the thing itſelf, when it fitly ſuiteth with matter altogether

gether ſounding to the praiſe of God is in truth moſt admirable, and doth much edify, if not the underſtanding, (becauſe it *teacheth* not) yet ſurely the *affections*, becauſe therein it worketh much; that the heart muſt be very unfeeling from whom the melody of the Pſalms doth not ſometimes draw *that*, wherein a mind religiouſly affected delighteth; and although it be allowed, that ſinging in the early ages of the church was more ſimple than ours, being little more than a melodious kind of pronunciation, *(by which, moſt probably, is to be underſtood, a ſpecies of recitative, adapted to the oratorial accents of each reſpective language)* yet that the cuſtom we now uſe is not an idle or impertinent inſtitution, but in order that the ſweetneſs of the melody may ſoften *groſs* minds to receive *that ſpiritual influence*, which would otherwiſe deſcend upon them, like the dews of heaven upon

a rock: "for whereas the Holy Spirit "saw that mankind is unto virtue *hardly* "drawn, and that righteouſneſs is the "leſs accounted of, by reaſon of the "proneneſs of our affections to that "which delighteth; it pleaſed the wiſ- "dom of the ſame Spirit, to borrow "from melody that pleaſure, which, "mingled with heavenly doctrines, cau- "ſeth the ſmoothneſs and ſoftneſs of that "which toucheth the ear, to convey by "ſtealth, the treaſure of good things "into man's mind §: and pſalms were ſet to muſic, as undoubtedly they were compoſed in meaſure, for this end and purpoſe, that virtue and piety might gain admittance to the heart, under the garb and in the retinue of pleaſure.

It hath frequently been remarked in honour of Muſic, that it was the firſt of the Arts, having preceded the reſt in

§ See Baſil upon the Pſalms.

order

order of time; but it is much more ſo, that it will exiſt when they can no longer be of any uſe, and ſurvive when all others ſhall be forgotten.

I am, dear Sir,

Your moſt affectionate

And faithful humble Servant,

CHARLES DAVY.

LETTER XI.

Henſted, October 1774.

MY DEAR FREDERICK,

I AM glad Sir G's and Mr. Woollett's drawings have taken hold of you, and will endeavour to explain what you aſk me, concerning Invention and Taſte, as clearly as I can: the ſubject is abſtruſe.

Invention, with reſpect to the Arts of *Deſign* as well as *Poetry*, is ſometimes conſidered, or at leaſt talked of, as a ſpecies of real inſpiration; whereas, according to my idea of it, Invention is nothing more than that power by which we are capable of calling up into one view, and at the ſame time of attending to a variety of

of ideal objects, which are retained and held together in the memory, either by their own natural connections, or by artificial ones, for our occasional use; and in execution of the fine Arts, they are differently selected and arranged by the imagination, under the guidance of our judgment and taste. The powers of Invention in the Arts, must therefore, be exactly in proportion to the greater stock of agreeable ideas we have been capable of laying up, and the greater number of connections which we have instituted as the means of recalling them, in order to compose agreeable forms or pictures, or assemblages of harmonious sounds, for the entertainment of the eye or ear. It might be a useful digression to enlarge upon this subject of associations in a moral light. I might point out to you what necessity there is for caution in the forming our ideal connections, since

much not only of the amuſement, but of the virtue and credit, and ſubſtantial happineſs of life, may depend upon the train in which our ideas are diſpoſed to follow; and particularly as theſe connections lead us to the choice of our acquaintance, and the objects of our purſuits; but this I have not time for at preſent; let me only obſerve, by the way, to aſſiſt you in forming a judgment of men's different characters, and to conduct yourſelf with reſpect to their ruling principles—That the man of wit is directed in his opinions, and influenced by thoſe objects chiefly, whoſe adjoinment entertains his fanciful imagination; the miſer is ſcarcely more biaſſed by his ſordid intereſt, than the man of wit by ſtriking and uncommon images, and however agreeable he may be in converſation, his judgment and his friendſhip are in general not to be relied on.—The man of humour has his opinions

influenced

influenced by thoſe objects which are connected by oppoſition; and ridicule with him is made the teſt of juſtice, honour, and integrity; in ſhort, of every thing.—The man of taſte is ſwayed by elegance, which as it is in uniſon with virtue, ſuch a one is truly amiable: The man of rigid judgment, has often an appearance of ſeverity and moroſeneſs, but his ideas are connected by truth, and there is an integrity in his conduct, which is above deception.—The man of genius, whoſe ideas are connected by elegance, or truth or contraſt, or agreeable novelty, is apt to be various in his conduct, but in general he may be depended on: nor is it to be wondered at, conſidering the ſuperiority which ſuch numerous connections muſt give him over the reſt of the world, if in ruder or enthuſiaſtic ages he was conſidered as owing that ſuperiority of invention, which diſtinguiſhes

him in ſo extraordinary manner, to the inſtructions of ſome Genius or attendant Spirit: theſe times indeed have been long paſt, and yet inſtead of the plain account above given of a power, which no man who looks attentively into his own mind can be a ſtranger to, we have been told, in the preface to Freſnoy's Art of Painting, (a part of which gave riſe to your queſtions) that *Invention is a Muſe, who, being poſſeſſed of the other advantages common to her ſiſters, and being warmed by the fire of Apollo, is raiſed higher than the reſt, and ſhines with a brighter and more glorious flame.*—This is the principal paſſage you wanted to have put into ſuch plain terms as would throw light upon the enquiry; and I muſt own I am ſurpriſed that ſo great a man as Mr. Dryden could ſatisfy himſelf, or think to impoſe upon his readers, by ſuch metaphorical nonſenſe; but thus the imagination very often *ſtill*

continues

continues to be addreſſed upon this ſubject, in painted words, without any determinate meaning; and wherever it is treated of, you are generally ſet down juſt where you was taken up, without having made the leaſt advance towards a knowledge of what wants ſo little explanation, when ſimply and unmetaphorically conſidered.

By Taſte, the other article of your enquiry, is properly to be underſtood that power of the mind, whoſe province is the diſcernment and reliſh of whatever is elegant, or of whatever is beautiful, as beauty or as elegance belongs either to particular ideas, and to objects conſidered ſingly, or otherwiſe to the arrangement and diſpoſition of a number of them. It is by this ability of the mind, therefore, that we are capable of ſelecting from our ideas called up by the invention, thoſe which may be combined, ſo as to form new or beautiful, or ſublime images and pictures

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in the fancy. You may urge, perhaps, that the idea of beauty is abſolutely undetermined, being entirely dependent upon cuſtom and faſhion.—This, my dear Frederick, is true only to a certain degree, and the pleaſures of mental taſte, like thoſe of the palate, have their foundation notwithſtanding, in our common feelings and perceptions, as they were conſtituted by a law of nature, to make certain and determined impreſſions; but the ſtrongeſt natural feelings we know *may* be oppoſed, and in ſome meaſure *altered*; and that every power implanted in our conſtitution may be improved by culture, as it may be debaſed by the abuſe or neglect of it, is equally evident; perfectum nihil eſt, ſaith Quintilian, niſi ubi Natura curâ juvetur: nor is this more diſtinguiſhable in any thing, I believe, than in Taſte, of which, either what is beautiful or elegant, or at leaſt what is *ſup-*

poſed

poſed to be ſo in ſome degree, is always the object; but we never heard of the toad or of the bat being any where admired for their reſpective beauties, or of the goldfinch, on the contrary, being any where diſliked for its uglineſs. Without fixing upon particulars, there are doubtleſs, *ſome* forms which are naturally conſtituted by the Creator of the world, to be pleaſing or diſguſting to our ſight, independent upon the ideas of advantage or of danger we receive from them; as there are ſome ſounds naturally agreeable or diſagreeable to the ear, and our minds were in like manner reciprocally adapted to receive delight or uneaſineſs from their preſence; ſome particular animals, for inſtance, are *univerſally* conſidered as handſome, either in form or colour, and others as univerſally denominated ugly: now what is *univerſal* could not poſſibly have its origin in *faſhion* or *caprice:* the moſt

ſceptical

ſceptical perſon living muſt grant that *ſome* forms are *univerſally* allowed at leaſt to be *more handſome* than others; which neceſſarily implies the exiſtence of a natural principle in the mind, as a ſtandard to which they may be referred. You will excuſe me for enlarging upon the obſervation:—If beauty of form had been as *neceſſary* in the *animal* world, as a fitneſs, ſymmetry, or a proportion of parts, the inelegant forms of ſome creatures would not have found a place in it. Had none but beautiful forms been *animated*, there would have been a gap in this part of the creation; but beautiful or otherwiſe they all ſtand in the ſame relation to God: and, doubtleſs, the ſcale of beauty, as well as of active excellence in animal life, was eſtabliſhed, and as equally adjuſted by his wiſdom and goodneſs for the perfection of the univerſe.

What

What is true of the animal world in this reſpect, might in like manner be affirmed of the inanimated parts of it: the forms in each are all but infinite, and beauty and deformity both in the one and the other appear contraſted, if not blended together. One end of God in this viſible creation, was certainly the *delight* of his creatures, of which the meaneſt reptile has undoubtedly its ſhare, proportioned to its faculties of diſcernment; and could we in this preſent life, as it is poſſible we may hereafter, take in the general face of nature at one view, we ſhould diſcern that even the moſt rugged and apparently diſcordant parts of this globe which we inhabit when ſeparately and unconnectedly ſurveyed, have all of them a direct ſubordinate relation to the beauty and harmony and perfection of the whole; but limited as our preſent faculties are, the moſt contracted view may diſcover ſuch a regulated variety in the

the conſtruction of every thing around us, as ſeems evidently deſigned to engage our attention for the furtherance of our knowledge, whilſt it inſpires us with a portion of pleaſure and ſatisfaction as as an encouragement in the purſuit of it, and as a reward for its attainment: how variety and pleaſure are connected as cauſe and effect, muſt remain a ſecret; but it is evident, that variety under certain reſtrictions as the immediate cauſe of what we call beauty, ſeems principally deſigned to lead us on to ſcience; the thought might be purſued, but I am writing a letter not a treatiſe.

It may, however, be farther obſerved to you here, that had man been framed without a ſenſe of beauty or of elegance, (terms, which, by the way, I do not underſtand as ſynonymous) he would have experienced a want of innocent amuſements for the neceſſary ſolace of life,

(excluſive

(excluſive of its incitement to knowledge) and yet to have had this ſenſe or taſte of beauty abſolutely unalterable like his *ſenſe* or perception of *truth*, muſt in many inſtances have conſtituted poſitive diſtreſs, without diſtinction, and without remedy: it was, therefore, upon this account, proper and requiſite for man in his preſent ſtate, to ſupport him under the labours of life, and as a balance to their weight and preſſure, that he ſhould have a natural diſcernment of beauty implanted in him, with a pleaſure annexed to its perception; yet ſo wiſely is it ordered at the ſame time, that uſe and habit we find, notwithſtanding this natural appointment, ſoon reconcile us to the ſight of objects which are entirely devoid of beauty, either in their form or colouring, or diſpoſition—reconcile us at leaſt ſo far, as to prevent a painful diſguſt; nay, ſo flexible is this faculty *in the kind determination of Providence*

dence for our happineſs, that we at laſt give the preference, even in point of beauty, to thoſe cuſtoms, and are diſpoſed to think thoſe objects we are abſolutely *obliged* to be long converſant with, the moſt agreeable or amiable, though they were abſolutely diſagreeable to the eye at firſt; juſt as the natural diſtinction of our groſs corporeal taſte by the palate, goes on through a ſtate of indifference, to a fondneſs for thoſe particular flavours, which were originally diſagreeable, and even nauſeous: but, on the contrary, it is worthy of our obſervation, and it demands our eſpecial gratitude, that whatever is once found agreeable to our natural taſte, either of food or elegance, never becomes poſitively diſagreeable to us afterwards from cuſtom, unleſs it be by accident, or is owing to ſome imprudence or abuſe.

Upon the whole, then, a good taſte, in the metaphorical ſenſe, I preſume, for I do

do not pretend here to demonſtrate, may be ſaid to be that ability of mind, by which we are enabled to diſtinguiſh and to reliſh whatever is beautiful or excellent in Art or Nature, conſidered ſingly: or whatever elegance ariſes from a juſt arrangement of objects, which in themſelves are not diſagreeable. It procures us a refined ſpecies of ſenſual enjoyment in the pleaſures of the ſight and hearing, by far above the groſſer pleaſures of the other ſenſes; but our good taſte is moſt delighted with ſuch images or pictures as are formed by the power of the poet's fancy, when they have a tendency to gratify our innate love of virtue, juſtice, and humanity, together with our love of beauty.

I am,

My dear Frederick, &c.

LETTER XII.

1768.

MY DEAR FREDERICK,

YOU cannot be too much upon your guard againſt the relation of improbable tales, which travellers of all times have been inclined to impoſe upon the credulous: yet not to make a diſtinction in the credit due to different relaters, would be great injuſtice: and the ſetting up our own *opinion* as a criterion of *truth*, allowing nothing to be credible in nature, which contradicts that idea we have entertained of the extent of her operations, is a proof of the weakneſs of our underſtandings, rather than the ſtrength of them. All ſuppoſed matters of fact, are properly

properly to be determined by the weight of evidence, provided they are not at variance with any other known eſtabliſhed *truth* or *principle*; or are not aſſigned, for their production, to a cauſe which it is evident could have had no connection with them, or which could not *poſſibly* have had the power to produce them: If they are at variance with any other known eſtabliſhed *fact* or *principle*, we muſt neceſſarily *diſbelieve*; or if the cauſe aſſigned to them *appears* inadequate to their production, *our* belief at leaſt may be ſuſpended.

There are few animals in the creation perhaps, which are not formed with a capacity, of being entertained by a ſucceſſion of certain proportioned ſounds: mules are *ſaid* to be exceedingly delighted and to travel with more ſpirit under their burthens, to the jingling of the bells upon their harneſs, eſpecially if they be harmonically tuned; and the horſe is well

known to be ſo tranſported with martial muſic, the rythmus of the drum, and the clangor of the trumpet, but particularly with the former, as renders it exceedingly difficult, in ſuch circumſtances, to reſtrain his impetuoſity; but if this is to be conſidered as a proof of his courage and emulation, rather than of his fondneſs for an agreeable order and ſucceſſion of muſical ſounds, or for the harmonical union of them, we have the authority of *Ariſtotle*, that actual *madneſs* in horſes, may be cured by the melody of flutes; and Shakeſpear, who made as accurate obſervations upon nature, as Ariſtotle or as any other philoſopher whatever, tells us, that muſic will put a *ſtop* to the gambols of a *herd of wild unhandled colts*, who will leave their play to attend to it: this may recal to your mind what Mr. S. related he himſelf had ſeen of a young pampered troop horſe's breaking to the drum: that though

though the ſound appeared to ſtartle him at firſt, he ſoon began to liſten to it with attention, and in leſs than half an hour, gave manifeſt indications of his being highly pleaſed, by following the drum, of his own accord, about the field; and you know our good old neighbour, who ſtudied every animal's propenſities, and knew their diſpoſitions with a critical exactneſs, never violated truth. We have many accounts of the influence of muſic over the fierceſt and moſt noxious creatures which are ſo very extraordinary, as to hurt the credit of ſuch as are moſt undoubtedly true. The following I think may be depended upon, as coming from a gentleman § of honour, who reſided many years in India: He ſays, that in the neighbourhood of Madraſs, and, he believes, in many other places upon the

§ The late Sir Abraham Hume, Bart.

coaſt of Coromandel, there are ſtrollers, who get a livelihood by charming of ſerpents, which they carry about, and diſarm of their fierceneſs by ſinging certain airs, accompanied with the tambourine, an inſtrument reſembling the antient tympanum: after a kind of overture, the animals glide out from a baſket which is then opened for them, and as the ſong and its accompaniment goes on, they raiſe themſelves upon their tails, and wave their heads to the time, but upon the muſic's ceaſing, they return almoſt immediately to their native ſullenneſs and malignity, ſo that an attendant upon the muſician forces them into their priſon, the inſtant that the air is ended, to prevent their darting at the company; the ſerpents moſt commonly exhibited by theſe itinerant artiſts, are thoſe of the hooded tribe, the moſt venomous of the whole kind, though others are not inſen-

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ſible to the charms of muſical rythmus. The ſame gentleman mentioned his having once ſeen an alligator decoyed out of a river by one of theſe muſicians, and made to follow him upon its banks with all the ſigns of *blandiſhment* and *affection*.

Whenever theſe people are informed of a ſerpent's having gotten into a houſe (which is not very uncommon) they can bring him from his lurking-hole by their muſic, and either deſtroy him, or pluck out his teeth, and render him innoxious; but moſt of thoſe they travel about with, are left in full poſſeſſion of their venomous powers, in order to ſhew the virulence of their poiſon, by ſuffering them to bite ſome domeſtic animal; an inexcuſable experiment for the ſatisfaction of mere curioſity: it was added, that many of theſe ſerpents are ſo gloomy and ſullen in their temper, that it is a long time before the artiſt can prevail upon them to lift up

their hood, and give attention to his ſong; and it is, therefore, often neceſſary for thoſe which are exhibited in the ſtreets, as often as a company can be collected together, to have the ligature of their hood cut, which cauſes it to fall below their ears; a circumſtance which ſeems to illuſtrate a paſſage in the lviiith pſalm, and another in the viiith chapter of Jeremiah, alluding to the art of theſe charmers, and the cunning of the animals in oppoſing their deſign: and it appears from the whole of the relation now given, that no other incantations were ſuppoſed to be made uſe of, than the natural incantation of melody and rythmus, properly ſo called. Mr. Groſs, in the firſt volume of his Voyage to India, has given a ſimilar account of theſe jugglers, as he calls them, except that thoſe he ſaw in the neighbourhood of Surat, made uſe of a ſpecies of flute, and he concludes his narrative

narrative with the following reflection: *I am fully aware of the ridicule which this account will meet with from many perſons, but I prefer the certainty of incurring it, to the ſuppreſſion of what I tried myſelf to diſbelieve, till convinced by the evidence of my ſenſes; in the mean time this ſort of incredulity, though it is often well founded, yet when too general hath one ill effect, that it prevents an examination which might ſometimes end in valuable diſcoveries.* I could eaſily multiply authorities, for this ſo extraordinary a fact, which is either alluded to or aſſerted by almoſt all the antient Poets and Naturaliſts §: Amongſt the moderns, Dr. Haſſelquiſt, (a diſciple of Linnæus) has lately given us a relation of the charming of ſerpents in Ægypt, which he ſuppoſes to have been performed by the artiſt's bathing her hands in the juice

§ Pliny, book vii. chap. 2. Lucan, book ix. line 895, &c.

of

of certain herbs: and poſſibly the fanciful opinion of the powers of herbs in incantations might owe its original to the delight which ſeveral venomous reptiles receive from the odour of ſome plants, or in the offence which is given them from that of others, ſo as to be prevented in either caſe from biting the perſon who is guarded by their effluvia. Scaliger, in his firſt book of animals, ſays, *Cantationibus* aliquando vidimus ê cavernis exciri ſerpentes: and Teixera, in the Hiſtory of Perſia, as he is quoted by Bochart, ſays, in India ſæpe vidimus ſerpentes etiam maximos et terribiles incantari, per vias duci, et ad fiſtulæ ſonum ſaltare quum juberentur: if theſe teſtimonies are not ſufficient, what ſhall we ſay to Dr. Shaw's, whoſe authority, reſpecting a mere matter of fact, was never called in queſtion; who affirms, in his Travels, p. 411, of the quarto edition, concur-

concerning the worral, a ſpecies of lizard, that he hath ſeen ſeveral of them keep exact time and motion with the Ægyptian Derviſes in their religious dances, turning when they turned, and ſtopping when they ſtopped.

I am, my dear Frederick,
Your affectionate Father.

P. S. We have an extraordinary account, in the Philoſophical Tranſactions, of the effects of a common ſtrong-ſcented herb, the Mentha Pulegium, of Linnæus, upon the rattle-ſnake, which might throw ſome light upon the ſubject: but the narrative having been treated with ridicule, may have prevented the fact itſelf from being properly enquired into. The aſpics, procured from one of the Pſylli, which were brought to Cleopatra in the baſket of figs, (if the fact may be depended upon) were, probably, rendered torpid, and prevented

vented from eſcaping or biting her by the power of ſome effluvia, till ſhe had applied them to her arm, and excited, and irritated them, if I remember right, by pricking them with a gold bodkin ſhe had concealed in her hair; but the whole of the tale is rather doubtful, except with reſpect to the event of her putting an end to her own wretched life, in which a courſe of cruelty, diſſimulation, injuſtice, and immodeſty, with ſcarcely any other accompliſhments than thoſe of perſonal beauty and agreeableneſs of converſation, prevent our ſympathizing in her laſt diſtreſſes, or lamenting her fate whilſt our pity and affection are extended to * Char-

* A moſt beautiful antique buſt of this extraordinary woman in Baſalt, is at preſent in the poſſeſſion of the Rev. N. Bacon, at Coddenham, in Suffolk, which deſcended to him from his anceſtor Sir William Temple, of More Park, in Surry; and I have been informed was valued at more than ſix hundred guineas. She appears, from her hair, to have been a native of the internal parts of Africa.

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mion and Iſis, her faithful ſlaves, who would not ſurvive their beloved miſtreſs, the latter of whom was found dead at her feet, and the other juſt expiring upon her boſom in the act of adjuſting her diadem.

LETTER

LETTER XIII.

Sookſagur, Bengal, Nov. 7, 1777.

MY DEAR SIR,

IT is with the utmoſt pleaſure I take up my pen, to give you an account of a Water-ſpout, though I preſume that your requeſt is intended rather to afford me a ſubject upon which to write, than that you really expect any new information from me relative to ſuch appearances; that which I was near to, I believe, was a remarkable one, and we were not without fears of its breaking over the veſſel in the bay of Bengal, upon our paſſage from Bombay to China: we were at this time in about five degrees North latitude preciſely upon the meridian of Calcutta, the

the wind driving us along at the rate of ſeven knots, and the weather cloudy; its firſt appearance was upon the beam nearly three points before the wind; it reſembled then a thick miſt only, till it gradually approached into fuller view; as I had read Lord Anſon's account of them, I was the more alarmed, being in a quarter too that rendered our ſituation truly dangerous, and my appehenſions were not ill-grounded, for it ſwept paſt our ſtern at the diſtance, as I conceive, of about two hundred yards; the water was agitated like a whirlpool, in a circle about a quarter of a mile in diameter, the whole thrown up in ſpray, foam, and rippling, attended with a confuſed whizzing noiſe, the ſpout was bound on each ſide at the upper part by two narrow black clouds, and aſcended in almoſt a ſtraight line, forming a ſort of cone with its baſe upwards; the water ſeemed to run up in a

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ſpiral ſtream, which at the top diffuſed itſelf in a miſt or cloud, but with the utmoſt attention I could not diſcern where the water entered the ſpout at bottom, only that the ſea was much agitated as it paſſed: during the voyage we ſaw ſeveral others, but at a great diſtance.

With reſpect to your queſtion concerning the diſpoſition and genius of the Europeans born in this country, it is too deep for my ſlender capacity to diſcuſs, nor can I from experience or information determine it: there are few or no examples amongſt our ſoldiers, and in higher life (this being only a temporary reſidence, not for the enjoyment, but the acquirement of a fortune) it is rare to meet with any Europeans wholly educated from their infancy in India, but this may be affirmed upon the evidence of all perſons I have conſulted, to give ſome anſwer to what you aſk, that the accelerated

motion

motion of the fluids, and ſome change perhaps of their nature in ſo hot a climate, quickly impart a warmth to the conſtitution, with ſuch a degree of impetuoſity, as to render the paſſions more ungovernable, and too often to precipitate men into the moſt licentious exceſſes of vice and folly; but the Portugueſe, who thro' ſeveral ſucceſſive generations have inhabited this quarter of the globe, appear to have loſt all their original ferocity and vindictive temper, which is the diſtinguiſhing characteriſtic of their brethren in Europe, in that of the mild, timid, and inoffenſive Indian.

The ſituation of this place upon the Ganges is more than commonly open and ſalubrious; the banks of the river are high, which protect us from inundations; here is ſome game, and plenty of many ſpecies of fine water-fowl; what game we have is to be found chiefly in the

woods, which indeed are too much infeſted with tygers, leopards, and tyger-cats, for us to venture the purſuing them; two of the laſt have been ſhot by our overſeers, one of which had ſtrength enough to attack the man after it had received the ball, and wounded him ſlightly in the neck; but there is little danger from them, unleſs a perſon goes to ſeek it, for they are rarely known to leave their retirement in the woods till dark night, when we take every precaution againſt them; I generally ride out in the cool of the evening, the only time we can feel any true enjoyment of ourſelves; during the heat of the day our whole frame is ſo totally relaxed, that we have recourſe to ſleep from neceſſity, to recover ſpring enough to enable us to go through the ordinary duties of life. Your return to England will increaſe my dear Father's

ſatisfactions:

ſatisfactions: I congratulate your arrival; and am, with thanks for all your kindneſs and condeſcenſion,

My dear Sir,

Your moſt obliged,

And ever affectionate Friend,

F. DAVY.

Mr. J. North, York.

P. S. We have a ſmall Indian Pagoda within half a mile of our plantation, which I have been permitted to enter, notwithſtanding it is deemed a profanation for a European to ſet his foot upon the ſacred ground: its form is circular, and the principal furniture of it is a large black ſtone in the center, whoſe ſhape is ſomewhat like that of our common bellows; it is ſupported upon a foot, which paſſes through it coming out on the upper

ſide, and I ſhould ſuppoſe it to be a hieroglyphic altar, but its ſignification I do not underſtand from the explanation of the Hindoo myſtagogue; he calls it Seib, or means that it is conſecrated to Seib, and ſays, that every Bramin temple in Hindoſtan, is furniſhed with one of the ſame kind, though the object of their worſhip goes in different places under different names; one of their idols ſeems to point out the evil Principle, having a ſtring of heads in one hand which reaches almoſt to its feet, and a ſcymitar in the other. We underſtand each other ſo imperfectly, that I can make out but little, but I may hereafter be better able to explain ſomewhat of the Gentoo doctrines and worſhip perhaps, concerning which, my father wiſhes to be informed.

LETTER XII.

Nov. 22, 1778.

YOU are right, my dear Frederick, not to puzzle yourſelf by a vain attempt to conceive what the abſurdity of ſome Divines have held out to their diſciples, as ſubjects which our religion obliges them to ſettle and determine with preciſion. The great Principles of Chriſtianity are ſimple, and they are not more difficult to be underſtood than ſome of the firſt Principles in what is called Natural Religion: there are, certainly, difficulties in each, but thoſe of revealed religion are by no means ſuch as tend to ſhew the doctrines of the Sacred Scriptures to be falſe. Who is it that ever

pretended he could have an idea of the eternal exiſtence of any thing, yet ſomething muſt have been from all eternity; who can conceive an infinite expanſion, yet this cannot but *be:* Are there no difficulties attending the ideas of creation? yet this muſt have been, or the things of yeſterday muſt have exiſted from eternity: Is every thing clear with regard to our own internal mental powers? Is there nothing ſecret in the operations of *Remembring*, *Reaſoning*, and *Willing*? Do we fully underſtand the immediate efficient cauſe by which Matter operates upon our Senſes, and do we perfectly comprehend, how Hearing, Seeing, and Smelling are performed? It is eaſy to *talk* of theſe things in a ſeeming philoſophical and determinate manner, yet the greateſt philoſophers have acknowledged, that, in ſuch reſearches, they could go but juſt below the ſurface. When the gentlemen, you mention,

mention, ſpoke of contradictions in the holy Scripture, they probably meant a revelation of thoſe things which are really *above* our comprehenſion only; as when a diſtinction is ſaid to be in the unity of the Godhead, which is greater than that of three mere modes of exiſtence though leſs than the diſtinction of three ſeparate Beings; yet no man can ſay there is not ſuch a diſtinction, unleſs he could have a perfect and compleat knowledge of the Nature (if I may ſo expreſs myſelf) of the infinite ſupreme firſt cauſe. The ſoul and the body I conceive to be very different in their powers; I believe it is a truth demonſtrable, that immaterial ſubſtances exiſt in our perſons, whoſe qualities muſt be totally different from matter; yet who can ſay after what manner theſe are united ſo as to conſtitute *one* man: I would not be ſuppoſed to bring this as a preciſe parallel

inſtance, but as a caſe in point, only to ſhew there may be ſuch a union of what our church ſtyles *Perſons* in the nature of the univerſal unlimited Being, as human reaſon cannot poſſibly conceive: and by what immediate power or force, a ſimple act of volition is capable of moving the corporeal part of us, or any ſingle member of our bodies (with which one would think we could not poſſibly be unacquainted) I preſume will for ever be a ſecret to us, even whilſt we are employed in the continual exerciſe of it.

It is a common objection to the redemption of *mankind*, the inhabitants of this inconſiderable world, as your objectors are diſpoſed to call it, (when it ſuits their diſpoſition and their argument to be humble) whilſt there are ſo many other parts in the univerſal ſyſtem, of far greater importance: this is looked upon as inconſiſtent with the goodneſs of God, which

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to us is his moſt adorable perfection; yet who is there ſufficiently acquainted with theſe other worlds, to be able to ſay what the merits or demerits of their inhabitants may be, and whether the atonement we have ſo much need of, may not be extended to infinite ſyſtems, of which we have no knowledge, in the unbounded regions of ſpace. When things are above men's conception in revealed religion, not conſidering them as myſteries which muſt neceſſarily be, they impiouſly condemn them as inconſiſtencies, yet, in natural religion, the ſame perſons ſhall paſs them over, and believe as creatures of ſo limited an underſtanding ought to do, and haply without ſcruple. There is a point at which the mind muſt of neceſſity ſtop in all its enquiries, and there is a veil, perhaps, which is purpoſely thrown over ſome ſcenes of infinite wiſdom for our good. Such difficulties in ſpecula-

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tion may be no leſs proper parts of our diſcipline whilſt on earth, than difficulties in practice; they are an exerciſe of our faith, moſt probably, a neceſſary one; and we ſhould be prepared to meet with ſuch in Scripture, as well as in the book of Nature; in this, the wiſdom and power, and goodneſs of God are amply manifeſted, though there are ſome things not to be perfectly underſtood, the knowledge of which muſt be left therefore, till, in the Apoſtle's phraſe, we can ſee otherwiſe than through a glaſs darkly, and be able to connect in our minds ſome circumſtances, of which it is not unlikely that at preſent we have no ideas at all. The folly of the Eaſtern people hath been to believe the eternal exiſtence of two Beings, equal in power, the one infinitely good, and the other infinitely evil; and to confound the inconceivable Creator with his creation, the work of his hands,

hands, this latter impious folly, a ſubſtitution of Nature in the place of God the Author of it, ſeems to be countenanced at preſent even in Europe, by ſome who call themſelves Philoſophers, however contradictory and abſurd; but it favours men's vices, and flatters them with impunity.

If I have ſettled any of the honeſt ſcruples raiſed in your worthy mind, I ſhall be happy in the aſſurance of it when you write again: I have never preſſed any opinions of my own upon you as truths to be believed, but ſuch as will contribute to render your life comfortable in this world, and will be no hindrance to your happineſs in another, ſhould I chance to be miſtaken: this is one of the firſt and of the utmoſt importance, that we ſhall not be admitted to the regions of bliſs hereafter, on account of our ſuperior ſkill in abſtruſe ſcience, but for the ſake of our

humble

humble faith in the Redeemer, with an unfeigned and univerſal obedience to the whole will of God, ſo far as we have been able to acquire the knowledge of it, and as we have uſed our beſt endeavours to prevent being ſurprized into the commiſſion of any ſins, through inadvertence, as we have been upon our guard, and implored his aid againſt the violence of temptations.

I am,

My dear Frederick, &c.

LETTER XIII.

December 1, 1770.

DEAR SIR,

I AM glad the ſituation is ſo agreeable to you in all reſpects; your concerts muſt be well conducted; and, with reſpect to your favourite inſtrument, I certainly can have nothing to object to the judgment of your ear. There is a diſtinction to be made between the richneſs of an inſtrument, and the perfection of it; you feel what inſtrument affords you moſt pleaſure, and it would be a ridiculous weakneſs to diſavow your preference of that with which you are moſt delighted, even if there were leſs comparative merit in what you prefer than there really is, and

and you would hardly be perſuaded to be more pleaſed with what affords you a leſs degree of pleaſure: but the harp and the organ are the richeſt of all muſical inſtruments, upon account of their fullneſs and harmony, though as the notes of each are determined by a fixed length of their ſtrings or pipes, they are leſs perfect than thoſe of the violin and the violoncello, &c. produced by a different poſition of the fingers, which, by their ſtrong elaſtic preſſure, give them a ſweetneſs and a delicacy, and I might, perhaps, ſay, a harmony of tones, unattainable by any mere mechanical adjuſtments; it is for this reaſon that the beſt performers ſeldom ſound an open ſtring of the violin, which gives a diſtinguiſhed harſhneſs even in concert, but play the ſame note by ſhifting unto the next: Will you excuſe my going on?—There is another advantage which inſtruments, whoſe ſtrings are

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ſtopped by the finger, have over all others conſtructed with fixed chords for each note, that by admitting, as you know, what the Antients called the irrational intervals, which exceed, or fall ſhort of, ſtrict mathematical exactneſs and truth, the muſician, by this little more or little leſs than the preciſely right, is capable of giving ſuch a degree of ſpirit, or ſuch a delicacy of expreſſion to his execution, as the moſt perfect fixed notes will not allow of: it is this which diſcovers the taſte and hand of a maſter, who, by the way, ſometimes pays dear for the ſuperiority of pleaſure, or of credit, which he now and then enjoys, by the more frequent mortification of hearing his intention perverted, from the reſt of the band's not ſeconding, but counteracting him, and obliging him to adapt himſelf to the mediocrity of their performances. Mrs. Pritchard and Mr. Garrick are thus

very

very often obliged to change their expreſſion both of tones and geſtures, in ſubmiſſion to the taſteleſs and exact inſipidity of thoſe with whom they are obliged to act, and to reſt ſatisfied with a moderate ſhare of merit, rather than attempt what they have reaſon to ſuppoſe would be deſtroyed by abſolute diſcordance.

I believe you are miſtaken in the ſuppoſition that concordant notes ſtrike the ear at the ſame inſtant, an error which has been propagated by Mr. Le Cat, who argues from this circumſtance as a *certain fact*, and concludes likewiſe, from a concert's not putting out the candles when ſuch a number of concordant notes are ruſhing up and down the room preciſely at the ſame time, that the groſs air we breathe, cannot poſſibly be the means of their conveyance, but that ſeveral ſubtil fluids muſt exiſt in it, each of which is adapted for the conveyance of its particular note;

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note; if I remember right he has limited the number of them to ſeven, and endeavoured to illuſtrate his conjecture by the mixture in a ray of light, which conſiſts of ſeven primary threads, if I may ſo call them; and I wonder that this French philoſopher did not multiply his number of ſubtil fluids; for the replicates of the the replicates of the thirds, fifths, and eighths, (unleſs they are produced by mere ſympathy) have each as juſt a claim to a ſeparate fluid of its own, as any primary note whatever.

The impulſes of a muſical chord are ſo extremely ſhort reſpecting the ſpaces run through, that they are abſolutely inconceivable, as well as the times of their courſes, and, from ſome obſervations upon Organ pipes, his ingenious countryman Monſ. Sauveur has determined, (I preſume with truth) that whereas the graveſt note the ear is capable of perceiving, vibrates

twelve times and a half, in one ſecond; the ſharpeſt which the ear is capable of feeling, performs *fifty-one thouſand one hundred* pulſes in the ſame portion of time; which of courſe muſt be ſo almoſt infinitely minute, as to bear no proportion to the diameter of the flame of the very ſmalleſt taper; a circumſtance which will lead us to account for the *apparent* ſteadineſs of a number of lights, amidſt ſuch a variety of agitations, as muſt be in the compaſs of two or three octaves only, without having recourſe to the whimſical idea of diſtinct fluids.

A ſuppoſition that concordant notes ſtrike the ear at the *ſame* inſtant, ariſes from our ſeeing the impreſſion made by the performer upon the ſtrings which produce them, at the *ſame* inſtant; and is by no means ſtrictly true; for it is to be conſidered, that one ſingle pulſe or vibration of a muſical ſtring is not ſufficient

to

to determine its degree of tune, or the quality of a note, as one ſingle impulſe of the hand is ſufficient to cauſe it upon the keys of a harpſichord; but that a certain number of impulſes in a given time, compared with a different number of impulſes from another ſtring in the ſame time, are requiſite to enable the ear to judge of it.

Let two ſtrings of different lengths be ſtruck at the ſame inſtant; the firſt vibration of either would not give ſuch a pulſe to the particles of air in contact, as by ſtriking upon the ear would be ſufficient to determine their comparative gravity and acuteneſs, that is, whether they were in harmony with each other or not; but if one of theſe gives the ear *nearly* two pulſes, to one which it receives from the other, this would be determined to be a major ſixth to the other; or, if exactly two to one, to be an eighth, by which I mean

only that we ſhould perceive one of theſe notes to be more concordant than the other, not that it is poſſible to number their pulſes; but if the ear receives two pulſes from one note, whilſt only one is made upon it by the other, it is plain that theſe notes do not make their impreſſions upon the organs of hearing at the ſame inſtant, except when the *firſt* two ſtrokes are given, or when two vibrations coincide after a certain number of pulſes given by each: by pulſes and vibrations here I would be underſtood to mean, ſuch approximations and receſſes of aerial particles to the tympanum of the ear, as are impelled by the courſes of a muſical ſtring. If the pulſes of theſe notes then do not ſtrike the ear at the ſame time, you will aſk how the ſixth and eighth can be in fact concordant; ſince it is certain, that in the greater number of their pulſes they really are diſſonant: the truth is,

that

that no two notes are *perfectly* concordant except uniſons, if I may uſe ſuch an expreſſion; any other notes ſtruck at the ſame time muſt have ſome degree of diſſonance, and approach nearer to abſolute diſcord, in proportion as the interval between their coincident vibrations is increaſed; and every chord or combination of notes advances towards perfection, the more frequently this coincidence of vibrations returns; the force of coincidence prevailing over the diſſonance, ſo as to render the mixed ſounds more and more agreeable, which blend together in the ear, as different colours upon the rim of a wheel turned round with a conſiderable degree of velocity do within the eye, and form or conſtitute one apparent whole colour, which is more or leſs brilliant and agreeable as the lively colours are more frequently repeated, or the dull ones placed further aſunder upon the verge; it is thus in attending to muſical notes, though the

ear receives the greateſt number of their vibrations ſeparately, and in ſucceſſion, the intervals of time between their ſtrokes being exceedingly minute, we conceive a whole chord to be impreſſed inſtantaneouſly; and yet with reſpect even to a ſingle note, it is neceſſary for a certain number of the vibrations which make up its degree of *tune*, to paſs, and be compared with a certain number of the vibrations conſtituting another note either real or imaginary, before the ear can determine its value, or in what part of the ſcale it ought to be placed: ſo that the ear muſt in general attend to the pulſes cauſed by two different ſtrings, till they have *coincided* at leaſt once, before it determines their intervals of Acuteneſs and Gravity, or feels their degree of conſonance or diſſonance; I have ſaid either *real* or *imaginary*, becauſe ſome perſons are capable of retaining the idea of a certain note in their minds, from which to judge of others,

others, with the utmoſt preciſion, and from which they can tune their inſtruments as perfectly as from a real fixed note: but the generality of muſicians make uſe of a tuning-fork or a pitch-pipe, or ſome other inſtrument, for this purpoſe, as all the muſical inſtruments at Cambridge, I have been told by a worthy old friend of ours, uſed to be kept in tune by the great bell at St. Mary's church, whoſe note was A, and formerly at concert pitch preciſely. When the coincidence of vibrations indeed is *very* diſtant, the ear may more readily form a judgment of the degree of tune before it happens, as in the caſe of the greater ſeventh, whoſe coincidence of vibration with its fundamental, is not till the fifteenth, whereas no other note exceeds nine vibrations, before it coincides with a vibration of its baſs.

I ſhall add an obſervation or two from the above-named Monſ. Le Cat, reſpect-

ing the violin: If we preſs our finger hard upon the middle of a ſtring, we may, by touching either ſide with the bow, produce an eighth to the whole; but if inſtead of preſſing the middle of the ſtring hard, we only bear lightly upon it, by touching either ſide with the bow, we may diſtinctly hear the two octaves at the ſame time; and by now and then taking off the finger, and again gently replacing it, the fundamental ſound will mix with the baſs note and its two octaves:—if again we ſtop a third part of the ſtring with the finger preſſed hard, the remainder of it ſounds a fifth, but upon ſtopping the ſame part of the ſtring more lightly, the remainder ſounds a twelfth, that is, an eighth to the fifth. The ſame kind of notes which are cauſed by the gentle preſſure of the finger, may be produced by fixing a quieter upon the ſtring made uſe of for the experiment: ſuch notes in performance are called fluted

notes,

notes, from their reſembling the ſoft mellow tones of a flute, and for another reaſon likewiſe, ſaith the ſame writer, becauſe they transfer to the violin the powers of the flute, which gives different eighths from the ſame fingering, only by a different force of the breath.

I am,

Dear Sir, &c.

P. S. I ſhall take the liberty of adding here, that in my own opinion, the harpſichord ſhould never be played without the accompaniment of ſome other inſtrument which is capable of giving extenſion to its notes; or as an accompaniment to the voice, although profeſſed muſicians think more highly of it as a ſolo inſtrument, but I judge not only from my own feelings, but from the effects I have obſerved it has produced upon the minds of an audience in *general*. I make no doubt you

you will already have remarked, from what hath been ſaid, that the ſuperior excellence of the tones, which ſome muſicians above others, are capable of drawing out from the violin or violoncello, &c. muſt depend upon the peculiar elaſticity of their fingers, and an habitual manner of giving ſuch moderate yet firm preſſure, as leaves room, if I may ſo expreſs it, for the harmony of each note to be produced by the Bow; from which likewiſe, a peculiar degree of correſponding habitual elaſtic preſſure is required: for the ſweetneſs and excellence of every note, depends on the component harmonic parts of it making their due vibrations upon the ear.

GRÆCIAN MUSIC.

TO

OLDFIELD BOWLES, ESQ.

OF NORTH ASTON, IN OXFORDSHIRE,

THE FOLLOWING TRANSLATION

OF

EUCLID'S SECTION OF THE CANON,

AND HIS TREATISE ON HARMONIC,

IS INSCRIBED, AS A MEMORIAL

OF THE

EDITOR'S MOST AFFECTIONATE REGARD.

ONEHOUSE, Suffolk,
Nov. 6, 1785.

LETTER XIV.

DEAR SIR,

THE Antients, in general, appear to have indulged a large ſhare of Enthuſiaſm with reſpect to the melody of the Lyre and the Flute; and have ſpoken in ſuch high terms of the powers of theſe inſtruments, with ſo much confidence at the ſame time, that we are diſpoſed to give a greater degree of credit to their relations than our judgment upon due reflection afterwards, will allow. If in order to obtain a juſt idea of their melody, we labour through the fragments of the Greek writers upon the ſubject, we may be exceedingly delighted with many particular

ticular paſſages in their eſſays, but upon the whole are miſerably diſappointed and fatigued; our emotions reſemble thoſe of a traveller in paſſing through the countries where theſe writers flouriſhed ſo many centuries ago; in ſome places he is haply ſtruck with fine-proportioned marble columns, which are fallen down, and in part overgrown with weeds; in others, with the fragments of a Bas-relief, almoſt buried up in rubbiſh; whilſt Fancy operates to increaſe the value of what is paſt recovery, and to enhance its merits beyond what, in all probability, it originally poſſeſſed. In order, therefore, to obtain as clear an idea as we are able of their ſo much boaſted Muſic, a branch of ſcience, which, as you juſtly obſerve, was originally treated but obſcurely, and which is ſtill much more obſcured by clouds of commentaries, I ſhall ſubmit the following tranſlation of the Section of the Canon,

non, and the Doctrine of Harmonic, as delivered by Euclid, to your peruſal. Theſe two treatiſes, which contain firſt Principles, are come down to us pretty entire, and, as I preſume, not very much corrupted; which, if this admirable Genius had not condeſcended, however ſhort and incompleat, to leave behind him, (preſerved, perhaps, by the greatneſs of his name prefixed to them) we might have pored to little purpoſe upon the remains of the other Greek muſical writers, who ſeem to have poſſeſſed a double portion of the prejudices of their countrymen upon the ſubject, with great confuſion, in attempting to explain the nature both of Melody and Rythmus: ſomewhat, it is true, is to be obtained from every one of them; but even Ptolemy, who wrote the fulleſt, whoſe aim was to reform the Græcian Muſic, is far from being ſo clear as might have been expected from his great abilities;

ties; and ſpends almoſt the whole of his third Book in whimſical compariſons of Melody, with what it hath no true connection or analogy, and runs into all the abſurdity of the Muſic of the Spheres. In fact, Muſic, from the days of Ariſtotle down to the preſent, is a ſubject with moſt writers, upon which they ſeem to have claimed a privilege by long præſcription, of relating wonders, and of talking nonſenſe without reſerve. I am perſuaded you will not look upon a tranſlation of theſe trifles of Euclid with leſs ſatisfaction on account of its having been undertaken many years ſince for a friend of yours, who, as I then ſuppoſed, might have turned his thoughts to what is your favourite ſtudy, next to Painting; more eſpecially as he might have availed himſelf of the inſtructions of one of the firſt genius's in it, who was diſpoſed to give him every information,

and

and to whoſe aſſiſtance I have been particularly indebted in the following work; but he ſoon found that his muſical talents were not ſuch as would warrant giving up much time to it as a ſcience, and that to arrive at excellence, and be diſtinguiſhed as a performer only, would engroſs more of his attention than he could well ſpare from his other neceſſary purſuits; he, therefore, gave it up entirely:—

Scire poteſtates herbarum uſumque medendi,
Maluit, et mutas agitare inglorius artes.

I am, dear Sir,

Your faithful and affectionate friend,

And moſt obliged humble ſervant,

CHARLES DAVY.

Onehouſe, Suffolk,
Nov. 6, 1785.

AS there are ſome terms in Euclid's Section of the Canon, and which occur but ſeldom in mathematical writers, it may poſſibly ſave ſome trouble, to give a general explanation of them, before we enter upon it.

When two homogeneous quantities are compared together, the idea we have of their comparative greatneſs or ſmallneſs, is called their *ratio:* If the quantities there compared, be found equal to each other, the *ratio* between them is ſaid to be that of *equality*; if they be found unequal to each other, the *ratio* between them is ſaid to be that of *inequality:* if of unequal quantities, the greater is capable of being exactly meaſured by the leſs, without any remainer, the *ratio* of the greater to the leſs, is ſtyled *multiplicate*, or *multiple*, and e converſo that of the leſs to the greater, is ſtyled *ſubmultiplicate*, or *ſubmultiple*, which are *general terms*

terms for the *ratios* of all unequal *numbers* or *quantities*, whenever a greater number or quantity is capable of being *exactly* meaſured by the leſs; but beſides theſe, there is a ſpecific name for each *ratio*, included under the *general* terms; thus the ratio of 2:1 is called *duplicate*; of 3:1 *triplicate*; of 4:1 *quadruplicate*, &c. and e converſo the *ratios* of the leſs to the greater, are called *ſubduplicate*, *ſubtriplicate*, *ſubquadruplicate*, &c.

When a greater number is not *exactly* meaſured by a leſs, but the leſs is contained once, and one certain proportioned part over; the *ratio* of the greater to the leſs, is called *ſuperparticular*, thus the *ratio* of $A+\frac{1}{2}$ to A, repreſents a *ſuperparticular* ratio, and e converſo that of the leſs to the greater, a *ſubſuperparticular*; this is the *generic* name for this kind of *ratios*, but under the *generic* name, each ratio had likewiſe its ſpecific name; if, as in the above-given

inſtance, the greater number contained the leſs once and one half, the ratio of the greater to the leſs, was called *ſeſquialterate*, if once and one-third *ſeſquitertian*, if once and one-fourth *ſeſquiquartan*; and e converſo that of the leſs to the greater, was called *ſubſeſquialterate*, *ſubſeſquitertian*, *ſubſeſquiquartan*, &c. If the greater number was not exactly meaſured by the leſs, but contained it once, and *more* than one *certain* proportioned part beſides, the ratio of the greater to the leſs, was ſaid to be *ſuperpartient*, and e converſo that of the leſs to the greater, was called *ſubſuperpartient*, which was the generic name for this kind of *ratios*, but under this generic name likewiſe, each ratio had its ſpecific name; if, for inſtance, the greater contained the leſs once and two-thirds, the ratio of the greater to the leſs, was ſaid to be *ſuperbipartient*, if once and three-fourths *ſupertripartient*, &c. thus the ratio of

5 : 3 is

5 : 3 is *ſuperbipartient*, and of 7 : 4 *ſuper-tripartient*, &c. e converſo that of the leſs to the greater, is *ſubſuperbipartient*, *ſub-ſupertripartient*, &c. again if the greater number or quantity contained the leſs twice, or oftener, and one or more certain proportioned part or parts over it, was called *multiplex-ſuperparticular* and, the leſs of courſe, *ſubmultiplex-ſuperparticular*.

From this Account then it is clear, that more than two quantities or numbers are not *neceſſarily* expreſſed in any ratio, as in the Doctrine of Proportion; and that when Euclid ſpeaks of *ſeſquialterate* or *ſeſquitertian* intervals, for inſtance, he means thoſe intervals, the comparative length of whoſe ſtrings are to each other in a *ſeſquialterate* or *ſeſquitertian ratio*.

EUCLID'S INTRODUCTION TO THE SECTION OF THE CANON.

IF all things were at reſt, and nothing moved, there muſt be perfect ſilence in the world; in ſuch a ſtate of abſolute quieſcence; nothing could be heard; for motion and percuſſion muſt precede ſound: ſo that as the immediate cauſe of ſound is ſome percuſſion, the immediate cauſe of all percuſſion muſt be motion; and whereas of vibratory impulſes, or motions cauſing a percuſſion on the ear, ſome there be returning with a greater quickneſs, which conſequently have a greater number of vibrations in a given time, whilſt others are repeated ſlowly, and of conſequence

are

are fewer in a time aſſigned, the quick returns and greater number of ſuch impulſes producing the *acuter* ſounds, whilſt the ſlower, which have fewer courſes and returns, produce the *graver*, hence it follows, that if ſounds are too acute, they may be rendered graver by a diminution of the number of ſuch impulſes in a given time, and that ſounds which are too grave, by adding to the number of their impulſes in a given time, may be brought up to what degree of ſharpneſs we require: the notes of Muſic may be ſaid then to conſiſt of parts, inaſmuch as they are capable of being rendered preciſely and exactly tunable, either by increaſing or diminiſhing the number of the vibratory motions which excite them: but all things which conſiſt of parts numerical, when compared together, are ſubject to the *ratios* of number; ſo that muſical ſounds or notes compared together, muſt conſequently be in ſome numerical ratio to each other.

Now of numbers ſome are ſaid to be to others in multiplicate or *multiple*, and ſome in a *ſuperparticular* ratio, whilſt the reſt are in a ratio which is called *ſuperpartient*; and muſical ſounds or notes muſt, therefore, be reſpectively in one or other of theſe three ratios; thoſe which are in *multiple* and *ſuperparticular* ratio, unite together in one common Principle or character; now of muſical notes we know that ſome are conſonant and others diſſonant, and that conſonant ſounds unite and mix together, which diſſonant ſounds do not; this being the caſe, it is *probable*, that conſonant ſounds, foraſmuch as they *unite* and *mutually blend themſelves together*, are excited by thoſe numbers which unite together in one common character, that is, by thoſe numbers which are either in a *multiple*, or in a ſuperparticular ratio, τέτων ὅτως ἐχόντων εἰκὸς τᾶς συμφώνυς φθόγγυς ἐπειδὴ μίαν τὴν ἐξ ἀμφοῖν

ἀμφοῖν ποιοῦνται κρᾶσιν τῆς φωνῆς, εἶναι § τῶν ἐν ἑνὶ ὀνόματι πρὸς ἀλλήλας λεγομένων ἀριθμῶν, ἤτοι πολλαπλασίους ὄντας, ἢ ἐπιμορίους.

§ It ſeems probable from Euclid's manner of expreſſion in this paſſage, that conſonances were not ſuppoſed by him to be abſolutely limited to thoſe numbers, which are either in a multiple or in a *ſuperparticular ratio*, which he has been thought to have affirmed, whereas he barely intimates it to be likely (εἰκὸς) that they were ſo, from analogy: his arguing upon this ſuppoſition, as he does in the tenth and eleventh Theorem, that the ſyſtem of diapaſon muſt be either *ſuperparticular* or *multiple*, becauſe it is a conſonant interval, may leſſen the merit of his work in the opinion of ſome rigid Mathematicians; but it ought to be conſidered only as a proof of this very extraordinary perſon's modeſty and deference to the received opinions of Pythagoras, whoſe doctrine of muſical ſounds, he did not chooſe to oppoſe.—His conduct with reſpect to Ariſtæus a Geometrician, who wrote before him, ſhews this to have been his general principle of behaviour, for he is ſaid to have lowered his own manner of writing, leſt he ſhould ſeem to be deſirous of ſurpaſſing Ariſtæus, or of overthrowing his manner of treating Conics; ſuch was the ſweetneſs and modeſty of Euclid's diſpoſition and temper, notwithſtanding his ſuperior abilities. It may remind us of the modeſt, gentle, unaſſuming manners of our greater Newton.

SECTION

SECTION OF THE CANON.

THEOREM I.

IF to a § multiplicate or a multiple interval, be added another equal multiplicate interval, the aggregate will be a multiplicate interval.

Let B G be an interval, ſo that B be multiple of G, and let G be to B, as B to D; I ſay D G is alſo a multiple interval. For ſince B is multiple of G, G meaſures B, but as G to B ſo is B to D; therefore G meaſures D alſo, or, which is the ſame thing, D G is a multiple interval. Q. E. D.

D :—:—:—:—:
B :—:—:
G :—:

§ Page 260.

THEOREM

THEOREM II.

If to an interval, be added another equal interval, and the aggregate be a multiple interval; the original is likewiſe a multiple interval.

Let there be an interval B G, and let G be to B, as B is to D, D :—:—:—:—: moreover let D be multiple of G; I ſay B is alſo multiple of G. B :—:—: G :—: For ſince D is multiple of G, G meaſures D; it follows, therefore, from the laſt Propoſition, that G alſo meaſures B, or that B is multiple of G. Q. E. D.

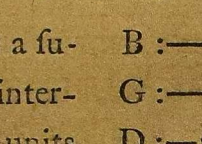
Thus let there be as many numbers as you think proper in the ſame continued ratio, if the firſt meaſures the laſt number, it will meaſure all the intermediate numbers likewiſe.

THEOREM III.

A ſuperparticular interval admits neither of one or of more mean proportionals.

Let

Let B G be a ſuperparticular interval, & let the units repreſented by the parts of the lines D Z, and Θ, be to each other in the ſame ratio as B is to G; of theſe, unity only is the common meaſure. Take away H Z equal to Θ, and the remainder is unity. D Z, therefore, is ſuperparticular of Θ, and the exceſs D H is the common meaſure of D Z and Θ, therefore there is no mean proportional between D Z and Θ, for if there were, it muſt be leſs than D Z, and greater than Θ; by which means, unity would be divided, which cannot be; therefore there can be no mean proportional between D Z and Θ, but D Z and Θ were put in the ſame ratio with B G, and, therefore, ſince we have ſhewn there can be no mean proportional between D Z and Θ, it follows that there can be none between B and G. Q. E. D.



THEOREM

THEOREM IV.

If to a non-multiple interval, be added another equal non-multiple interval; the aggregate is neither a multiple nor a ſuperparticular interval.

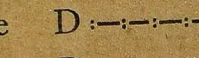
Let B G be an interval, ſo that B be non-multiple of G, and let G be to B, as B to D; I ſay that D is neither multiple nor ſuperparticular of G. For firſt, let D be multiple of G, then from Theorem the 2*d* will B alſo be multiple of G, but B was made non-multiple of G, wherefore D cannot be multiple of G: but neither, in the ſecond place, can D be ſuperparticular of G, for if it were, D and G would admit of no mean proportional, according to Propoſition 3*d*, but B *is* a *mean* proportional between D and G, therefore D cannot be ſuperparticular of G: whence D can

D can neither be multiple nor ſuperparticular of G. Q. E. D.

THEOREM V.

If to an interval, be added another equal interval, and the aggregate be a non-multiple interval; the original interval is a non-multiple.

Let there be an interval BG, and let G be to B, as B to D; moreover, let D be non-multiple of G; I ſay B is alſo non-multiple of G. For if B is multiple of G, D alſo will be multiple of G by Theorem the 1ſt, but D is non-multiple of G; therefore alſo B is non-multiple of G. Q. E. D.

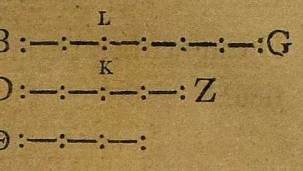


THEOREM VI.

A duple interval is compounded of a ſeſquialterate § and a ſeſquitertian interval. Let

§ When one quantity contains another once and one half, it is ſaid to be ſeſquialterate of it; when it contains it once and

Let B G be ſeſquialterate of D Z, and D Z ſeſquitertian of Θ; I ſay B G is duple of Θ.



For take away Z K equal to Θ, and G L equal to D Z. It follows that ſince B G is ſeſquialterate of D Z, B L is one-third part of B G, and half of D Z: again, ſince D Z is ſeſquitertian of Θ, D K is one-fourth part of D Z and one-third of Θ. Since then D K is a fourth part of D Z, and B L a third part of B G, D K is a ſixth part of B G; now D K was a third part of Θ, and, therefore, B G is duple of Θ.

§ Q. E. D.

and one third, it is ſaid to be ſeſquitertian of it. Theſe are ſpecies of the ſuperparticular interval, and the two greateſt of the ſpecies: for the next greater to a ſeſquialterate is a duple ratio, but this is a ſpecies of the multiple.

§ A Theorem might have been inſerted by the Author in this place, to ſhew what interval it produced by a duple added to a ſeſquitertian interval; but Euclid's deference to the Pythagorean

THEOREM VII.

A duple added to a ſeſquialterate interval, makes a triple interval.

Let

thagorean Hypotheſis, probably, prevented his going on, for as it is neither a multiple nor a ſuperparticular interval, according to the Doctrine of the Pythagorean School, it could not be a conſonant one, and as in this Section of the Canon, he intended only to treat of conſonances and their diſtinctions, it could not properly have a place in this work; you will, however, not be diſpleaſed, I truſt, with its being inſerted as a Note :—

THEOREM.

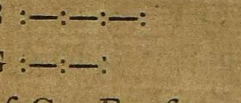
A duple added to a ſeſquitertian interval forms an interval, the ratio of which is as 8 : 3, thus :

Let B D be a duple interval, and D G a ſeſquitertian: B :—:—:—:—:—:—:—:—:
D :—:—:—:—:
I ſay B G is an interval, G :—:—:—:
which may be repreſented by 8 : 3, that is, B is to G, as 8 to 3, or three times B is equal to eight times G.

For ſince B is duple of D, ſix times D is equal to three times B, but ſince D is ſeſquitertian of G, it contains it once and one third, (by note to Theorem 6*th*) conſequently ſix times D is equal to eight times G: now ſix times D has been

ſhewn

Let A be duple of B, and B ſeſquialterate of G; I ſay A is triple of G. For ſince A is duple of B, A is equal to twice B; again ſince B is ſeſquialterate of G, B contains G once and one-half; twice B, therefore, are equal to three times G; but twice B are equal to A, therefore A is equal to three times G; that is, A is triple of G.

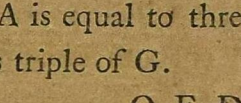


Q. E. D.

THEOREM VIII.

If from a ſeſquialterate interval, be taken a ſeſquitertian, the remainer will be a ſequioctavan interval.

Let A be ſeſquialterate of B, and G ſeſquiter-



ſhewn equal to three times B, and, therefore, three times B are equal to eight times G, or B is to G, as 8 to 3. Q. E. D.

St. J. P.

tian of B; I ſay A is § ſeſquioctavan of G. For ſince A is ſeſquialterate of B, A contains B once and one half, and, therefore, eight times A are equal to twelve times B: moreover, ſince G is ſeſquitertian of B, G contains B once and one-third, and, therefore, nine times G are equal to twelve times B; but twelve times B are equal to eight times A; therefore eight times A are equal to nine times G. A, therefore, contains G once and one-eighth part, that is, A is ſeſquioctavan of G. Q. E. D.

THEOREM IX.

Six ſeſquioctavan intervals are greater than one duple interval.

A 262144. B 294912. G 331776.
D 373248. E 419904. Z 473292. H 531441.

For let one number be A, and let B be ſeſquioctavan of A, G ſeſquioctavan of B,

§ One quantity is ſeſquioctavan of another, when it contains the other once and one-eighth part, as 9 is ſeſquioctavan of 8.

D ſeſquioctavan of G, E of D, Z of E, and H of Z; I ſay that H is more than duple of A.

Since we can find one number which ſhall be ſeſquioctavan of another, let there be ſeven found, and let them be A, B, G, D, E, Z, and H. If A is 262144, B is 294912, G 331776, D 373248, E 419904, Z 472392, and H 531441. It is evident that H is more than duple of A. But A B, B G, G D, D E, E Z, and Z H, are ſix ſeſquioctavan intervals, therefore ſix ſeſquioctavan intervals are greater than one duple interval. Q. E. D.

THEOREM X.

THE interval of Διαπασῶν is multiple.

Let A be νήτη ὑπερβολαίων, A :—:—:—:—:
B be μέση, and G προσλαμ- B :—:—:
βανόμενος; ſince A G is an G :—:—:
interval of δισδιαπασῶν, it is a conſonant interval, and is, *therefore*, either ſuper-

particular or multiple.—(See the Author's Introduction.) But it is not ſuperparticular, becauſe a ſuperparticular interval admits of no mean proportional §; it is, therefore, multiple. Since, therefore, two equal intervals A B, B G being compounded, make the whole interval A G multiple, each of them muſt be multiple; therefore A B is a multiple interval.

Q. E. D.

THEOREM XI.

THE intervals of διατεσσάρων and διαπέντε, are each of them ſuperparticular.

Let A be Νήτη συνημμένων, B be μέση, & G be ὑπάτη μέσων: Since A G is a δισδιατεσσάρων, it is a diſſonant interval; and is, therefore, not multiple; but from Theorem the 5*th*, if to an interval, be added ano-

A:—:—:—:
B:—:—:—:—:
G:—:—:—:—:—:—:

§ See Theorem the 3*d*.

ther

ther equal interval, and the aggregate be a non-multiple one, the original is a non-multiple interval; therefore A B is a non-multiple interval; but it is conſonant, and, *therefore*, ſuperparticular, according to Euclid's Introduction: By the ſame kind of proceſs it may be demonſtrated, that a διαπέντε is a ſuperparticular interval. Q. E. D.

THEOREM XII.

THE interval of a διαπασῶν is duple. In Theorem the 10*th*, the διαπασῶν is demonſtrated to be a multiple interval; wherefore it muſt be either duple, or greater than duple; but in Theorem the 6*th*, it is demonſtrated, that a duple interval is compounded of the two greateſt ſuperparticulars, wherefore the interval of διαπασῶν, if it be greater than duple, is not compounded of two ſuperparticulars only, but of more: but it is com-

pounded of the two conſonant intervals, a διαπέντε and a διατεσσάρων; wherefore the interval of διαπασῶν is not greater than duple; it is, therefore, duple: But ſince the διαπασῶν is duple, and a duple interval is compounded of the two greateſt ſuperparticulars, therefore the διαπασῶν is compounded of a ſeſquialterate and ſeſquitertian interval, (for theſe are the greateſt ſuperparticulars*) foraſmuch as it is compounded of a διαπέντε and διατεσσάρων, which are ſuperparticulars: Now the διαπέντε, as being the greater, is ſeſquialterate, and the διατεσσάρων ſeſquitertian §.—It is manifeſt alſo, that the interval

* See note to Theorem vi.

§ In this twelfth Theorem, Euclid propoſed only to conſider the interval of διαπασῶν, but after finiſhing the demonſtration, he appears to have added what follows as a corollary. For his omitting to mention the interval of διαπασῶν with διατεσσάρων, ſee the remark at the additional Theorem between the ſixth and ſeventh. Euclid has

val which is compounded of διαπασῶν with διαπέντε is a triple interval; for, from Theorem the *7th*, a duple added to a ſeſquialterate interval makes a triple interval; and hence alſo it appears that δισδιαπασῶν is a quadruple interval. It is demonſtrated then, that theſe three intervals, viz. διαπασῶν, διαπασῶν with διαπέντε, and δισδιαπασῶν, are reſpectively in duple, triple, and quadruple ratio.

THEOREM XIII.

It remains now that we take under conſideration the interval of a tone; which is ſeſquioctavan.

We learn, from Theorem the *8th*, that, if from a ſeſquialterate, be taken a ſeſquitertian interval, the remainer is a ſeſquioctavan interval; moreover, if from a

has given a ſecond demonſtration of the ſixth Theorem, which is not tranſlated as it is not neceſſary, the firſt being ſufficiently clear.

διαπέντε, be taken a διατεσσάρων, the remainer is the interval of a tone; therefore the interval of a tone is ſeſquioctavan. Q. E. D.

THEOREM XIV.

A διαπασῶν is leſs than ſix tones. It has been demonſtrated, that διαπασῶν is a duple, and that a tone is a ſeſquioctavan interval, in the laſt two Theorems; but from Theorem the 9*th*, ſix ſeſquioctavan intervals are greater than a duple interval, therefore a διαπασῶν is leſs than ſix tones.

Q. E. D.

THEOREM XV.

A διατεσσάρων is leſs than two tones and a hemitone; and a διαπέντε is leſs than three tones and a hemitone.

Let B be B :—:—:—:—:—:—:
νήτη διεζευγ- G :—:—:—:—:—:—:—:—:
μένων, Gπα- D :—:—:—:—:—:—:—:—:—:
ραμέση, D Z :—:—:—:—:—:—:—:—:—:—:—:

μέση

μεση, and Z ὑπάτη μέσων; G D then is the interval of a tone, from Theorem the 8*th*; but since B Z is the interval of Διαπασῶν, it contains less than six tones, by Theorem the 14*th*; therefore the remaining intervals together B G and D Z, since they are equal to each other, (being each a διατεσσάρων) contain less than *five* tones; wherefore the διατεσσάρων B G contains less than two tones and a hemitone, and the διαπέντε B D contains less than three tones and a hemitone.

THEOREM XVI.

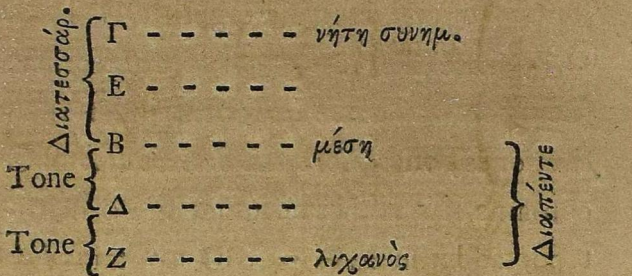
A tone cannot be divided into two or more equal parts.

It was demostrated, in Theorem the 13*th*, that a tone is a sesquioctavan interval, but a sesquioctavan interval is superparticular; and in Theorem the 3*d*, it is shown, that a superparticular interval admits neither of one nor of more mean proportionals,

portionals, therefore a tone cannot be divided into equal parts.

THEOREM XVII.

THE παρανῆται and λιχανοὶ are found by taking conſonant intervals, thus:



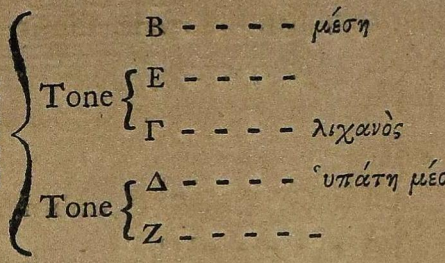
Let B be μέση, from B raiſe a διατεσσάρων to Γ, and from Γ go down a διαπέντε to Δ, B Δ, therefore, is a tone; again from Δ raiſe a διατεσσάρων to E, and from E go down a διαπέντε to Z, Δ Z, therefore, is a tone, and of conſequence Z B is a ditone, wherefore Z is the λιχανὸς:— By the ſame kind of proceſs may the παρανῆται be found §.

§ An explanation of the names of the notes will be given in the Treatiſe on Harmonic; it is ſufficient at preſent that the intervals are pointed out.

THEOREM

THEOREM XVIII.

NEITHER the παρυπάται nor the τρίται divide a Spiſs into equal parts.



Let B be μέση, λιχανὸς Γ, and ὑπάτη Δ: from B go down a διαπέντε to Z, and Δ Z will be a tone; again from Z raiſe a διατεσσάρων to E; and both Z Δ and Γ E, will each be the interval of a tone; let the common interval Δ Γ be added, and Z Γ will be equal to Δ E, but Z E is a διατεσσάρων, and (becauſe a διατεσσάρων is a ſuperparticular interval) there is no mean proportional between Z E, according to Theorem the 3d, but Δ Z is equal to Γ E, and, therefore, there is no mean proportional between

between the interval Δ Γ, that is, from ὑπάτη to λιχανὸς; the παρυπάτη, therefore, will not divide a ſpiſs into equal parts; and, *by the ſame kind of proceſs, it may be demonſtrated, that the* τρίτη *does not divide a ſpiſs into equal parts.*

THEOREM XIX.

To inſtitute a canon, exhibiting the notes of what is called the Immutable Syſtem.

Let the length of the canon, at *p.*288, equal that of the ſtring A B, and let it be divided into four equal parts, at the points Γ, Δ, E; A B, as being the graveſt ſound, will, therefore, be the βόμβος or baſs note; and as A B is in ſeſquitertian ratio of Γ B, (for A B meaſures Γ B once and one-third part of Γ B) it follows, that Γ B will ſound a διατεσσάρων or fourth above to A B; which is the προσλαμβανόμενος; and Γ B will be ὑπατῶν διάτονος, or

λιχανὸς

λιχανὸς ὑπατῶν: and as A B is duple of B Δ, B Δ therefore founds διαπασῶν or eighth above to A B, and B Δ will be ΜΕΣΗ: again since A B is quadruple of E B, E B will, therefore, be νήτη ὑπερβολαίων. Let Γ B be divided into two equal parts at Z, Γ B will then be duple of Z B, and will found διαπασῶν or an eighth below to Z B, which will be νήτη συνημμένων; let Δ H be taken a third part of Δ B, and Δ B being in ſeſquialterate ratio of H B, H B conſequently will found a διαπέντε to Δ B, or a fifth above, and will be νήτη διζευγμένων; let H Θ be put equal to H B, Θ B will found διαπασῶν or an eighth below to H B, ſo that Θ B will be ὑπάτη μέσων. Let Θ K be taken a third part of Θ B, and Θ B being ſeſquialterate of K B, conſequently K B will be παραμέση; laſtly, let Λ K be put equal to K B, and Λ B will be the graveſt ὑπάτη, or ὑπάτη ὑπάτων, which compleats the number of fixed

Notes,

Notes, in the following order of proof, from the Προσλαμβανόμενος; namely, λιχανὸς ὑπατῶν: Μέση: Νήτη ὑπερβολαίων: νήτη συνημμένων: νήτη διεζευγμένων: ὑπάτη μέσων: παραμέση: and ὑπάτη ὑπατῶν.

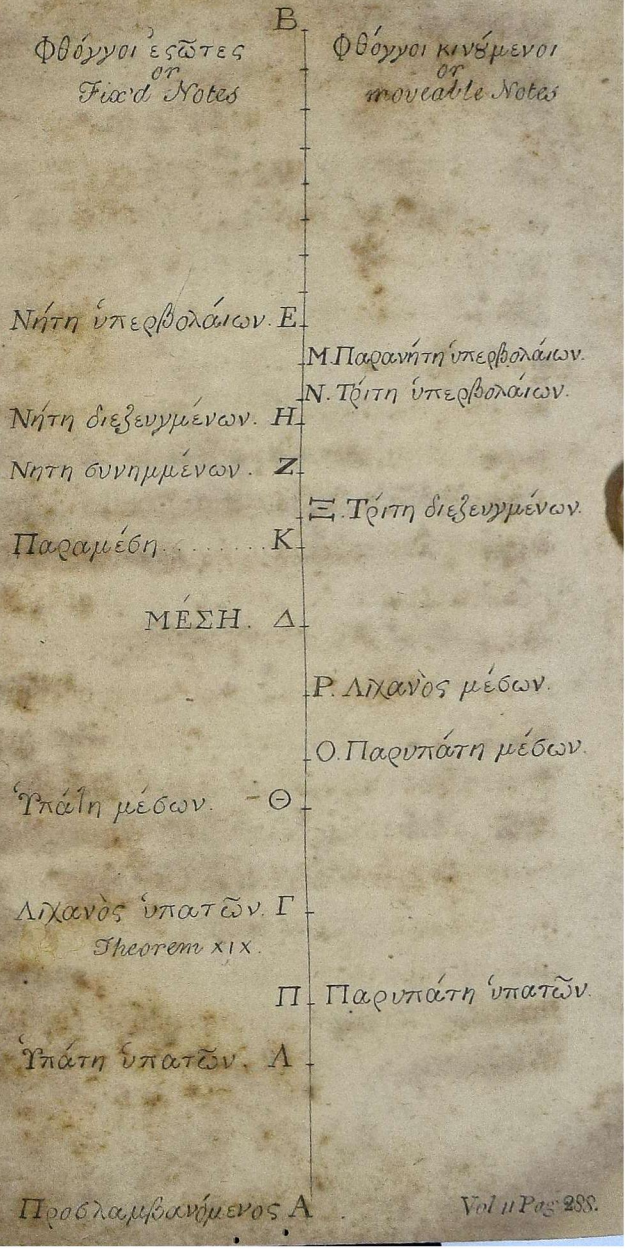
THEOREM XX.

It remains now, that we exhibit the diviſions for the moveable ſounds of the ſame ſyſtem.

Let E B be divided into eight parts, equal to each of which let E M be put, ſo that M B may be ſeſquioctavan of E B, again let M B be divided into eight parts, equal to each of which let N M be put, N B will be graver, therefore, than B M by a tone, but M B is a tone graver than E B, ſo that N B is τρίτη ὑπερβολαίων, and M B is παρανήτη ὑπερβολαίων, again let N B be divided into three parts, equal to each of which let N Ξ be put, ſo that Ξ B may be ſeſquitertian of N B,

and

Section of the Canon according to the System call'd immutable.



and ſound a διατεσσαρῶν below to N B, Ξ B, therefore, is τρίτη διεζευγμένων; again let Ξ B be divided into two equal parts, to one of which let Ξ O be put equal, ſo that Ξ B would ſound διαπέντε to O B, O B, therefore, will be παρυπάτη μέσων; let now O Π be put equal to O Ξ, and Π B will be παρυπάτη ὑπατῶν; laſtly, let Γ P be taken a fourth part of Γ B, and P B will be λιχανὸς μέσων: and thus we have ſix of the moveable notes in the following order of proof, from the higheſt tetrachord; namely, τρίτη ὑπερβολαίων; παρανήτη ὑπερβολαίων; τρίτη διεζευγμένων; παρυπάτη μέσων; παρυπάτη ὑπατῶν; μέσων διάτονος, or λιχανὸς μέσων: and with this Theorem the Section of the Canon concludes.

The above notes were called moveable, becauſe they were pitched higher or lower in the ſcale of muſic, according as the

the muſician played in a different genus of melody; and they were the ſecond and third notes of each tetrachord; the manner of tuning them will be fully explained in Euclid's Treatiſe on Harmonic, but ſome idea of it hath been already given in Letter xxxiv.

LETTER

LETTER XV.

DEAR CHARLES,

WE have now gone through Euclid's Section of the Canon, in which you ſee he hath given a diviſion for the λιχανὸς ὑπάτων in the 19*th* Theorem, which ought to have had its place in the 20*th* as one of the moveable notes, and that he hath taken no notice at all of the three moveable notes παρανήτη διεζευγμένων, τρίτη, and παρανήτη συνημμένων in either of theſe Theorems *: And as the work is defective, ſo it appears not to be ſufficiently determinate in ſome other particulars; owing, poſſibly, to ſome omiſ-

* The two laſt indeed do not belong to what was called the Immutable Syſtem.

ſions or miſtakes of ſucceſſive tranſcribers in a courſe of time, or to their being only partially acquainted with the nature of the ſubject; and it may be ſubmitted to the judgment of mathematicians, whether arithmetical and geometrical proportion ought not to have been more diſtinguiſhed in it.

At Theorem the 3*d*, the author ſhews, that a ſuperparticular interval neither admits of one or more mean proportionals, as in truth it doth not admit of any geometrical mean; but his demonſtration of the 16*th* Theorem, founded upon the 3*d*, hath ſomewhat that is amiſs; the propoſition that a tone cannot be divided into two *equal* parts is true; but the reaſon aſſigned for it becauſe a tone hath no geometrical mean, which is all that is expreſſed, ſeems to be an inaccuracy, for if a geometrical mean alone were concerned, a tone could not be divided at all without

without the partition of geometrical unity, which is impoſſible, ὥσε τὸν μονάδα διαιρεῖσθαι, ὅπερ ἀδύνατον.

With reſpect to the extenſiveneſs of his plan, it appears to fall ſhort of what it ought to reach, for he only takes notice of the Tone major, the difference between a fourth and fifth, whereas had the enquiry been purſued a little farther, the fifth might have been reſolved into a major and minor third, and again the major third, into a major and a minor tone.

That he diſcerned or felt the incongruity of allowing only major tones in the octave, appears plainly from the 14*th* Theorem, in which he demonſtrates, that the true interval of διαπασῶν is leſs than ſix tones: what effect the neglecting an alternacy of major and minor tones in the ſcale, muſt have had upon the melody or harmony of a muſical compoſition, is left to the practical muſician to determine:

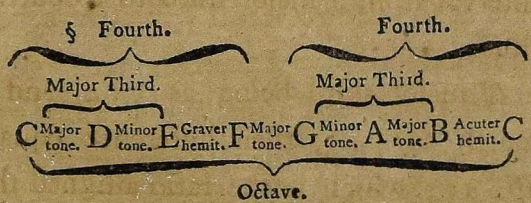
In order to obtain the two natural hemitonic intervals, it might have been expected from analogy, that a major and a minor hemitone would be found by doubling 9 : 8 the ratio of the major tone, and reſolving the ratios into 18 : 17, and 17 : 16, but neither of theſe ratios will anſwer, becauſe *neither* of them is the complement of a major third to a fourth, and we muſt, therefore, have recourſe to a different method of inveſtigation from their relation to a fourth. We know the ratio of the major third to its baſs note to be as 5 : 4, whilſt that of the fourth to its baſs is as 4 : 3, and that their difference muſt neceſſarily be the hemitonic interval from a major third to a fourth, thus :

A major third being as 5 : 4, and a fourth as 4 : 3, their difference equals 16 : 15 ; which is the ratio aſſigned the hemitone by Dr. Wallis ; and that it is the

the completive hemitonic interval of a third major to a fourth, will appear by adding this ratio to the ratio of a major third,

as 5:4 + 16:15 equals 80:60=4:3.

Now the hemitones are naturally ſituated in the octave between the major third and fourth §, and the major ſeventh and eighth; and in like manner as the graver of theſe hemitonic intervals is the complement of a major third (which conſiſts of a major and a minor tone) to a fourth from the baſs note, as from C to F, ſo the acuter hemitonic interval is the complement of a major third (which conſiſts of a minor and a major tone) to a fourth, from the fifth of the baſs note, as from



 G to C;

G to C; and, therefore, each hemitone being equal to the difference between a major third and a fourth, it follows, that they muſt both be in the ſame ratio, viz. that of 16 : 15.

Kircher, in his Muſurgia and Des Cartes, in his Compendium of Muſic, have mentioned a minor hemitone, to which they aſſign the ratio of 25 : 24; but as the authority of the beſt practical muſicians may be cited, that there is no audible diſtinction between the completive interval of the graver and that of the acuter hemitone, I incline to the opinion that no real difference of ratios exiſts between them, nor any other difference, except that in this, as in every other inſtance, an acuter ſound at the ſame interval will always be more diſtinctly heard than a graver: the difference between a major and a minor tone is evident from the ill effect, in many inſtances, which the tranſpoſal of a piece

of

of inſtrumental muſic from its original pitch is found to have, by changing the order of the tones in ſucceſſion, and as they may be adapted to different ſyllables in a vocal performance, which a good ear feels and diſapproves upon a compariſon, but when this is not the caſe, as in the equality of the hemitones, and the ear is ſatisfied, I deem that all is right; for to confeſs the truth (perhaps to my diſgrace) I look upon all mathematical determinations in muſic as deciſions from accidental coincidences only: Doth the ratio of 2 : 1, for inſtance, point out to the ear, that the octave is the moſt perfect concord? Do the ratios of 4 : 3 and of 3 : 2 conſtrain it to acknowledge the agreeable effect of the fourth and fifth; or the ratio of 5 : 4 and 6 : 5, the agreeableſs of the major third and the ſweetneſs of the third minor, &c.—* The great Author of Nature hath, probably, eſtabliſhed all his

* Vol. i. p. 205.

operations conſonant with one invariable Principle §: Strings, pipes, and I preſume that all ſurfaces too, of whatever form, obſerve in like manner the ſame laws of vibration in proportional harmonic differences, and that from certain accordant vibrations in the nerves, the ear of which they are the immediate objects, hath a limited power of determining the agreeable and diſagreeable in all muſical ſounds (particularly when left to itſelf unbiaſſed by the prejudices of cuſtom or authority) without any mathematical knowledge, or ſo much as knowing what a ratio means. Mr. Handel, as I have

§ The whole vaulted roof of a cathedral may be felt in vibration under the feet to certain ſtrains of muſic; and I have evidently been ſenſible of the maſſy pillars trembling, upon ſuch chords being purpoſely ſtruck for the experiment, as were in uniſon with the building; for which the ingenious muſician had prepared his voluntary ſo as to come upon them with a repeated muſical energetic violence, to render their effects more diſtinguiſhable.

been

been told, was an utter ſtranger to the ſcience of Mathematics, and I know that Mr. Stanley and ſome of our beſt muſicians, at preſent, are ſo.

After having mathematically diſcovered the ratios in ſome muſical ſounds which were generally acknowledged to be agreeable, quitting the determinations of their ſenſes, the Antients ſet themſelves to invent other intervals upon mathematical Principles, which gave riſe to the chromatic and enharmonic genera with their ſhades or colours: that they ſhould amuſe for a time is not to be greatly wondered at, for novelty and faſhion, with the pride of being thought capable of taſting and enjoying a refinement in the arts, will frequently get the better of our genuine feelings, and of our underſtandings too, for awhile. I have ſent you this tranſlation of Euclid's Section of the Muſical Canon, therefore, as a matter

a matter of curioſity rather than a perfect work, or a work of great uſefulneſs; in conjunction with his Treatiſe on Harmonic, it may contribute to give us a proper notion of the Græcian Muſic, concerning which there has been ſo much claſſical boaſting: I wiſh I might be able to explain the double doctrine of their modes, and little would be left to compleat our idea of it. That there muſt have been a double doctrine concerning them is clear, from Euclid's account in his ſecond Treatiſe, but moſt probably I ſhall not have reſolution to attempt ſo difficult a ſubject, unleſs I can meet with better information upon it than Mr. Malcolm's or old Kircher's; if it is in fact explicable, we muſt look for it in Ptolemy, who undertook a reformation of the Græcian Muſic about the middle of the ſecond century: at preſent I ſhall only repeat what I have already mentioned,

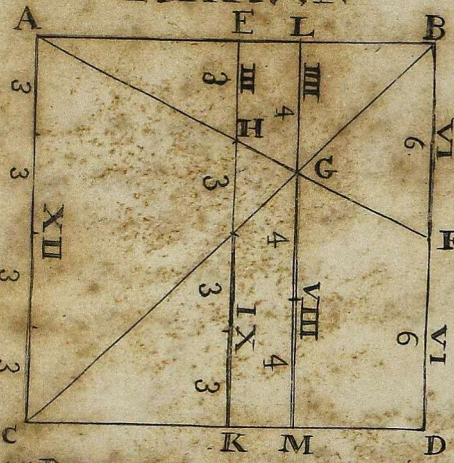
oned, that theſe ſame noble Greeks were abundantly abſurd in the ſuppoſition, that Art could dictate to Nature, and and that any argument or reaſonings whatever, were to point out to us what ought to be moſt agreeable to our feelings: In fact, the ear, and the ear only, determines concerning its own pleaſures; nor doth a ſtranger intermeddle with its joy; it doth not want a mathematical demonſtration what notes are ἐμμελεῖς or ἐκμελεῖς, or to conſult the ratios of numbers or geometrical quantities before it ventures to diſapprove, or to be pleaſed either with their melodious ſucceſſion, or with their harmony in union. That the lengths of thoſe ſtrings which produce the natural notes in muſic, or in that which is called the Diatonic ſcale, were fixed and adjuſted by the ear before their mathematical proportions were thought of, I think there can be no doubt, and had I lived in the days of tetrachords and diapaſôns,

paſons, I ſhould certainly have been a follower of Ariſtoxenus rather than Pythagoras. The application of the term διὰ πασῶν to the octave as comprehending all the conſonances which the Pythagoreans, according to Nichomachus, who hath left us the only full account remaining of their muſic, limited to fourth, fifth, and eighth, I *feel* to be abſurd. I have, nevertheleſs, added a Diagram of the Helicon, as deſcribed by Ariſtides Quintilian, without informing us who was the author of it, whom I take to have been Euclid, as in his Section of the Canon rigidly adhered to the Pythagorean doctrine; the ſcheme is delineated in the ſecond book of Ptolemy's Harmonics, and it takes in all the conſonances allowed by the Greeks in their major ſyſtem, namely, a fourth, fifth, and eighth, and an octave with a fourth, an octave with a fifth, and a diſdiapaſôn with the ratio of a tone.

I am, &c.

P. S. Let

ΕΛΙΚΩΝ



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P. S. Let A B C D be a ſquare, biſſect the ſides A B, B D, in the points E and F: draw the lines A F, B C, interſecting each other in G: through the point E draw E H K, parallel to A C, and through G draw L G M parallel likewiſe to A C.——

A C is double of B F and of F D; alſo B F and F D are each double of E H, (becauſe A B is double of A E) ſo that A C is quadruple of E H, and ſeſquitertian of the remainer H K; moreover M G is double of L G, for

as D C to C M, ſo is D B to G M.
and as B A to A L, ſo is B F to G L.
i. e. as D C to C M, ſo is B F to G L.
hence as D B to G M, ſo is B F to G L.
or as D B to B F, ſo is G M to G L.

wherefore G M equals 2 G L; and 2 A C equals 3 G M; alſo A C equals 3 G L.

Extending, therefore, 4 ſtrings in uniſon

ſon from the points A, E, L, B to C, K, M, and D reſpectively, and placing under them a thin rule in the poſition A, H, G, F, call A C XII. H K IX. G M VIII. B F and F D VI. L G IV. and E H III. we have thus all the conſonances.

A C and H K being in ſeſquitertian ratio as 4 to 3, exhibit the conſonance of a διατεσσαρῶν or fourth, as do likewiſe G M and F D, L G and E H.

A C and G M, H K and F D, B F and L G, being to each other reſpectively in ſeſquialterate ratio, or as 3 to 2, give the conſonance of a διαπέντε or fifth.

A C and F D, G M and L G, B F and E H, being to each other reſpectively in duple ratio, or as 2 to 1, give the conſonance of a διαπασῶν, or the octave.

G M and

G M and E H being in the ratio of 8 to 3, give the compound conſonance of διαπασῶν with διατεσσαρῶν.

A C and L G being in triple ratio, or as 3 to 1, give the compound conſonance of διαπασῶν with διαπέντε.

A C and E H being in quadruple ratio, or as 4 to 1, give the δισδιαπασῶν or double octave.

Laſtly. H K and G M being in ſeſquioctavan ratio, or as 9 to 8, give the interval of a tone.

A FREE

TRANSLATION

OF

EUCLID'S

TREATISE ON HARMONIC.

LETTER XVI.

1769.

WHEN ſounds were conſidered as the ſubject of Muſic, the Antients divided the ſcience into three parts, which they called the Harmonic, Rythmic, and the Metric. The firſt treated ſounds with reſpect to their differences of acuteneſs and gravity: the ſecond principally with reſpect to the times of their continuance, or the ſwiftneſs and ſlowneſs of their ſucceſſion to each other: the third as they concerned the art of Poetry in the various combination of metrical feet. Dancing was likewiſe called a ſpecies of Muſic, in which ſounds were no otherwiſe concerned than by accident, that is, as they were made an accompaniment only of a combination

of different ſteps, which were regulated by a duly varied ſucceſſion to each other in an agreeable rythmus; and in pleaſing figures expreſſive of ſome action or ſentiment.

Euclid has defined Harmonic to be the Science of Harmony both in Theory and Practice; and by Harmony he means no more than we ſhould expreſs by the term Melody, as ariſing from the *ſucceſſion* of a ſeries of notes which had certain determined intervals of tune, and which proceeded in an agreeable order by ſkips, or otherwiſe, from grave to acute, or from acute to grave.

He divides his ſubject into ſeven parts, in the firſt of which he treats of Muſical Notes:

In the 2d, of their ſeveral Intervals:

In the 3d, of the different Genera of Melody:

In the 4th, of Syſtems:

In

In the 5th, of Tones or Modes:
In the 6th, of Mutation: and
In the 7th, of Melopœia, under which head, compoſition, as it reſpected the ſcience of the muſician, properly ſo called, was underſtood, but which took in likewiſe the execution of the artiſt or practical performer.

A note is a muſical ſound vocal or inſtrumental, at a fixed or a determined pitch, neither riſing higher in the ſcale nor ſinking lower; a circumſtance which is expreſſed by its being produced at one extenſion of a ſtring, or by a ſingle energy or exertion of the voice *; and the author

 adds

* The word here tranſlated a muſical note is φθογγὸς, which ſeems to have been taken from the natural ſound of any cord put into vibration, in oppoſition to ψόφος or ſound in general; it particularly reſembles, in its utterance, the twang of a bow-ſtring, which is not unlikely to have given the firſt idea of ſtringed muſical inſtruments; and accordingly they were ſaid, by ſome of the Antients, to have been

adds to his definition of a note, that it is capable of being ſung, perhaps, to diſtinguiſh it more particularly from an interval, which was confounded by the Ariſtoxenians § with a note; or becauſe moſt of the intermediate diviſions between note and note were abſolutely untuneable and immelodious, or ſome of them too minute and indiſtinct to be attended to by the niceſt ear, or ſounded by the moſt perfect voice.

An interval is the muſical diſtance between two notes, which differ in acuteneſs and gravity.

been the invention of Apollo caſually playing with the bow of his ſiſter Diana. Thoſe notes which immediately ſucceeded each other at the aſſigned intervals of the ſcale were called ἔμμελεῖς, and thoſe which were at greater or leſs intervals, were termed ἐκμελεῖς, that is, melodious or immelodious, or, as theſe words are more frequently tranſlated, concinnous or inconcinnous.

§ Ptolemy's Harm. book i. chap. ii. and ix.

The

The Genera or kinds of melody were three; and conſiſted in a different manner of tuning four ſucceſſive notes.

A Syſtem was a ſeries of ſucceſſive notes; but three notes at leaſt, including two intervals, were required to conſtitute a Syſtem.

A Mode, which is ſometimes called a Tone, is the place of the voice, or that ſpace in which it moves higher or lower paſſing through the limits of certain ſyſtems which it contains, and is incapable of latitude *.

* The word Tone was applied to ſignify a Mode, (by which, in this place, Euclid means a ſyſtem of eight ſucceſſive notes in the ſcale of muſic) probably becauſe the Greeks originally made uſe of no more than three ſpecies of octave, which they called the Dorian, the Phrygian, and the Lydian mode, which exceeded each other from grave to acute by the interval of a whole tone: Paſſing through the limits of certain ſyſtems, was therefore added, to diſtinguiſh it from the word Tone, as

Mutation is defined by Euclid a *transferring of ſomewhat ſimilar into a different place*; by which is to be underſtood, a raiſing or ſinking the pitch of ſome notes of the ſame denomination, or the giving them reſpectively a higher or a lower place in the muſical ſcale, by a change of the melody from one mode to another: Our paſſing from one key to another, anſwers in ſome reſpects to Mutation, though not preciſely. Euclid's definition of it was eaſy to be underſtood by the Antients, but this ſhort manner of

as meaning only a ſingle note; what follows of its being ἀπλατὴς is not eaſy to be explained: Some writers have ſuppoſed its being without latitude means preciſely what he intends by ἐπὶ μίαν τασιν, in his definition of a Note; but I have my doubts whether the true explanation of it may not be, that a Mode comprehended every other ſyſtem, for though their muſical gamut was extended to a δισδιαπασῶν or double octave, no other ſyſtems were properly contained in it than thoſe which were in the firſt octave.

expreſſion

expreſſion is by no means ſo to us, though, if I am not miſtaken, the double doctrine of the modes, which it ſeems ſtrongly to point out, will render it ſufficiently intelligible.

Melopœia was an application of the Theory of Harmonic to practice, ſo as to give every ſubject its proper character of expreſſion by muſical notes.

LETTER XVII.

AFTER Euclid has given theſe general definitions, he proceeds to explain two different movements of the human voice, that which we uſe in common ſpeaking or diſcourſe; and its movement as applied to ſong; the former of which, he calls continuous, aud the latter diaſtematic. In continuous movement, the intenſions and remiſſions of the voice, he tells us, are not diſtinguiſhable with preciſion at any point, but it falls and riſes imperceptibly, till it entirely ſtops, (συνεχὴς κίνησις τῆς φωνῆς, τάς τε επιτάσεις καὶ τάς ανέσεις 'αφανῶς ποιεῖται, [ſibi facit] μηδαμῆ 'ισαμένη 'ἡ μέχρι σιωπῆς) whereas in ſinging

ſinging it obſerves a rule directly oppoſite, making pauſes or diſtinctions between note and note, which thus become the boundaries of each reſpective interval of tune; and the notes ſo ſeparated acquire on this account, what might properly be called harmonic unity; a term which, if I recollect aright, was given likewiſe to the eighth note in every octave, or the replication of its βομβος §. And whereas the voice

§ Ariſtides Quintilian hath obſerved towards the cloſe of the third chapter of his firſt book, that in reading or pronouncing verſe, the movement of our voice partakes of the diaſtematic manner uſed in ſong; and I am rather of his opinion, though in this remark he differs, I believe, from almoſt all the other antient muſical writers, and Nichomachus expreſsly ſays, ἐι τις διαλεγόμενος ἢ ἀπολογέμενος τινι, ἢ αναγινώσκων γε, ἔκδηλα μεταξὺ καθ' ἕκαςον φθόγγον ποιεῖ τά μεγεθῆ, διϊςάνων καὶ μεταβάλλων τὴν φωνὴν ἀπ' ἄλλε ἐις ἄλλον, ὐκέτι λέγειν ὁ τοιῦτος, ἀδὲ ἀναγινώσκειν, ἀλλὰ μελεάζειν λέγεται, and the paſſage in Ariſtides concludes

voice is capable of making its intenſions and remiſſions perceptible at whatever point we think proper, the number of notes muſt by nature, therefore, be indefinite, but they were expreſsly limited to eighteen in each genus of melody, with diſtinct names appropriated to them. —As it will ſoon be neceſſary in the courſe of this eſſay to enumerate them, it may not be improper to premiſe a reaſon for the names which were aſſigned them by the Greek muſicians; and I ſhall take the liberty of adding ſomewhat, therefore, to the account here given by Euclid, from his Section of the Canon,

cludes thus: ἢ μὲν ἓν συνεχὴς ἐϛιν κινήσις, ἢ διαλεγόμεθα: μέση δὲ ἢ τὰς τῶν ποιημάτων αναγνώσεις ποιεῖμεθα. [nobis facimus] διάϛηματικὴ δὲ ἢ καὶ τὰ μέσον τῶν απλῶν φωνῶν ποσὰ ποιεῖμεν διαϛήματα; καὶ μονὰς ἔτις καὶ μελῳδικὴ καλεῖται.

and

and from the other muſical writers, which though unneceſſary for the perſons to whom they wrote, will enable us to remember them the better, and to keep in mind ſome eſſential particulars concerning them, which may help us to acquire a better notion of their gamut. You are to be informed then, that the Græcian lyre conſiſted, very antiently, of four ſtrings only, which was called the Lyre of Mercury, and that theſe four ſtrings were limited in their muſical intervals, to that of a hemitone between the firſt and ſecond notes aſcending; to that of a whole tone * between the ſecond and third notes, and of another whole tone between the third and fourth, which was

* You will recollect here, that the muſical interval between one note and a ſecond, was ſuppoſed to be divided into twelve parts, ſo that a hemitonic interval conſiſted nearly of ſix ſuch parts, for it was not capable, as you have ſeen, of a preciſe equal mathematical diviſion.

the

the acuteſt ſtring of this lyre, ſo that the intervals of theſe notes, according to their reſpective manner of being tuned, anſwered to the intervals between the notes B, C, D, E, of our modern muſic, whatever might be the pitch of the firſt note; and this early conſtruction of the Græcian lyre, confined to the latitude or place of a fourth, as it was deemed by them the firſt perfect mathematical conſonance, moſt probably influenced their muſicians afterward in carrying on their muſical improvements by the diviſions of a tetrachord.

The firſt addition to this celebrated inſtrument after this, was an application of three new ſtrings above the acuteſt of the four, which, I ſuppoſe, it might have very antiently, and the ſeven ſtrings of which it now conſiſted, were conſidered as two tetrachords, having one note common to each, namely, the acuteſt note of

the

the graver tetrachord of the two, which was reckoned the graveſt note of the acuter tetrachord, and the graveſt of theſe *three* new ſtrings being tuned at a hemitonic interval from the ſtring immediately below it, and the ſecond of them at the interval of a whole tone from the firſt of the three, and again the third at the interval of a whole tone from the ſecond ſtring, the muſical intervals of theſe three new ſtrings correſponded with thoſe of the notes F, G, A, in the ſcale of Guido, and to theſe ſeven ſtrings tuned as B, C, D, E, F, G, A, of the modern ſcale (with regard to intervals) the compaſs of the lyre is ſuppoſed to have been confined till Pythagoras compleated an octave by the addition of a ſtring below the graver tetrachord, which was now called τετράχορδος ὑπατῶν, the tetrachord of the upper or the principal notes.

How

How long the lyre continued in this ſtate is not clear, but the next ſtep of importance to the Græcian muſic ſeems to have been the addition of three ſtrings more to this inſtrument above the acuteſt of theſe eight; which three being conjoined to the octave, the eleven ſtrings thus united together in their favourite inſtrument, made up three tetrachords, each of which, agreeably to their former practice, had one ſtring or note in common with the tetrachord adjoining to it, and thus compleated in the ſeries a ſyſtem of an octave with a fourth. The note below theſe three tetrachords, which had been added by Pythagoras, was called προσλαμβανόμενος, or the ſingle aſſumed note; the graveſt tetrachord, as hath been ſaid, was called the τετράχορδος ὑπατῶν, that is, the tetrachord of the upper or the principal notes, either from the poſition of the lyre in the hand of the performer, which

Diagram N°1

Minor System

Of three Tetrachords extending to an Octave, and a fourth with the προσλαμβανόμενος or assumed Note call'd also the conjoind System.

...ήτη. συνημμένων.	d	fixt	ὑπάτη.	τετράχορδος συνημμένων
...αρων: συνημμένων.	c	move-able.	ὀξύπυκνος.	
...ίτη συνημμένων.	b♭	move-able.	μεσόπυκνος.	
ΜΕΣΗ.	a	fixt.	βαρύπυκνος.	τετράχορδος μέσων.
...χανὸς μέσων.	G	move-able.	ὀξύπυκνος.	
...αρυπάτη μέσων.	F	move-able.	μεσόπυκνος.	
...πάτη μέσων.	E	fixt.	βαρύπυκνος.	τετράχορδος ὑπατῶν.
...χανὸς ὑπατῶν.	D	move-able.	ὀξύπυκνος.	
...αρυπάτη ὑπατῶν.	C	move-able.	μεσόπυκνος.	
...πατη ὑπατῶν.	B	fixt	βαρύπυκνος.	
...οσλαμβανόμενος.	A	fixt	ὑπάτη.	

which in playing was held with the acuteſt ſtring next the floor, ſo that the graveſt and ſtrongeſt ſtrings were ſtruck with the thumb of his right hand, (when a plectrum was not made uſe of;) or from the ſuperior dignity of the tones themſelves, which were brought out from this graveſt tetrachord, which I ſhould rather ſuppoſe to have been the caſe.

The next tetrachord above that, called ὑπατῶν, was called τετράχορδος Μέσων, the tetrachord of the middle notes. The third, τετράχορδος συνημμένων, that of the conjoined notes; and the whole ſyſtem of three tetrachords was called the Conjoined Syſtem, from the conjunction of this third tetrachord with the ſyſtem of the octave (as it was compleated by Pythagoras) by a common note which anſwered in its tuning to *b* flat of the modern ſcale, to give a hemitonic interval between the firſt and ſecond note of this third conjoined tetrachord.—See Diagram, No. 1.

After this addition to the inſtrument, it was eaſy to carry its improvements farther, and it could not have been long before the very dulleſt muſician might diſcern what advantages it would receive from an extenſion of its notes to a diſdiapaſôn or double octave; four ſtrings more, therefore, were ſoon added to the Lyre. It was but natural to think of joining theſe additional ſtrings to the three ſtrings which anſwered to *b* flat *c* and *d* above the octave *A a*, by one common note anſwering to *e* of Guido's gamut, to compleat two tetrachords; and to ſeparate the ſecond tetrachord of the middle notes from that above it by the interval of a whole tone, inſtead of the hemitonic interval; this ſtep was accordingly taken: the interval between the ſecond and third tetrachord aſcending was now denominated the disjunctive interval or tone; the third tetrachord aſſumed the name of the τετράχορδος διεζευγμένων, the tetrachord of the diſjoined

Major perfect System
of four Tetrachords extending to a Disdiapason, with the
προσλαμβανόμενος or assumed Note of Pythagoras, call'd
also the disjoin'd System

Τετραχ. ὑπερβολαίων.	aa	νήη ὑπερβολαίων.	fixt.	ὀξύπυκνος.
	gg	παρανήτη ὑπερβολαίων	move-able.	ὀξύπυκνος.
	f	τριτη ὑπερβολαίων.	move-able.	μεβόπυκνος.
Τετρ. διεζευγμένων.	e	νήτη διεζευγμένων.	fixt.	βαρύπυκνος.
	d	παρανήτη διεζευγμένων.	move-able.	ὀξύπυκνος.
	c	τριτη διεζευγμένων.	move-able.	μεβόπυκνος.
	b	παραμέση.	fixt.	βαρύπυκνος.
τόνος		διεζέυκτικος.		
Διὰ πασῶν. Τετραχ. μέσων.	a	ΜΕΣΗ.	fixt.	βαρύπυκνος.
	G	λιχανὸς μέσων.	move-able.	ὀξύπυκνος.
	F	παρυπάτη μέσων.	move-able.	μεβόπυκνος.
	E	ὑπάτη μέσων.	fixt.	βαρύπυκνος.
Τετραχ. συνημμένων ὑπατῶν.	D	λιχανὸς ὑπατῶν.	move-able.	ὀξύπυκνος.
	C	παρυπάτη ὑπατῶν.	move-able.	μεβόπυκνος.
	B	ὑπάτη ὑπατῶν.	fixt.	βαρύπυκνος.
	A	προσλαμβανόμενος.	fixt.	ἄπυκνος.

joined notes; the fourth was called the τετράχορδος ὑπερβολάιων, the tetrachord of the ſuperadded notes, and the whole ſyſtem of fifteen notes was now called the Major, or the DISJOINED SYSTEM, from its third tetrachord being ſeparated from the Pythagorean octave, as the Minor Syſtem had been termed the CONJOINED SYSTEM from the third tetrachord having been joined to the Pythagorean octave by a common note. What I have laid down will be extremely clear, upon comparing the two Diagrams together which I have encloſed, and are marked I. and II.

I remain, &c.

P. S. It occurs to me upon this occaſion, that a paſſage in the beginning of Horace's third Satyr hath generally been miſinterpreted by the commentators: The Poet's meaning is, that Tigellius, who

ſometimes, like other ſongſters, could not be prevailed upon, by any conſiderations or entreaties, to tune a ſingle note; whenever the whim took him, without any deference to the inclinations of the company, would peſter his friends with the drunken ſong "*Io Bacche*," from the beginning of an entertainment to the end of it; ſometimes in the baſs of the *graveſt* tetrachord, and again in the higheſt ſquall of the *acuteſt*. The conſtruction is, iteraret *Io Bacche* modo voce quæ reſonat ſumma, modo voce quæ reſonat ima tetrachordis; for which word, by a metrical licence, he uſes *quattuor chordis*; by voce quæ reſonat ſumma, he means the tetrachord ὑπατῶν, and by voce quæ reſonat ima, is to be underſtood the tetrachord ὑπερβολαίων: for ſumma and ima had reference, not to the pitch of the voice in a ſingle tetrachord, which would have made no greater difference of tune, than

than that of a fourth; but to the poſition of theſe two tetrachords upon the lyre; the graveſt and the acuteſt notes of which, were diſtant not leſs than nine whole tones, and four hemitones; that is, from ὑπάτη ὑπατῶν, to νήτη ὑπερβολαίων; or, in our modern gamut, from *B* to *A a*: and you will obſerve, that the order and latitude only of intervals hath been determined, as correſponding with thoſe of the modern ſcale; but that this Treatiſe of Euclid hath nothing to do with the *pitch* of muſical notes, which will be conſidered in another place.

LETTER XVIII.

DEAR CHARLES,

YOU are now prepared to underſtand, not only why ſuch particular names were aſſigned to the notes in the Græcian Scale, but the nature of the Genera likewiſe, about which ſo much learning hath been employed: You ſee, from the Diagrams I have ſent, that every tetrachord conſiſted of four notes, which of courſe muſt include three intervals; now a difference in theſe intervals was the only thing which conſtituted the different genera of the Græcian melody; and it was an eſſential principle of their muſic, that the ſecond note of every tetrachord ſhould be

be at a ſmaller interval from the firſt note of it, (by which I mean the graveſt) than that of a whole tone, except in the caſe of a πύκνος or ſpiſs, which was a compounded interval, as will be ſhown hereafter.

It hath been obſerved, that the Genera were three in number, namely, the *Diatonic*, the *Chromatic*, and the *Enharmonic*. The firſt of which aſcended through each of the four tetrachords from grave to acute, by the ſucceſſive intervals of a *hemitone* a *tone*, and a *tone*. The Chromatic aſcended through the tetrachords, from grave to acute, by a *hemitone*, a *hemitone* and a *trihemitone*; and the Enharmonic, by the intervals of a *dieſis* or *quarter of a tone*, a *ſecond dieſis*, and a *ditone*, ſo that you ſee the *place* of a tetrachord or its whole muſical interval, was preciſely equal to five hemitones in each of theſe three genera.

From what has been ſaid, the names of the notes will now appear to have been very properly aſſigned to them, for as the Greeks divided their whole ſcale of muſic into tetrachords, the names of its notes, except προσλαμβανόμενος the aſſumed note, and the μέση or the middle note, had reſpect to the ſeveral tetrachords in which they were reſpectively placed.

The graveſt of the tetrachords in the Conjoined Syſtem (See Diagram, No. 1.) was called τετράχορδος ὑπατῶν, or the tetrachord of the principal or uppermoſt notes; the ſecond, τετράχορδος Μέσων, or the tetrachord of the middle notes; and the third, τετράχορδος συνημμένων, the tetrachord of the conjoined notes. The graveſt tetrachord and the ſecond tetrachord, after the addition of a fourth in the Diſjoined Syſtem, ſtill retained the names of ὑπατῶν and μέσων, but in this Major Syſtem of fifteen notes, the third was called

τετράχορδος

τετράχορδος διεζευγμένων, the tetrachord of the disjoined notes; and the fourth, τετράχορδος ὑπερβολαίων, or the tetrachord of the ſuperadded notes; this tetrachord having been added, as you have ſeen, to compleat the ſyſtem of a diſdiapaſôn or a double octave.—See Diagram, No. 11.

The note added by Pythagoras, and called προσλαμβανόμενος or the aſſumed note, together with four tetrachords comprehended in fourteen notes, took in the whole of their ſcale with reſpect to its extent §, and you muſt remember, that the notes theirſelves retained the ſame appellations in each genus of melody, though their intervals from each other were reſpectively altered. You will excuſe a little repetition upon the ſubject.

§ It is proper to obſerve here, that the third tetrachord of the Conjoined Syſtem being *occaſionally* taken into the ſcale above the two loweſt tetrachords, gave a diſtinction of three other names increaſing the number of the notes to eighteen, inſtead of fifteen, with the Pythagorean additional note below.

The

The Scale of Muſic began then with the aſſumed note, and aſcended through four tetrachords to the acuteſt; I ſhall tranſcribe their names in the Greek without tranſlating them, which would tend rather to confound than to render them clearer to you, beſides occaſioning much unavoidable circumlocution.

DIATONIC GENUS.

	15	Νήτη ὑπερβολαίων - -	A a	15	4 Superadded Tetrachord.
	14	Παρανήτη ὑπερβολαίων - -	g	14	
	13	Τρίτη ὑπερβολαίων - - -	f	13	
3 Disjoined Tetrachord.	12	Νήτη διεζευγμένων * - - -	e	12	
	11	Παρανήτη διεζευγμένων - -	d	11	
	10	Τρίτη διεζευγμένων - - -	c	10	
	9	Παραμέση * - - - - - natural	b	9	
		Three Notes of the Conjoined Tetrachord.			
		11 d—Νήτη συνημμένων -		- - d	Conjoined Tetrachord in the Minor Syſtem.
		10 c—Παρανήτη συνεμμ. -		- - c	
		9 b♭-Τρίτη συνημμένων -		- - b♭	
2 Middle Tetrachord.	8	ΜΕΣΗ - - - - - - - -	a	8 *a	
	7	Λιχανὸς μέσων - - - - -	G	7	
	6	Παρυπάτη μέσων - - - -	F	6	
	5	Ὑπάτη μέσων * - - - -	E	5	1 Uppermoſt Tetrachord.
	4	Λιχανὸς ὑπατῶν - - - -	D	4	
	3	Παρυπάτη ὑπατῶν - - -	C	3	
	2	Ὑπάτη ὑπατῶν * - - -	B	2	
Aſſumed Note.	1	Προσλαμβανόμενος - - -	A	1	Aſſumed Note not taken into any Tetrachord.

Note. That the Hemitonic Intervals are diſtinguiſhed by Aſteriſks in this Diagram.

In

In the preceding Scale, the τρίτη συνημμένων anſwers to *b* flat, in order to make a hemitonic interval between the firſt and ſecond notes of the conjoined tetrachord, (which extends from Μέση to Νέτη συνημμένων) and a whole tone between τρίτη and παρανήτη συνημμένων, but in the diſjoined tetrachord, extending from παραμέση to νήτη διεζευγμένων, *b* is natural, the interval from *b* to *c*, which is the firſt interval of the disjoined tetrachord, being a hemitone by nature, or in the natural ſcale.

It will be evident to you then, from inſpection of the Diagrams, that in the Diatonic Genus, which is that only which I ſhall conſider; the ſcale of the antient Greek Muſic was preciſely the ſame with our own, ſo far as reſpected the intervals of its notes; the degree of pitch is a different affair, which is to be conſidered afterward.

I have

I have ſaid that the notes in each genus retained their original names, though the intervals between them differed, thus from ὑπάτη ὑπατῶν to παρυπάτη ὑπατῶν, in the Diatonic genus was the interval of a hemitone, and the ſame in the Chromatic, but in the Enharmonic genus you will recollect, it was only the interval of a δίεσις or quarter of a tone; again the interval from λιχανὸς ὑπατῶν to ὑπάτη μέσων, which in the Diatonic genus was a *tone*; in the Chromatic, was a *trihemitone*; and in the Enharmonic, was a *ditone*.

I am, &c.

LETTER

LETTER XIX.

DEAR CHARLES,

THE third note aſcending in the two lower tetrachords is called λιχανὸς, or the pointer; as ſome muſicians have ſuppoſed, becauſe it was uſually ſtruck with the fore-finger, but I think another reaſon may be given, namely, becauſe an attention to its interval from the acuteſt note of each tetrachord pointed out, after the moſt diſtinguiſhed manner, in what genus the melody was carrying on; the middle ſtring of the lyre in the Major Syſtem was called ΜΈΣΗ, with ſtrict propriety; but it had this name likewiſe in the Minor Syſtem, though there were no more

more than three ſtrings above it. Of theſe fifteen notes which conſtituted the Græcian Scale, ſome were called ἑςῶτες or *fixed*, and others κινέμενοι or *moveable*; the *fixed* ſounds were the loweſt and the higheſt note of each tetrachord, becauſe theſe were never liable to any alteration by a change of the genus; and for the ſame reaſon the προσλαμβανόμενος or the aſſumed note, from its not being taken into any tetrachord, muſt have been a fixed note likewiſe, for which I refer you to the Diagrams.

The definition of a note is, that it is one extreme of an interval; for an interval, according to Euclid's definition, is the muſical diſtance between any two notes which differ in acuteneſs and gravity. It is neceſſary to ſettle this diſtinction well in your mind, becauſe *notes* and *intervals* are very often confounded with each other: Let us take what muſical

ſical interval we pleaſe, it muſt be terminated by two notes, and whilſt this interval remains the ſame, the two extreme notes of it muſt keep the *ſame* places, however the intermediate notes may be intended or remitted; the two *middle* notes only in every tetrachord were, therefore, ſaid to be moveable, and we accordingly find them at different intervals in each genus.

The fixed notes in the Major Disjoined Syſtem were ſeven:

The προσλαμβανόμενος,

ὑπάτη ὑπατῶν,

ὑπάτη μέσων,

ΜΕΣΗ,

παραμέση,

νήτη διεζευγμένων, and

νήτη ὑπερβολαίων; to which muſt be added in the Conjoined or Minor Syſtem,

νήτη συνημμένων, as the acuteſt note of the tetrachord.

Of

Of the foregoing fixed or immoveable notes, ſome were called βαρύπυκνοι; ſome μεσόπυκνοι; and others ὀξύπυκνοι; but the graveſt and acuteſt notes in each ſyſtem, as the προσλαμβανόμενος, the νήτη ὑπερβολαίων, and the νήτη συνημμένων, were termed ἄπυκνοι.—See the Diagrams, No. I. II.

To underſtand the meaning of theſe latter appellations, it will be neceſſary to enquire into the meaning of the term πυκνὸς or ſpiſs; now the πυκνὸς was a ſyſtem of two intervals in a tetrachord, both which, taken together, made *one* compound interval leſs than the remaining interval, which compleated the meaſure of a fourth; and it follows from this account of it, that the Diatonic genus does not *properly* admit of a πυκνὸς or ſpiſs interval, becauſe if we take a hemitone and a tone together, this compound interval which conſiſts of three hemitones, is *greater* than the remaining interval of a tetrachord,

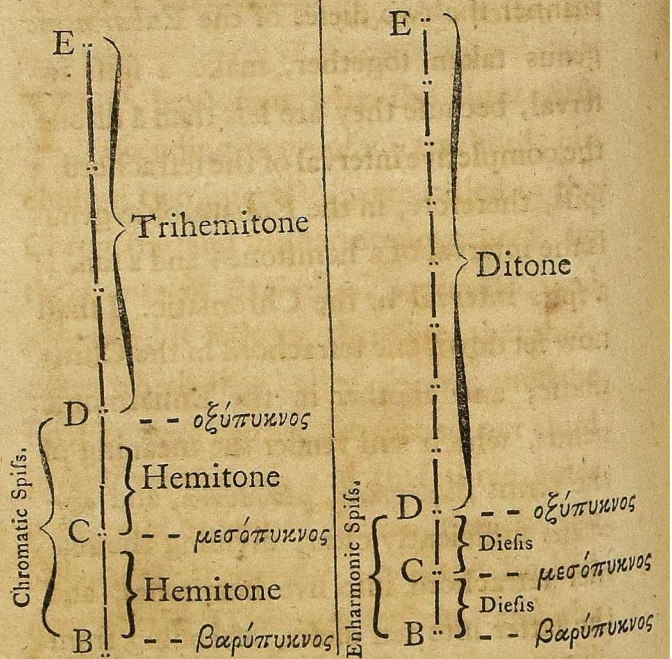
tetrachord, the whole of which contains no more than five hemitones.

In the *Chromatic* genus, the two hemitones taken together make a ſpiſs, as being leſs than a trihemitone, which is the complement of a tetrachord; in like manner the two dieſes of the *Enharmonic* genus taken together, make a ſpiſs interval, becauſe they are leſs than a ditone, the completive interval of the tetrachord; a ſpiſs, therefore, in the Enharmonic genus is the interval of a hemitone; and a tone is a ſpiſs interval in the Chromatic. I ſhall now ſet down one tetrachord in the Chromatic, and another in the Enharmonic genus, which will render the meaning of the terms βαρύπυκνοι, μεσόπυκνοι, and ὀξύπυκνοι ſufficiently clear, dividing the former tetrachord into five hemitones, and the latter into ten dieſes, aſcending from B to E, agreeably to our modern ſcale.

DIAGRAM, No. III.

Chromatic Tetrachord from B to E, divided into *five* Hemitonic Intervals.

Enharmonic Tetrachord from B to E, divided into *ten* Dieſes, or Quarter Intervals.



As B is the graveſt note of each tetrachord in theſe two ſchemes, it is of courſe the graveſt note

note of each ſpiſs, and was, therefore, very properly termed βαρύπυκνος: C, which is the middle note of each ſpiſs, might, with equal propriety, be termed μεσόπυκνος: and laſtly, D being the acuteſt note of each ſpiſs, was for that reaſon called οξύπυκνος.

I am, &c.

LETTER XX.

DEAR CHARLES,

YOU have ſeen why the three firſt aſcending notes of a tetrachord, including two intervals, were called in the Chromatic and Enharmonic genera, by the names of βαρύπυκνοι, μεσόπυκνοι, and οξύπυκνοι; it follows, therefore, that thoſe notes which they called ἄπυκνοι, muſt be ſuch as were neither the ſecond nor third in any tetrachord, and that three notes only could be termed ἄπυκνοι, namely, the aſſumed Pythagorean note, the higheſt note of the Conjoin'd Syſtem, and the higheſt note of the fourth or the acuteſt tetrachord in the Disjoin'd Major Syſtem;

tem; and it appears moreover from what hath been ſaid of the φθόγγοι ἑςῶτες or fixed notes, that theſe may be either βαρύπυκνοι or ἄπυκνοι, and that they are eight in number, namely, five of the former, and the three of the latter, for which I refer you again to the Diagrams, No. I. and II. where it will appear, that the five Βαρύπυκνοι are

1. The ὑπάτη ὑπατῶν,
2. ὑπάτη μέσων,
3. ΜΕΣΗ,
4. παραμέση, and
5. νήτη διεζευγμένων.

And that the three Ἄπυκνοι are,

1. προσλαμβανόμενος,
2. νήτη συνημμένων, and
3. νήτη ὑπερβολαίων.

But it is to be obſerved, that ΜΕΣΗ, conſidered as a βαρύπυκνος, hath this term from its place in the Conjoin'd Syſtem

only, in which it is the graveſt note of a tetrachord; whereas, in the Disjoin'd Syſtem, it is the acuteſt note of the ſecond tetrachord from ὑπάτη μέσων, but ſince it was liable to be made the graveſt note of the third tetrachord in the Minor Syſtem, it could not properly be added to the claſs of the ἄπυκνοι, but whenever its relation to a πυκνὸς was conſidered, muſt be reckoned amongſt the βαρύπυκνοι of courſe.

The moveable notes, as hath been ſaid, were placed between the fixed notes of each tetrachord, that is, they were its ſecond and third notes, and were ten in number, namely,

παρυπάτη ὑπατῶν,
λιχανὸς ὑπατῶν
παρυπάτη μέσων,
λιχανὸς μέσων,
τρίτη διεζευγμένων—τρίτη συνημμένων,
παρανήτη διεζευγμένων—παρανήτη συνεμμ.
τρίτη

τρίτη ὑπερβολαίων,

παρανήτη ὑπερβολαίων:

five of theſe were μεσόπυκνοι, and five ὀξύπυκνοι.

Μεσόπυκνοι.	Ὀξύπυκνοι.
παρυπάτη ὑπατῶν,	λιχανὸς ὑπατῶν,
παρυπάτη μέσων,	λιχανὸς μέσων,
τρίτη συνημμένων,	παρανήτη συνημμένων,
τρίτη διεζευγμένων,	παρανήτη διεζευγμένων,
and	and
τρίτη ὑπερβολαίων.	παρανήτη ὑπερβολαίων.

If you refer again to the ſchemes of the Major and Minor Syſtems above given, you will find, that they exhibit the fixed and moveable notes, and point out at the ſame time which of them were ἄπυκνοι, βαρύπυκνοι, μεσόπυκνοι, or ὀξύπυκνοι in each ſyſtem, with the names of the modern notes to which thoſe of the antient ſcale correſponded, in reſpect to their intervals from each other.

I am, dear Charles, &c.

LETTER XXI.

DEAR CHARLES,

MY letters ſhall follow the order in which Euclid continues his ſubject, who goes on, to treat more particularly concerning the nature of Intervals, which, he tells us, were conſidered in five different reſpects:

Firſt, with regard to their *Magnitude*.

Secondly, as they differ in the ſeveral *Genera*.

Thirdly, as they are *Conſonant or Diſſonant*.

Fourthly, as they are *Compounded* or *Incompounded*.—And

Laſtly, as they are *Rational* or *Irrational*.

Thoſe

Thoſe *intervals* differ in *magnitude*, which are bounded by two notes, at a greater or ſmaller diſtance from each other—as, the interval of a dieſis, a hemitone, a tone, a trihemitone, a ditone, a tritone, a diateſſarôn, a diapente, or of a diapaſôn, &c.

Intervals differ in reſpect of genus, as they are *Diatonic*, *Chromatic*, or *Enharmonic*; and again with reſpect to *Conſonance* or *Diſſonance*.

Conſonant intervals are the *diateſſarôn*, the *diapente*, the *diapaſôn*, and their replicates.

Diſſonant intervals are thoſe which are leſs than a *diateſſarôn*, and *all* ſuch as are found between the above named *conſonant* intervals. *Diſſonant* intervals, leſs than a diateſſarôn, are thoſe of the dieſis or quarter tone, the hemitone, the tone, the trihemitone, and the ditone, or the flat and ſharp third. *Diſſonant* intervals between the

the conſonances in an octave, are the tritone, the tetratone, and the pentatone, with their replicates, and the like intervals added to the octave.

Conſonance, is the uniting and melting together of a grave and an acute ſound ſo as to ſoothe and delight the ear*.

* Notwithſtanding Euclid hath included all muſical ſounds within the two claſſes of Conſonant and Diſſonant notes; this doctrine was not allowed univerſally by the Greek muſicians. Gaudentius, for inſtance, mentions a third claſs of notes, which held a middle place between the σύμφωνοι and διάφωνοι, which he terms παράφωνοι, and inſtances the intervals between ὑπάτη μέσων and παραμέση, which is the tritone; and from λιχανὸς μέσων to παραμέση, which is the *ſharp third:* the latter ought certainly to have been allowed as conſonant, but the tritone is not ſo, though modern muſicians very judiciouſly apply it as if it were really a concordant interval; and it is particularly uſeful in leading the melody into a new key, or as the Greeks would term it, into a new mode; that the Antients applied it to their change of modes can hardly admit a doubt, though I do not recollect this uſe of the tritone expreſsly mentioned; but Gaudentius ſpeaks of theſe φθόγγοι παράφωνοι, as reſembling conſonances in their mixture, ἐν τῇ κρούσει, that is, when ſounded together.

Diſſo-

Diſſonance, on the contrary, is a reni-tency of two notes to mix or blend toge-ther, and which, forced into union, jar and offend the ear by their oppoſition.

In the next place, intervals differ as they are compounded or incompounded.

An *incompounded* interval is that which is found between two immediately ſuc-ceeding notes of the ſame genus; for in-ſtance, the interval between ὑπάτη and πάρυπατη, or between any other note and that which is immediately either prior or ſequent to it in the ſcale of the ſame genus.

Compound intervals are ſuch as are com-prehended by two notes not immediately ſucceſſive in the ſcale, as including more than one interval at an indefinite diſtance in any genus, or in the varieties of ſuch genus called its *colours*; for example, the interval between παρυπάτη and μέση, or that between μέση and τρίτη διεζευγμένων, &c. and you will recollect, that the

ſmalleſt

ſmalleſt interval is that of a dieſis or quarter tone.

Some intervals are common, partaking in the nature both of ſimple and compounded intervals;—ſuch are all thoſe from a hemitone to a ditone; foraſmuch as the hemitone in the Enharmonic genus being a ſpiſs of two dieſes, is a compounded interval; whereas in the Chromatic and Diatonic genus it is an interval uncompounded; again a tone, which in the Chromatic genus is a ſpiſs, conſiſting of two hemitones, in the Diatonic is a ſimple interval; a trihemitone in the Chromatic is a ſimple interval, but in the Diatonic a compounded one; and a ditone, which is uncompounded in the Enharmonic genus, is a compounded interval in the Diatonic and Chromatic genera: In a word, all intervals in the ſcale which are leſs than a hemitone, are ſimple intervals; and all intervals greater than a ditone are compounded. It might

have

have been obſerved, that *conſonant* intervals are likewiſe either ſimple or compounded; ſimple conſonant intervals are the diateſſarôn and the diapente only, whereas the diapaſôn and all other conſonant intervals are compounded; thus the diapaſôn is compounded of a fourth and a fifth; again, diapaſôn with a diateſſarôn, diapaſôn with a diapente, and the diſdiapaſôn, muſt be compounded conſonances.

Intervals are in the laſt place diſtinguiſhed as *rational* and *irrational*.

Rational intervals are thoſe whoſe ſize is determinate, or whoſe ratio with reſpect to others is abſolutely fixed; as the tone, hemitone, ditone, tritone, and the like.

Irrational intervals are ſuch as either fall ſhort of the next ſucceeding rational interval, or which exceed the next rational interval by ſome irrational undefineable quantity.

I am, &c.

LET-

LETTER XXII.

DEAR CHARLES,

HAVING already ſettled the different order of Intervals in each of the the three Genera, as explained by Euclid, it is needleſs to trouble you with a farther repetition of what hath been already ſaid.

The Genera characterized the melody, which was either Diatonic, Chromatic, or Enharmonic; if it proceeded by ſuch an order of intervals as occurs in the *natural* ſcale of notes only, it was called Diatonic melody; when by ſuch as is found in the Chromatic genus, it was called Chromatic melody; when the order was ſuch as we meet with in what

was

was termed Enharmonic intervals, (tho' it would be hard to aſſign a reaſon for this appellation) the melody in like manner received its name from the *Enharmonic genus*.

Mixed melody was when one part of the ſong or inſtrumental compoſition proceeded by the order of intervals in one genus; and another part according to the order of intervals in a different genus; and thus two, or, perhaps, all the genera might be introduced into the ſame ode or the ſame piece of inſtrumental muſic.

When the compoſition was conducted chiefly by ſuch ſkips as proceeded by the fixed notes, becauſe theſe notes were not ſubject to any alteration of their intervals, by a change of the genus, but were common to each of the three generas, the Song was very properly ſaid to move in common melody.

The

The difference between one genus and another was entirely owing to the *moveable* notes, which, as hath been ſeen, were the ſecond and third notes of each tetrachord: In the Diatonic genus, for inſtance, the παρυπάτη ὑπατῶν, which is immediately above the loweſt note of the graveſt tetrachord, was at the diſtance of a hemitone, from the ὑπάτη ὑπατῶν; in the Chromatic genus it kept the ſame interval, but in the Enharmonic it was only at the diſtance or interval of a dieſis or quarter tone, ſo that in the three genera the greateſt and the leaſt diſtance of the deeper moveable note of the two from the loweſt note of the graveſt tetrachord, were the intervals of a dieſis, or that of a hemitone, whoſe difference being a *dieſis*, this interval of a quarter tone muſt be the greateſt change of place, to which the deeper moveable note in the ſcale was liable; that is to ſay, the interval between

ὑπάτη

ὑπάτη ὑπατῶν and παρυπάτη ὑπατῶν can be varied no more than the diſtance of a quarter note: and the ſame holds good with reſpect to the lower moveable note of any other tetrachord.

The diſtance of the *acuter* moveable note of any tetrachord, or the interval of its third from its fourth note, which in the Diatonic genus is that of a tone, in the Chromatic is the interval of a trihemitone or flat third, and of a ditone or ſharp third in the Enharmonic; ſo that the greateſt and the leaſt diſtance of this moveable note from the acuteſt ſound of the tetrachord, are thoſe of a tone and a ditone, whoſe difference being a tone, the greateſt change of place (or rather tune) to which the acuter moveable note is liable in the three genera, muſt be that of a tone; and the interval, for inſtance, between παρυπάτη ὑπατῶν and λιχανὸς ὑπατῶν can never be greater; ſo that the acu-

teſt λιχανὸς, which is that in the Diatonic genus, approaches no nearer to the higheſt note of a tetrachord, than the meaſure of a tone, nor ever deſcends to a greater diſtance from it than the interval of a ditone, which is the caſe in the Enharmonic genus. I ſhall endeavour to render what is ſaid clear, by the annexed ſcheme; and you will obſerve, that the ſame holds true with reſpect to the notes of any other tetrachord beſides that ſtyled ὑπατῶν, or the tetrachord of the upper or principal notes.

Let each of the ſpaces between the double perpendicular ſtrokes which reach from one parallel line to another, repreſent the intervals of ſo many whole tones, again ſuppoſe theſe ſpaces to be divided into hemitonic ones, by the perpendicular ſtrokes reaching only half way down between the parallel lines; a ſubdiviſion of theſe again, by the ſhorter ſtrokes, will exhibit

DIAGRAM, No. IV.

exhibit the ſpaces of the Enharmonic dieſis or quarter tones, and the whole ſpace from B to E between each of the parallels, will repreſent ten dieſes or five hemitones, that is, the interval of a tetrachord or a perfect fourth, as from ὑπάτη ὑπατῶν to ὑπάτη μέσων: Let C and D be the moveable notes παρυπάτη ὑπατῶν and λιχανὸς ὑπατῶν, the point is to determine the ſpace through which theſe moveable notes paſs by a change of genus; let us then begin with C, which in the Chromatic genus keeps the ſame diſtance from B which it had in the Diatonic, namely, that of a hemitone; whereas in the Enharmonic it moves nearer to B by a dieſis, it is evident, therefore, that the largeſt interval of C from B, which is the graveſt note of the tetrachord, being that of a *hemitone*, and its ſmalleſt that of a *dieſis*, that its place, as Euclid terms it, or the ſpace through which C moves in the te-

trachord, muſt be limited to the interval of a dieſis or quarter of a tone.

We are next to conſider what is the *place* of D, the acuter moveable note, which I ſhall refer to E the acuteſt note of the tetrachord, as the graver moveable note C was referred to B the graveſt note of it; now D in the Chromatic genus moves half a tone farther from E than it was ſituated in the Diatonic genus, and in the Enharmonic half a tone farther ſtill; we ſee then that the ſmalleſt interval of D, from the acuteſt note E of the whole tetrachord B E, being that of a tone in the Diatonic genus, and its largeſt that of a ditone in the Enharmonic, that its place muſt take up the ſpace or interval of a tone: in other words, the variation of the graver moveable ſound in any tetrachord could be no more than that of a quarter of a tone, nor could the utmoſt variation of the λιχανὸς, the acuter moveable ſound, ever exceed the interval of a whole tone.

It

It is obvious from hence, that by remarking at what diſtance the *acuter moveable* note, was from the *acuteſt* note of a tetrachord, which was always a fixed note, it might be immediately known in which of the three genera the melody was proceeding; in the Diatonic genus it was exactly a whole tone from the acuteſt; in the Chromatic a trihemitone; in the Enharmonic a ditone; and on this account, as it ſeems to me, it might very properly have acquired the name of λιχανὸς, or the pointer, but Nicomachus, and Ariſtides Quintilian, in their Firſt books, tell us, that λιχανὸς was ſo called, becauſe it was always ſtruck with the pointer or fore-finger of the left hand.

Beſides the diviſion of a tetrachord into genera, there was moreover a farther ſpecific diviſion of the genera into their colours or varieties, of which Euclid reckons ſix that were rational and eſtabliſhed, one

of the *Enharmonic*, three of the *Chromatic*, and two of the *Diatonic*.

The notes of the Enharmonic colour proceeded by the ſame intervals as thoſe of the genus itſelf, for it was ſung by two enharmonic or quadrental dieſes, and one of an uncompounded ditone.

The three colours of the Chromatic genus were called χρῶμα μαλακὸν, or the graver ſoft colour, the ſeſquialterate and the tonic *.

The firſt of theſe aſcended through the tetrachord by the ſucceſſive intervals of two triental dieſes, (that is, of two dieſes, each of which conſiſted of the third part of a tone) and an uncompounded interval equal to a tone, a half and a third part of a tone, all together = to 5 hemitones.

The ſecond or Seſquialterate colour, aſcended through the tetrachord by two ſucceſſive dieſes, each of which was equal

* Ptolemy's Harmonics, book i. chap. xii.

to

to an Enharmonic dieſis or quarter of a tone, and one half of another quarter, and by an uncompounded interval of ſeven dieſes, to complete the five hemitones of a tetrachord.

The intervals of the third or the Tonic colour, agreed with thoſe of the genus, and proceeded by a hemitone, a hemitone and a trihemitone.

Of the two Diatonic colours, one was called μαλακὸν, the ſoft or the grave colour, and the other the *ſyntonic*; the former was ſung by a hemitone, an uncompounded interval of three dieſes, and by another uncompounded interval of five dieſes. The *ſyntonic* colour proceeded by the ſame intervals as the genus, namely, by thoſe of a hemitone, a tone and a tone*.

Theſe

* That a tetrachord, whoſe order of intervals preciſely coincided with the order of intervals in the genus, ſhould be called a colour of that very genus, ſeems ſtrange, and has an appearance of being a diſtinction without a difference; but in this inſtance, and others of the ſame nature, there muſt have

Theſe colours of the genera receive their names from the ſpiſſes which are found in the tetrachords when they are ſo divided; thus the laſt mentioned colour of the Chromatic, is called the Tonic colour, from the character of its ſpiſs, which being compounded of two hemitones, made the firſt interval of the tetrachord equal to that of a tone.

The Seſquialterate colour was ſo named from the ſeſquialterate proportion of its two dieſes, which taken together made up its ſpiſs interval, and the χρῶμα μαλακὸν * the ſoft or grave colour, from its

have been ſome difference in the performance; and I preſume that the diſtinction chiefly conſiſted in the degree of pitch.

* I have tranſlated μαλακὸν *grave* in theſe inſtances, which properly ſignifies ſoft, for the reaſon above aſſigned; and a grave tone ſeems to have been conſidered as ſofter than an acute tone, on account of its ſtriking the ear with leſs ſmartneſs, owing to a *ſlower* return of vibrations, as in our Engliſh idiom, ſoftneſs of motion is not unfrequently oppoſed to a quickneſs of it.

ſpiſs being leſs acute, or extending to a ſmaller interval from the firſt note of the tetrachord towards the acuteſt, than either in the Seſquialterate or the Tonic variety. It remains to illuſtrate theſe colours or varieties by numbers, according to Euclid; and to put an end to my letter, ſuppoſe then a tone to be divided into twelve duodecimal parts, a tetrachord which contains five half tones, will conſiſt of thirty ſuch parts; a dieſis trientalis will conſiſt of four of them; and an enharmonic dieſis of three: to begin with the Enharmonic colour, which has the ſame intervals with its genus:

Enharmonic - - 3+3+24=30

In the Chromatic Genus.

The Grave Colour - - 4 +4 +22=30

The Seſquialterate - - $4\frac{1}{2}+4\frac{1}{2}+21=30$

The Tonic - - - - - 6 +6 +18=30

In

In the Diatonic Genus.

The Grave Colour - - 6+ 9+15=30

The Syntonic Colour - 6+12+12=30

Over and above the three genera and their colours or ſhades here given, we are told by Ariſtides, that the more antient muſicians had ſeveral different diviſions of the octave, which preciſely compleated ſix tones, with a more extraordinary ſucceſſion of intervals, to which they added one muſical diviſion of a ſeries of notes which *exceeded* the limit of twelve hemitones, and another which fell ſhort of that number. In the firſt place they had a *Lydian* diviſion of the octave into a dieſis, a ditone, a tone, a dieſis, a dieſis, a ditone, and a dieſis. Secondly, a *Syntonic Lydian*, which conſiſted of a dieſis, a dieſis, a ditone, a trihemitone and a ditone. In the third place, a *Mixolydian*, made up of a dieſis, a dieſis, a tone, a tone,

tone, a dieſis, a dieſis, and three tones. It may be obſerved here by the way, that the Antients never allowed more than *two* ſimilar intervals to follow each other in immediate ſucceſſion, except the intervals of a whole tone, which they granted it was much eaſier to repeat than any other, without reflecting (as it ſeems) upon its being a conſtituent part of that melody *in which we are inſtructed by Nature*; and it is almoſt certain that they conſidered muſic as the eſtabliſhment of Art alone. Again they had a *Phrygian* diviſion ito a tone, a dieſis, a dieſis, a ditone, a tone, a dieſis, a dieſis, and a tone, each of which four diviſions were equal to twelve hemitones.

They allowed moreover of a *Dorian* diviſion of the ſcale, which, as hath been obſerved, exceeded the limits of the octave, for it conſiſted of fourteen hemitones, namely, of a tone, a dieſis, a dieſis, a ditone,

a ditone, a tone a dieſis, a dieſis, and a ditone; and admitted an *Ionian* diviſion of the ſcale, conſiſting of a dieſis, a dieſis, a ditone, a trihemitone, and a tone, which fell ſhort of a compleat octave by two hemitones.

At what time theſe artificial novelties were invented is not ſaid, nor ſo much as the names of the authors of them mentioned, but it is evident from this account, that when once we depart from Nature, Art knows no other bounds than what Art itſelf preſcribes, and ſtops at no extravagance to multiply varieties; we have ſeen it here of late, in the progreſs of Chineſe architecture; and I ſhould not be much ſurpriſed, if a taſte for ſomething like it in muſic ſhould prevail.

I am, &c.

LETTER XXIII.

WE are now come to Euclid's fourth diviſion of his ſubject, in which he treats of Syſtems *. Theſe are conſidered as differing from each other in ſeven reſpects, four of their diſtinctions coincide with the diſtinctions between intervals, namely, as they had a difference of extent, and a difference in reſpect of genus; thirdly, a difference as they were conſonant or diſſonant; and in the fourth place, as they were rational or irrational;

* Our author's text from this chapter to the end of the treatiſe, has doubtleſs been corrupted in ſome places, and probably deranged in others; yet not ſo as to render his meaning abſolutely unintelligible in any matter of importance.

the

the three remaining diſtinctions which were *peculiar* to ſyſtems, were firſt with reſpect to their neceſſary formation by a ſkip, and not by an immediate ſucceſſion of continuous notes, (τῇ ἐξῆς καὶ τῇ ὑπερβατῇ) for an interval exiſts between any two proximous notes which differ in acuteneſs and gravity, or between two ſounds which differ leſs than theſe, as the interval of a hemitone, or of a dieſis, but two *intervals* at leaſt were neceſſary to the formation of a Syſtem, the ſmalleſt of which, I believe, was the minor third.

The ſecond peculiar diſtinction was into a conjoin'd or a disjoin'd ſyſtem, (for two tetrachords might be conjoin'd or diſjoin'd, or as reſpecting the major eſtabliſhed ſyſtem, of four tetrachords, or the minor of three); and there ſubſiſted a third diſtinction, as they were mutable or immutable.

The great ſyſtem of Diſdiapaſôn, called the Immutable Disjoin'd Syſtem, is ſaid

to

to contain ſix *conſonant* intervals or ſyſtems, the leaſt of which is the diateſſarôn, conſiſting of a hemitone and two whole tones, as from ὑπάτη ὑπατῶν to ὑπάτη μέσων; a ſecond conſonant interval is the ſyſtem of a diapente, conſiſting of one hemitone and *three* * whole tones, as from ὑπάτη μέσων, to παραμέση, in the Major Disjoin'd Syſtem. The third conſonant ſyſtem is that of a diapaſôn, as from ὑπάτη ὑπατῶν, to παραμέση, containing five whole tones and two hemitones, = to twelve hemitonic intervals; the fourth is that of a diapaſôn with a diateſſarôn, as from προσλαμβανόμενος to νήτη συνημμένων, or to παρανήτη διεζευγμένων,

* This is the caſe of a perfect fifth, but from παραμέση to τρίτη ὑπερβολαίων, notwithſtanding it was an interval of five notes, yet as the ſecond and acuteſt were only at hemitonic diſtances, it contained no more than two whole tones and two hemitones, upon which account it was called a tritone.

containing an interval = to ſeventeen hemitones. The fifth conſonant ſyſtem is that of a diapaſôn with a diapente, containing nineteen hemitones or eight whole tones, and three hemitones, as from προσλαμβανόμενος to νήτη διεζευγμένων; and the ſixth is that of a diſdiapaſôn, containing ten whole tones and four hemitones, as from προσλαμβανόμενος to νήτη ὑπερβολαίων.

The leſſer compleat Syſtem, or that called the Conjoin'd, extended no farther than to the fourth conſonant ſyſtem, conſiſting of an octave and a fourth, as may be ſeen from the firſt Diagram, that is, it extended only from προσλαμβανόμενος to νήτη συνημμένων. And you will pleaſe to obſerve, that all ſyſtems which were leſs than a diateſſarôn, and all thoſe which were contained *between* the conſonant ſyſtems, as the tritone, a ſixth and ſeventh, or an octave joined with a ſecond or third, &c. were reckoned diſſonant; ſo that you find

find the Antients, by their adherence to mathematical principles, very abſurdly excluded a major third from the rank of conſonancy; a ſound, which together with the fifth and eighth, is diſtinguiſhed as a conſtituent harmonious part of every note, by almoſt any ear that is at all attentive to muſical ſounds, but both the ſharp and flat third were, nevertheleſs, ſometimes admitted into their compoſitions, and conſidered as if they were mathematically conſonant, for Plutarch, in his diſſertation upon the letters E I on the doors of the temple at Delphos, expreſsly ſays, τριημιτόνιον, και δίτονον μελοδήτον.

I am, &c.

P. S. Notwithſtanding a diſdiapaſôn, or the major perfect disjoin'd ſyſtem, included all the conſonant ſyſtems, from which circumſtance it was denominated perfect or compleat; yet it was allowed

that the place of the voice might be extended two conſonant ſyſtems higher, namely, to a diſdiapaſôn with a diateſſarôn, and a diſdiapaſôn with a diapente; but the minor conjoin'd ſyſtem, as it comprehended only four conſonant ſyſtems, was very improperly ſometimes called perfect.

LETTER XXIV.

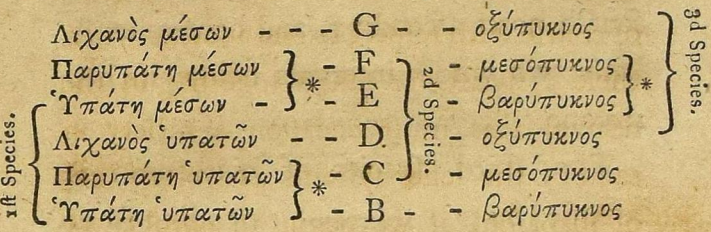
IF all the intervals of a diapaſôn or octave had been conſtituted equal to each other, it is clear that no variety could have been produced, by beginning to ſound or to count their reſpective notes from the one or the other of them, that is, from a lower note or from a higher; but in the Diatonic octave, as well as in the Chromatic and Harmonic, the intervals are unequal, for it *naturally* contains five whole tones and two hemitones, being made up of the two ſmaller conſonant ſyſtems of the Greeks, a diateſſarôn and a diapente, in each of which there is one hemitonic interval, and theſe half inter-

vals having their ſituation in each ſyſtem fixed by the conſtitution of nature, (and of courſe with reſpect to one another when theſe ſyſtems are taken together in the octave) this muſt occaſion a variety in each of the leſſer ſyſtems as well as that of diapaſôn, if we begin to number or to ſound the reſpective notes of each at a different place. The adjoined Diagrams will render the author's meaning extremely plain, and that there muſt be three ſpecies or forms of a diateſſarôn, and four ſpecies of a diapente.

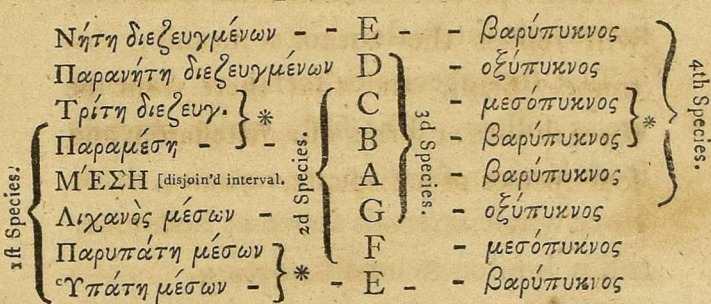
DIAGRAM,

DIAGRAM, No. v.

The Three Species or Forms of DIATESSARÔN.



The Four Species of DIAPENTE.



The Hemitonic Intervals are diſtinguiſhed by Aſteriſks.

From ῾υπάτη ῾υπατῶν to ῾υπάτη μέσων, is the firſt ſpecies of diateſſarôn, in which the hemitonic interval is placed between the graveſt and the ſecond note aſcending, having two whole intervals above it, and is bounded by two βαρύπυκνοι.

The ſecond form begins from παρυπάτη ῾υπατῶν, extending to παρυπάτη μέσων, which ſpecies is

bounded by two μεσόπυκνοι, and hath its hemitonic interval between the third and fourth notes aſcending, and conſequently hath two whole intervals below its hemitone.

The third ſpecies of diateſſarôn is bounded by two οξύπυκνοι, extending from λιχανὸς ὑπατῶν to λιχανὸς μέσων, having its hemitonic interval ſituated between the two whole intervals.

The four ſpecies or forms of diapente are as follow: The firſt, which extends from ὑπάτη μέσων up to παραμέση, hath three whole intervals above its hemitone, and is limited by two βαρύπυκνοι.

The ſecond form contained between two μεσόπυκνοι extends from παρυπάτη μέσων to τρίτη διεζευγμένων, and hath its hemitonic interval between the fourth and fifth notes aſcending, having three whole intervals below its hemitone.

A third

A third ſpecies of diapente which is limited by two οξύπυκνοι, hath its place from the λιχανὸς μέσων to παρανήτη διεζευγμένων, and its hemitonic interval between the third and fourth notes aſcending, having one whole interval above it, and two below it.

Again the fourth ſpecies, which is bounded by two βαρύπυκνοι, extends from ΜΕΣΗ to νήτη διεζευγμένων, and hath its hemitonic interval between the ſecond and third notes aſcending, having one whole interval below it, and two whole intervals above it. And the ſame number of ſpecies are found in a fourth or in a fifth of the Chromatic and Harmonic Genus, reckoning from the ſame notes to the ſame notes in each genus.

Having ſeen that there are no more than three ſpecies or forms of diateſſarôn, and four ſpecies of diapente, in the ſyſtem of a diapaſôn, which conſiſts of a fourth

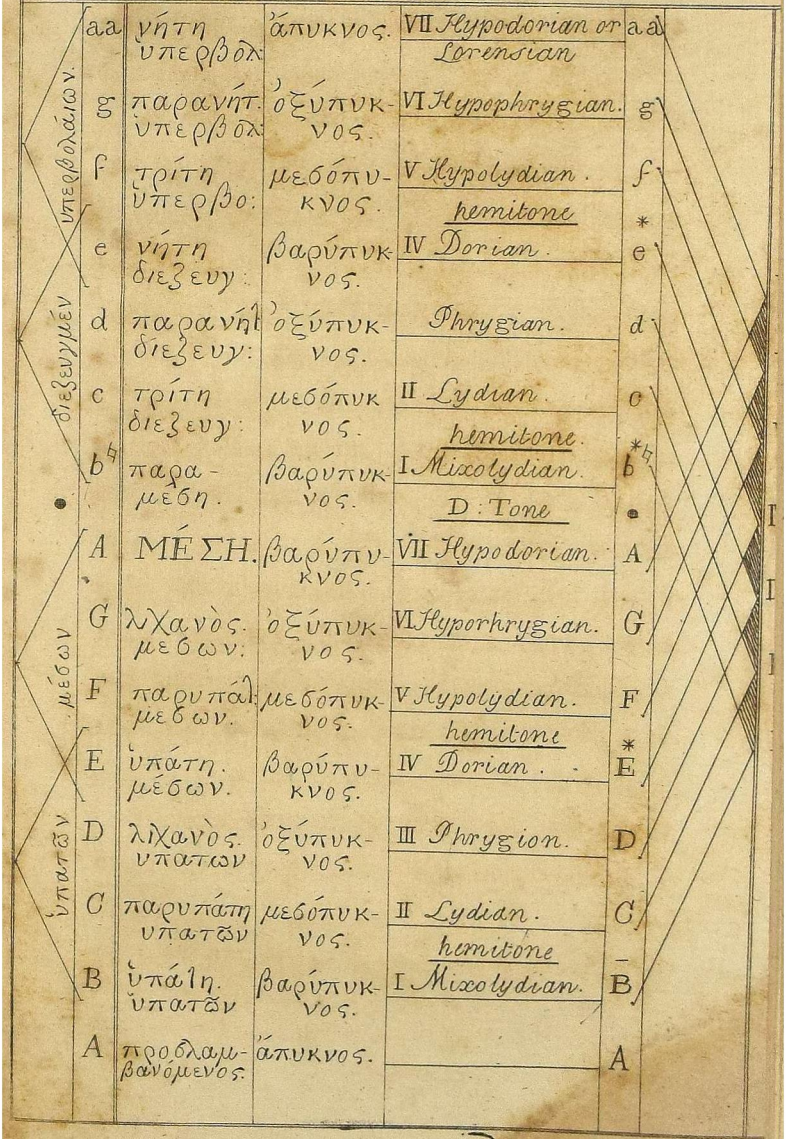
fourth and a fifth, it follows that there can be no more ſpecies of diapaſôn than *ſeven*.

The *firſt* of theſe contained between two βαρύπυκνοι extends from ὑπάτη ὑπατῶν to παραμέση; and if we refer to the annexed ſcheme, (No. VI.) we ſhall find it to have its diazeuctic interval, or the *tone*, as it was emphatically termed, between the acuteſt and the ſeventh note; this was called by the Antients the *Mixolydian* ſpecies, and had its lower hemitonic interval between the graveſt and the ſecond note aſcending; and the acuter hemitone, between the fourth and fifth notes, that is, the former between ὑπάτη ὑπατῶν and παρυπάτη ὑπατῶν, and the latter between ὑπάτη μέσων, and παρυπάτη μέσων *.

The *ſecond* ſpecies of diapaſôn contained between two μεσόπυκνοι, extended from παρυ-

* Theſe ſeven ſpecies of diapaſôn were diſtinguiſhed by the ſame provincial appellations as the modes, and in the Chromatic and Harmonic genera were called by the ſame names by which they were known in the Diatonic.

The seven Species of Diapason respecting the Or
of Intervals in the Diatonic Genus.



παρυπάτη ὑπατῶν to τρίτη διεζευγμένων, and had its diazeuctic tone between the ſecond and third note from the acuteſt; its lower hemitone was ſituated between the third and fourth notes aſcending from the graveſt, and the acuter hemitone between the ſeventh and eighth, that is, between ὑπάτη μέσων and παρυπάτη μέσων, and between παραμέση and τρίτη διεζευγμένων; this the Antients called the *Lydian* ſpecies.

A *third* ſpecies contained between two ὀξύπυκνοι, extending from λιχανὸς ὑπατῶν to παρανήτη διεζευγμένων, had its diazeuctic interval between the third and fourth note from the acuteſt, its lower hemitone between the ſecond and third note from the graveſt, and its higher hemitone between the ſixth and ſeventh notes aſcending; this was called the *Phrygian* ſpecies.

A *fourth* ſpecies again was ſituated between two βαρύπυκνοι, namely, between ὑπάτη μέσων and νήτη διεζευγμένων, having its

its diezeuctic tone, between the fourth and fifth notes from the acuteſt, its graver hemitone between the loweſt note and the ſecond aſcending, and its acuter between its fifth and ſixth notes aſcending; this was called the *Dorian* ſpecies.

The fifth ſpecies of diapaſôn was limited by two μεσόπυκνοι, namely, between παρυπάτη μέσων and τρίτη ὑπερβολάιων, having its diazeuctic interval between the fifth and ſixth notes from the acuteſt, its graver hemitone between the fourth and fifth from the loweſt note, and the acuter hemitone between the ſeventh and eighth, that is, between παραμέση and τρίτη διεζευγμένων, and between νήτη διεζευγμένων and τρίτη ὑπερβολάιων; this was called the *Hypolydian* ſpecies.

A ſixth ſpecies contained between two ὀξύπυκνοι, namely, the λιχανὸς μέσων and παρανήτη ὑπερβολάιων, had its diazeuctic interval between the ſixth and ſeventh notes

notes from the acuteſt, its lower hemitone between the third and fourth aſcending, and between the ſixth and ſeventh, that is, between παραμέση and τρίτη διεζευγμένων, and νήτη διεζευγμένων and τρίτη ὑπερβολάιων, this was called the *Hypophrygian* ſpecies.

The *ſeventh* and laſt ſpecies of diapaſôn contained between a βαρύπυκνος and an ἄπυκνος, that is, extending from ΜΕΣΗ to νήτη ὑπερβολάιων, had its diazeuctic interval between the ſeventh and eighth note from the acuteſt, its lower hemitone between the ſecond and third from the graveſt note, and the acuter hemitonic interval between the fifth and ſixth; and this was called the *Locrenſian* or the *Hypodorian**.

* Euclid having mentioned the poſition of the diazeuctic interval from the acuteſt note as well as the poſition of the hemitones from the loweſt, has given a preciſion to his account of the ſpecies of diapaſôn. If you think it worth your while to conſult the original, and hunt for errors in the text, ſuch are to be found, but I believe they are not of much conſequence.

The

The difference between rational and irrational ſyſtems was this; that the former were compoſed of rational intervals, and the latter of irrational, which have already been defined.

Conjoin'd and disjoin'd ſyſtems differed from each other in being compoſed of tetrachords, which were united by a common note, or abſolutely diſtinct from each other, though they followed in immediate natural ſucceſſion.

Three tetrachords, for example, were conjoin'd or linked together in the minor conjoin'd ſyſtem, by a middle tetrachord, whoſe graveſt note, or ὑπάτη μέσων was at the ſame time the acuteſt note of the tetrachord below it, and whoſe acuteſt note (called ΜΕΣΗ, from its being the middle note of the major ſyſtem) was the graveſt note of the tetrachord above it, as will appear from the Diagrams, No. 1. and No. 11. In the major or the disjoin'd ſyſtem of four tetrachords, the

two

two upper and the two lower tetrachords were united by two common notes, ὑπάτη μέσων and νήτη διεζευγμένων, whilſt the two intermediate tetrachords were disjoined by the interval of a whole tone between ΜΕΣΗ and παραμέση, which on this account was called the *disjunctive tone*, or more properly, the disjunctive interval, as the whole ſyſtem was called disjoin'd from this circumſtance; and you will remember that the major disjoin'd and the minor conjoin'd ſyſtem, had each two tetrachords of the ſame appellation, ὑπατων and μέσων, and that the tetrachord συνημμένων, belonged only to the minor ſyſtem of an octave with a fourth.

Syſtems were divided into mutable and immutable, and again as they were ſimple or uncompounded; a ſimple ſyſtem was a ſeries of notes whoſe intervals were adapted to one ΜΕΣΗ, according to the ſpecies of diapaſon; a complex ſyſtem was a ſeries

a ſeries of notes which were adapted to two or more ſeveral ΜΈΣΗ; and you will not forget that ΜΈΣΗ, or the middle note in the disjoin'd ſyſtem, was always at the interval of an *uncompounded* whole tone, from παραμέση; for in in this ſyſtem, as it never began a tetrachord, this interval could never be a ſpiſs interval, but the ΜΈΣΗ was occaſionally found at different intervals from its λιχανὸς, the note immediately below it; in the Diatonic genus it was at the diſtance of a tone, ἐπὶ βαρυ, from the λιχανὸς; of a trihemitone in the Chromatic genus; and of a ditone in the Enharmonic; in the Conjoin'd ſyſtem the ΜΈΣΗ was either the acuteſt note of the middle tetrachord, or the graveſt of the third or the acuteſt tetrachord, which was called the tetrachord of the conjoin'd ſounds, and conſequently in the former caſe it was always either at the interval of a tone, a trihemitone, or a ditone, from the

the λιχανὸς μέσων; or in the latter of a dieſis or a hemitone from the τρίτη συνημμένων.—(See Diagram IV.) It appears evidently from hence, that by attending to the relation in which the MΕΣΗ ſtood to the note next below it, the muſician would immediately know the compoſer's intention whether the melody was to be carried on in the Conjoin'd or the Disjoin'd ſyſtem, and in what genus, ſo as not to be at a loſs at what intervals the notes were to be tuned, or what *ſtring* of the lyre was to be ſtruck; as the ſeveral ſtrings of this inſtrument always gave the ſame notes, according to their originally prepared tuning: for it does not appear that they were capable of being ſtopped by any mechanical contrivance, ſo as to produce a difference of notes, without tuning the lyre in ſome reſpects afreſh.

I am, Dear Charles, &c.

P. S. Euclid's definition of the ΜΕΣΗ ſeems to be perplexed, and loaded with more particulars than are neceſſary; but there is one remark of conſequence, if I underſtand it right, namely, that the powers of all the other notes were to be determined from the ΜΕΣΗ, [απο δε της μεσης των λοιπων φθογγων αι δυναμεις γνωριζονται,] as I preſume will be more fully evident hereafter.

LETTER

LETTER XXV.

WE have thus far gone on without much difficulty, but are now come to the moſt abſtruſe part of the Greek Muſic, about which the Antients themſelves were not clear. Ariſtoxenus, in the fragment of his ſecond book of Muſical Elements, conſiders the Tones as Modes of modulating, in a certain number of given ſyſtems; but complains that nothing had been written concerning them; and of courſe that he had only ſome blind traditions of the practical muſicians to follow upon the ſubject: Theſe artiſts, he ſays, were not agreed either as to the number or the order of the Tones,

concerning which, every thing almoſt which they had delivered was confuſed; however as ſomething was to be hazarded, Euclid tells us, that the Ariſtoxenians reckoned their number to be thirteen, in which he follows them; though from his manner of expreſſion, he *ſeems* to have doubted concerning the propriety of Ariſtoxenus' determination; and Ptolemy hath, for good reaſons, (chap. ix. book ii.) rejected ſix of them, reducing their number to that of the modes of diapaſôn. I ſhall ſet down all that Euclid hath ſaid of them, which in fact is very little. He begins with telling us, that the word *tone* was applied in four different ſenſes; in the firſt place, that the Antients underſtood by it ſimply a muſical note, as when Terpander called the lyre ἑπτάτονος, or ſeven-toned; that is, ſeven-ſtringed; ἑπτάτονῳ φόρμιγγι νέους κελαδήσομεν ὕμνους; that it was ſometimes uſed for an interval,

val, or the muſical difference between two notes, as when it is ſaid that from Μ'ΕΣΗ to παραμέση is a tone; again τόνος ſignified the place of the voice, or the ſpace it paſſed through in certain given ſyſtems, as when the Antients ſpoke of the Dorian, Phrygian, or Lydian *Tone* or *Mode*; and laſtly, it ſignified the intenſion or pitch of voice, as when ſuch a one was ſaid, in our modern phraſe, to have ſung either a treble, a baſs, or a tenor, ὀξυτονεῖν, ἢ βαρυτονεῖν, ἢ μέσῳ τῷ τῆς φωνῆς τόνῳ κεχρῆσθαι.

The number of Tones or Modes, he ſaith, *(in the opinion of Ariſtoxenus)* was thirteen; the names of which he ſets down according to their order of ſucceſſion, from acute * to grave, as in the

* There appears ſomewhat awkward in reckoning intervals ἐπὶ τὸ ὀξύ and ἐπὶ τὸ βαρύ, and it may have been a ſource of error with reſpect to the modes. Upon referring

Diagram which I ſhall add to this letter, and I ſhall aſſign the modern notes to the pitch of each reſpective ΜΕΣΗ, without giving any reaſon at preſent for ſo doing; and you will obſerve from this Diagram, that according to the Ariſtoxenian ſchool, the thirteen modes fell from the Hypermixolydian to the Hypodorian, (or Locrenſian mode, as it was ſometimes called), by thirteen hemitonic intervals. There muſt undoubtedly have been a corruption of the text of Euclid here, in which the Hypodorian is ſaid to have been the *acuteſt* of theſe modes, for that he begins to

ferring to the Diagram of the ſeven ſpecies, you will ſee that the Mixolydian ſpecies, contained between ὑπάτη ὑπατῶν and παραμέση, might be ſaid to be the acuteſt of the number, to a muſician who reckoned downward from παραμέση, which on the contrary would be ſaid to be the graveſt, by another who reckoned upwards from the ὑπάτη ὑπατῶν, and this was probably one occaſion of that inconſiſtency amongſt the artiſts or practical muſicians in this reſpect, which Ariſtoxenus complains of.

reckon

reckon them from the *acuteſt* is clear, by his calling the acuter mixolydian the ſecond mode; and Euclid cloſely adhered to the doctrine of Arixtoxenus in this treatiſe of Harmonic, though he was wholly guided by the ſtrict Pythagorean mathematical principles in his Section of the Canon; but what evidently points out the miſtake of the text is, that he ſays the *Hypermixolydian* mode was acuter by the ſyſtem of a diapaſôn than the *Hypodorian*. Ptolemy's reformation of the Græcian muſic reduced the Ariſtoxenian modes of pitch to ſeven, (for it will be ſeen that they were properly modes of pitch, or tune only), adapting them reſpectively to each mode of *diapaſôn*, that is, to each of the ſeven ſpecies of octaves; and theſe intervals of *pitch* are fixed and eſtabliſhed beyond diſpute, upon the authority of old Bacchius, who has determined them after the cleareſt manner, in his muſical intro-

duction, by queſtion and anſwer. I am uncertain whether I have not already obſerved to you, that the Ariſtoxenians to their mathematical principles, in which they were leſs accurate than the Pythagorean ſchool, added the judgment of the ear in their determinations concerning muſical ſounds, which the rigid Pythagoreans utterly diſdained.

I am, &c.

P. S. Before Ptolemy's reformation of the Græcian muſic, the number of the modes had been increaſed to fifteen, by the addition of two above the Hypermixolydian, theſe were called the Hyperæolian, whoſe Μ΄ΕΣΗ was in $F^{nat.}$; and the Hyperlydian, whoſe Μ΄ΕΣΗ was in $F^{ſharp}$; an addition which was made for no other reaſon, that appears, than for the ſake of uniformity,

uniformity, without uſe, namely, that they might have

5 grave modes from the Hypodorian to the Hypolydian, whoſe MESES were from E to G^{ſharp};

5 middle modes from the Dorian to the Lydian, whoſe MESES were from A to C^{ſharp}; and

5 acuter modes from the Hypodorian to the Hyperlydian, whoſe MESES were from D to F^{ſharp}.

See Ariſtides Quintilian. Book i.

DIAGRAM,

DIAGRAM, NO. VII.

XIII *Modes according to* ARISTOXENUS, *with the Pitch of the* M'ΕΣΗ *in each Mode, as corresponding to the modern Scale.*	XIII *Modes reduced to* VII *by* PTOLEMY, *with the Pitch of each respective* M'ΕΣΗ *as corresponding to the modern Scale.*	
1. E Hypermixolydian - - - - or	- Hyperphrygian - - -	E
2. D sharp Hyperionian - - or acuter 3. D Hyperdorian - - or graver	I. Mixolydian - - -	D
4. C sharp Lydian - - - - or acuter 5. C Æolian - - - - - or graver	II. Lydian - - - - -	C sharp
6. B nat. Phrygian - - - - or acuter 7. B flat Ionian - - - - - or graver	III. Phrygian - - - - -	B nat.
8. A Dorian - - - - - - - - -	IV. Dorian - - - - - -	A
9. G sharp Hypolydian - - - or acuter 10. G Hypoæolian - - - or graver	V. Hypolydian - - -	G sharp
11. F sharp Hypophrygian - - or acuter 12. F Hypoionian - - - or graver	VI. Hypophrygian - - -	F sharp
13. E Hypodorian - - - - - - -	VII. Hypodorian, or Locrenſian	E

LETTER XXVI.

THE ſixth branch of the ſubject of Harmonic was Mutation, or a change of the Melody, which was varied four ſeveral ways; there was a change of it by *genus*, by *ſyſtem*, by *mode*, and by *Melopœia*.

Mutation by genus, was when the melody paſſed from one genus to another, as from the Diatonic genus to the Chromatic or the Enharmonic, or vice versâ; this mutation was uſually made at the diazeuctic tone, and it was *always* moſt perfect when it could be done by one of the fixed ſounds, namely, by the graveſt or by the acuteſt note of a tetrachord, be-

cauſe

cauſe the interval from a moveable note in one genus to a moveable note in another, muſt of neceſſity be inconcinnous.

Mutation by Syſtem, was when the melody paſſed from the Conjoin'd into the Disjoin'd * Syſtem, or vice versâ.

Mutation by Tone, which is here ſynonymous to Mode, is when the ſong paſſes, for example, from the Dorian mode to the Phrygian, or from any one of the Ariſtoxenian modes to any other of them.

Notwithſtanding Euclid's expreſs mention of the number of theſe thirteen modes, that it ſhould yet be ſuppoſed he meant the ſpecies of octaves only, which muſt be limited to ſeven, as he had particularly

* Ptolemy rejects the leſſer Conjoin'd ſyſtem entirely, which, he ſays, was reckoned as diſtinct from the greater, merely for the ſake of adding a nominal ſpecies of mutation to the melody, beſides thoſe of genus and ſtyle; but that in reality, under the improved ſtate of the lyre, the Conjoin'd ſyſtem ſhould be conſidered only as a part of the Diſjoin'd.

cularly pointed out, is exceedingly aſtoniſhing; and that the error ſhould be continued not only for a few years, but, as it appears, for many centuries, is ſtill more ſo. The double doctrine of the modes, it is true, could never have been utterly unknown to the practical muſicians, but it never was *explained*, till a reformation of the Græcian muſic was begun by Ptolemy, who has evidently ſhewn, that one ſpecies of Modes (the thirteen Modes of Ariſtoxenus) were applied only to the pitch of tune at which the notes were ſet, whoſe *intervals* were fixed by the ſeven ſpecies of diapaſôn, called, in Euclid's Treatiſe, by the ſame names as the modes of Ariſtoxenus. Mutation from one mode to another, or by Tone, as our author obſerves, was made by the hemitonic intervals exiſting in the compaſs of an octave, that is, by the difference in point of tune between each mode; it follows,

lows, therefore, that mutations would ſometimes happen upon conſonant intervals, and ſometimes upon ſuch as were diſſonant, and that ſome of them would be more or leſs concinnous, and others more or leſs inconcinnous; for example, of inconcinnous intervals, the tritone is more inconcinnous than the tone; and of conſonant intervals, a pentechord is more agreeable than a tetrachord, for which reaſon, when a mutation could be made from the MΈΣΗ of one mode to the MΈΣΗ of another, by an interval of ſeven hemitones, that is, by a fifth, as from the Lydian to the Hypolydian mode, from C^ſharp to G^ſharp, the mutation would be moſt agreeable; but as in a change of modulation from one genus to another, ſo in the tranſition from one mode to another by a moveable note, it muſt neceſſarily be more or leſs inconcinnous.

We

We learn, from the viii^th^ chapter of Ptolemy's 2d book, if I rightly underſtand him, that there were two ſorts of mutation by mode, one of which carried the melody through the *whole ſyſtem*, with an acuter or a graver tenſion only, preſerving a *uniform* regard to the alteration of the pitch; and as this was conducted without any other variety, it could ſcarcely produce the idea of a change; whereas the other ſort of mutation was that, in which there was a change of the pitch of tune in part only, from the height at which it ſet off, to which it returned again occaſionally, and deviated from again in the courſe of the performance, ſo as to produce the moſt ſtriking varieties, conſiſtent with the ἦθος or πάθος intended by the compoſer.

Now every mutation required that there ſhould be ſomewhat common in the melody from which the change was made, and in that to which the movement was

tranſ-

transferred, that is, that there ſhould either be a common note, a common ſyſtem, or a common interval, ſo that a ſpiſs interval * in one mode, for inſtance, might be conſidered as an uncompounded interval belonging to the other, and the more of ſuch like coincidences exiſted between the two modes; the mutation or modulating from one into the other, was more concinnous and pleaſing to the ear in proportion.

With reſpect to ſimilar ſounds, which are here mentioned by Euclid in a very ſlight manner, by means of which a concinnous mutation might be effected, he is to be underſtood, I apprehend, of ſuch

* A Spiſs interval, you will recollect, is a compound interval between the firſt and third notes of a tetrachord, which is leſs than the completive interval of the tetrachord in which the ſpiſs is taken, and conſequently could have place only in the Chromatic and Enharmonic genera, and was equal to the interval of a whole tone in the former, and in the latter only to a hemitone.

notes

notes or intervals, or ſyſtems, as were common to different modes of pitch, tho' diſtinguiſhed by different names, as, for inſtance, G[ſharp], the ΜΕΣΗ of the Hypolydian mode, was the ſame note with the ὑπάτη μέσων of the Lydian; when, therefore, a mutation was made from ὑπάτη μέσων of the Lydian, to the ΜΕΣΗ of the Hypolydian, there was actually no ſkip at all, but the ſame note being conſidered in different relations, formed a connection between theſe modes, and the the effect was the ſame as if there had been in reality a ſkip of five hemitones, which is the muſical diſtance between the two MESES, ſo that the melody might be carried on, as the compoſer or the practical muſician thought proper from thence, in either mode. In mutations from one genus to another, a hemitone might anſwer the ſame purpoſe as a *ſimilar* interval, foraſmuch as it might be con-

ſidered as a ſpiſs interval of the Enharmonic genus, or as an uncompounded interval of the Diatonic or Chromatic; and in like manner the Tone was a ſpiſs interval of the Chromatic, which in the Diatonic was an uncompounded ſimple interval, equal to two hemitones.

I am, &c.

LETTER

LETTER XXVII.

MUTATION by Melopœïa is all that remains to be conſidered upon this diviſion of the ſubject. Now this is a change either from the animating ſtyle which raiſes and exalts the ſoul, to the contracting which lowers and brings it down to a ſtate of quietude and repoſe *; or again a change from that which keeps the ſoul inactive and ſuſpended, to ſuch as rouſe it into action. The lofty animating ſtyle excites to deeds heroic, it expreſſes manly ſtrength and courage, and the like

* Εκ διαςαλτικῆ ἠθῆς εἰς συςαλτικὸν ἢ ἡσυχαςικον, ἢ ἐξ ἡσυχαςικῆ εἴς τι τῶν λοιπῶν.

affections of the heart: this, therefore, with what reſembles it in character, properly belongs to Tragedy. The contracting ſtyle is that which draws the mind to lowlineſs of ſpirit, and even melts it down to female ſoftneſs: this accords with the complaints of lovers, or with lamentation, pity, and *diſtreſs of heart*, from whatever cauſe it may ariſe. We may laſtly add, the placid ſtyle of melody, which calms and pacifies the mind, without leaving it in a ſtate of indolence, and induces that ſerenity of peace and joy, diveſted of the turbulence of paſſion, which may be called the ſunſhine of the boſom; it is in perfect concord with our ſacred hymns and pæans; with the praiſe of heroes; with the ſolemnity of legal councils; or with other moral and related ſubjects.

Melopœïa, or the application of Harmonic, being thus in general pointed out, we might naturally have expected our author

thor would have proceeded to lay down Principles at leaſt, if not particular rules for muſical compoſition, or how that ſpecies of melody might be compoſed, which ſuits the different ſtyles above enumerated; but nothing of that ſort is added, and the other Greek writers have left us only obſervations upon Rythmus, from whence to form a judgment of the powers of their melody: Euclid cloſes this treatiſe by telling us, that the ends of it were to be attained, by the Ἀγωγὴ, Πλοκὴ, Πετϑεια, and Τονὴ, terms which I ſhall juſt explain, and leave them with you to make the moſt of, in applying them to form an eſtimate of the merits of the Antique Muſic.

Ἀγωγὴ, as interpreted by Ariſtides, means nothing more than modulation in general, by a juxta poſition of notes aſcending and deſcending, which Euclid calls the *path* of the melody.

Πλοκὴ meant a mixture, or the interweaving of aſcending and deſcending,

that is, of graver and acuter notes, and a variety of intervals.

Πεττεία means a repetition of the ſame note in immediate ſucceſſion. And

Τονὴ, a holding any particular note with the voice or inſtrument, ſo as to extend its legal time beyond the uſual relative length of it reſpecting others.

A plain muſical table which pointed out the power of each note, was very properly called a Diagram, as letters, or ſome parts of them, were characters of the notes in each reſpective genus, of which Alypius has given us a compleat catalogue, from whence it appears, that the art of practical melody muſt have been an intolerable burthen upon the memory, as the number of them in the ſeven modes of the Diatonic genus only, was not leſs than two hundred and fifty.

By the power of a note, was meant the relation in which it ſtood to the middle ſtring, or Μ'ΕΣΗ, of the lyre, which origi-

originally in the Dorian mode, the moſt antient and favourite mode of the Greeks, was tuned at ſuch a pitch, that it appears to have been in uniſon with A of the modern ſcale; and as all the other ſtrings of the lyre were tuned upwards and downwards, with reſpect to the middle ſtring, whenever this was tuned at a different pitch from A, which was the caſe in every mode except the Dorian, the pitch of all the other ſtrings was changed of courſe, which gave them different ſounds, though they ſtill retained their original names as taken from the ſeveral tetrachords in which they were placed; thus, for inſtance, the ΜΕΣΗ or middle ſtring of the lyre, which, in the Dorian mode of tuning, ſounded A, gave the ſound of παραμέση, or B in the Phrygian mode, the pitch of whoſe ΜΕΣΗ was a note higher, and the ſound of παρυπάτη μέσων, or F[ſharp] in the Hypophrygian mode, the pitch

of whoſe ΜΕΣΗ was three hemitones lower. This occaſioned the diſtinction of a note in power and a note in poſition, which, as I conceive, hath been another fruitful ſource of error.

Having now gone through the whole of Euclid's Introduction to Harmonic, upon which I have made ſuch obſervations by the way, as, I preſume, may have rendered the underſtanding of it not quite ſo difficult to you, as it muſt otherwiſe have been, I find myſelf diſpoſed to ſtop awhile; if I ſhould afterward attempt a farther explanation of the Greek Modes, I will endeavour to be as clear as poſſible, though I may not be fully ſatisfactory. I am well aware of the intricacy of the ſubject, but think there is a clue in Ptolemy to conduct us, from whom I have already taken hints; and to prevent miſtaking his intention, I ſhall avail myſelf of our friend Mr. S——s muſical know-

ledge

ledge, with a Treatiſe of Sir Francis Haſkins Eyles Stiles, Bart. F.R.S. which is ſuppoſed to have thrown more light upon the work of this great muſical Reformer, than the comments of the learned Dr. Wallis, or than any other treatiſe that hath hitherto been publiſhed.

I am, &c.

A FA-

A

FAMILIAR EXPLANATION

OF THE

GREEK MUSICAL MODES,

IN

A SERIES OF LETTERS.

TO

THE LEARNED AND INGENIOUS

HENRY HARINGTON, M.D.

SENIOR PHYSICIAN TO THE GENERAL

HOSPITAL IN BATH,

NOT LESS DISTINGUISHED FOR HIS TALENTS

AS A POET AND MUSICIAN,

THAN FOR HIS HUMANITY AND SKILL IN

THE PRACTICE OF HIS PROFESSION,

THE FOLLOWING ACCOUNT OF

THE GREEK MUSICAL MODES

IS GRATEFULLY INSCRIBED,

BY HIS AFFECTIONATE

AND MUCH OBLIGED

HUMBLE SERVANT,

BATH,
Aug. 18, 1787.

C. DAVY.

LETTER XXVIII.

DEAR CHARLES,

THE doctrine of the Greek Modes was *originally* treated ſo inaccurately, as appears from the complaints of Ariſtoxenus*, one of their beſt Harmonic writers, and ſo much indiſtinctneſs hath been thrown over the ſubject ſince his time by clouds of commentaries, that many of our profeſſed ſcholars have employed themſelves in vain to develope its obſcurity; and the Modes were given up by the moſt ingenious modern writers as utterly inexplicable, till the late Sir Francis Stiles, Bart. who was eminent for

* See his 2d Book of Muſical Elements.

his

his ſkill in the practice as well as the ſcience of Muſic, undertook to explain the doctrine of Ptolemy concerning them: This accurate and learned writer, in a Diſſertation read before the Royal Society, is ſaid to have cleared up every thing relating to Ptolemy's reformation of the Modes from Ptolemy's own book, and thereby enabled us to form a better judgment concerning the real powers of the antient Muſic, which, we are told, depended in a great meaſure upon their uſe and application.

I have therefore given this much-commended Treatiſe, not a curſory peruſal only, but attended cloſely to the obſervations made in it reſpecting the analogy of modern Muſic, with that of the Antients; and ſhall *endeavour* to place the ſubject in ſuch a point of light, as may give you at leaſt a clear idea of it in general, as well as I am able; ſhould you

be

be desirous of entering more fully into its discussion, I shall refer you to the learned and judicious Dr. Wallis's edition of Ptolemy's Harmonics, and to the Treatise itself, which is explanatory of this extraordinary work, so far as it relates to the subject of the Modes.

But before I engage in the undertaking, it may not be improper to remind you of what hath been observed already, in my Letters upon Euclid's Introduction to Harmonic, that there must have been a double doctrine of these Modes, which I think is clear, from his definition of Mutation by Tone, at the beginning of the Essay, in the very words of Bacchius, viz. *That it is a transposal of somewhat similar into a dissimilar place*; from his calling the seven species of diapasôn by the same names as the Modes of Aristoxenus; and informing us that the Aristoxenian modes differed from each other

by

by the interval of a hemitone, which is implied in what he adds concerning Mutations; γίνονται δὲ αἱ μεταβολαὶ ἀπὸ τῆς ἡμιτονίας ἀρξάμεναι, μέχρι τῶ διαπασῶν. Theſe are leading obſervations to an explanation of the Modes as Modes of Tune only, (which they may properly be called) and eſtabliſhing a connection between them and the ſpecies of octaves, diſtinguiſhed by the ſame names in the other Harmonic writers as well as Euclid, tho' they are not called either τόνοι or τρόποι. Upon reference to Diagram vii. page 396, in which I have given you the xiii Ariſtoxenian Modes as deſcribed by Euclid, and corrreſponding with the ſeven ſpecies of diapaſôn, it will appear that the thirteen Ariſtoxenian Modes were encreaſed to this number by a diviſion of the Mixolydian, the Lydian, the Phrygian, the Hypolydian, and Hypophrygian, each into a graver and an acuter Mode, with diſtinct

names

names appropriated to theſe reſpective diviſions, and by adding a replicate of the Hypodorian, which was called the Hypermixolydian or Hyperphrygian, to compleat the octave. It was within this compaſs that Ariſtoxenus and his followers confined their Modes of pitch or tune, till two other Modes were added afterward, merely for the ſake of uniformity, as, I think, hath been already mentioned.

When Ptolemy undertook to reform the Græcian Muſic, he very properly lopped off theſe redundancies, for reaſons which appear ſufficiently evident from the very conſtitution of Melody, as a natural ſyſtem of harmonious notes, with certain fixed determined intervals: and I muſt own I cannot comprehend why this great writer ſhould appear to have been ſo much embarraſſed about it as he ſeems to be. I ſhall therefore conſider the antient Muſic as having only ſeven Modes of

Tune anſwering to the ſeven Modes of Diapaſôn: which twofold diviſion of the *general* doctrine of the Modes, from its not having been *duly* attended to, hath occaſioned much of the confuſion, if not almoſt the whole, with which it hath been perplexed: This was a circumſtance ſo familiar to the Antients, that probably they thought it not worth an explanation, as what indeed it was next to an impoſſibility that any perſon amongſt them could miſtake; but after the affair of the Modes came to be conſidered, on account of their ſuppoſed great power over the paſſions and affections, (which was exaggerated beyond meaſure) as ſomething highly extraordinary; ſomewhat not leſs extraordinary was looked upon, perhaps, as neceſſary to account for effects ſo exceedingly myſterious: Ptolemy was the firſt amongſt the Antients who condeſcended to explain the ſubject, to

correct

correct what was amiſs both in Theory and Practice; and our ingenious Baronet was, probably, the firſt who had a perfect underſtanding of his explanation, for I think the learned Savilian Profeſſor had not a clear idea of his reaſoning, though the obſervations in his admirable edition of that writer's three Books of Harmonics, threw a light upon it, which led Sir Francis to his author's preciſe meaning.

I am, &c.

LETTER XXIX.

THE Lyre, (as hath been above-mentioned), is ſuppoſed originally to have conſiſted of no more than four ſtrings with a hemitonic interval between the graveſt and its ſecond note aſcending, and that it was next enlarged to a heptachord, to which Pythagoras is reported to have added another ſtring below the deepeſt, thus compleating an octave; but the Modes, till its farther enlargement, muſt have depended for their effect upon the ſpecies of the leſſer conſonances only, namely, thoſe of the fourth and fifth; for it could have had no more than one ſpecies of diapaſon. I have followed here the commonly received opinion

nion concerning the completion of the octochord lyre, without entering into the matter particularly, upon which ſubject, if you are diſpoſed to ſearch farther, you may find ſufficient exerciſe for your curioſity, in the fifth diviſion of the firſt book of the Manual of Harmonics, by Nichomachus, in which part of his work it muſt be owned, that the narration is too much perplexed to be either very entertaining or ſatisfactory, at leaſt it is not ſo to myſelf. How long the lyre continued to have no more than eight ſtrings, it is of as little importance to enquire, nor is it eaſy to be determined: improvements, doubtleſs, muſt have advanced very faſt from this addition to their number, towards the eſtabliſhment of the greater perfect Syſtem, extending to a diſdiapaſôn, when it conſiſted of fifteen ſtrings, tuned (reſpecting intervals) as in the natural Guidonian ſcale from A-re up

to double a, of which I have already given the antient names, from Euclid's Treatiſe on Harmonic, with the order in which they were placed, as will be clear from the Diagram, No. 11.

By this enlargement of its compaſs, the Lyre had now as many ſpecies of octaves, as were equal to the ſpecies of leſſer conſonances taken together, namely, ſeven; upon which account, this ſyſtem was, probably, denominated perfect; but although our notes A, B, C, D, &c. aptly expreſs the *intervals* at which the ſtrings of the lyre were tuned in the Diatonic or natural genus, to which this explication of the modes is limited, yet ſuch a determination of the order of their intervals, by no means determines their pitch of Tune, which was different in each Mode. For a particular account of the ſpecies or modes of diapaſôn, (for they were ſpoken of and conſidered as Modes, though

though not abſolutely called ſo, as I have hinted), I refer you to the Diagram already given, in the Letters upon Euclid's Treatiſe of Harmonic, in which you will likewiſe find, a Diagram of the three ſpecies of Diateſſarôn and the four ſpecies of Diapente. I ſhall ſimply, therefore, here write down the order of intervals in each mode of diapaſôn, beginning with the Mixolydian, the graveſt of the ſpecies, and aſcending to the Hypodorian, which was the acuteſt; though it appears to me, the Harmonic writers, Euclid, Bacchius, and Gaudentius, having reckoned the Hypodorian, which, by their own allowance, was the acuteſt of the ſeven ſpecies of octaves, as the ſeventh Mode inſtead of the firſt, have occaſioned ſome confuſion in the general doctrine, and it is purely in compliance with their manner that I have done it here, in oppoſition to my own conviction of its impropriety.

I am, dear C. &c.

 P. S. *The*

P. S. *The eſtabliſhed Order of Intervals in the Seven Modes of* DIAPASÔN, *beginning from the graveſt Mode, the Mixolydian.*

I. Mixolydian, from ὑπάτη ὑπατῶν to παραμέση — as from B to b.
hemitone, tone, tone, hemitone, tone, tone, tone

II. Lydian, from παρυπάτη ὑπατῶν, to τρίτη διεζευγμένων — as from C to c.
tone, tone, hemitone, tone, tone, tone, hemitone

III. Phrygian, from λιχανὸς ὑπατῶν to παραν. διεζευγμένων — as from D to d.
tone, hemitone, tone, tone, tone, hemitone, tone

IV. Dorian, from ὑπάτη μέσων to νήτη διεζευγμένων — as from E to e.
hemitone, tone, tone, tone, hemitone, tone, tone

V. Hypolydian, from παρυπάτη μέσων to τρίτη ὑπερβολάιων — as from F to f.
tone, tone, tone, hemitone, tone, tone, hemitone

VI. Hypophrygian, from λιχανὸς μέσων to παραν. ὑπερβολάιων — as from G to g.
tone, tone, hemitone, tone, tone, hemitone, tone

VII. Hypodorian, from ΜΕΣΗ to νήτη ὑπερβολάιων — as from A to aa.
tone, hemitone, tone, tone, hemitone, tone, tone
or from προσλαμβανόμενος to ΜΕΣΗ, from A to a.

LETTER XXX.

FROM the order of Intervals as I have given it to you in the Poſtſcript of my laſt letter, as likewiſe from the Diagram, No. VI. you will hardly want to to be informed that the addition of an eighth ſtring to the Lyre by Pythagoras, could not be ſaid to have enriched the inſtrument beyond the ſpecies of the two minor ſyſtems, thoſe of the fourth and fifth, till an addition was made to the compaſs of it by a third tetrachord, for till then it could only have had one ſpecies of diapaſôn; ſecondly, that the Lydian was the only ſpecies or mode of

of diapaſôn, after its entire completion by a double octave, in which the hemitonic intervals fell in their natural ſituations, that is to ſay, between the third and fourth notes aſcending, and between the ſeventh and eighth; a mode which, nevertheleſs, was not ſo pleaſing to the Greeks as the Dorian, owing to the prejudice of cuſtom, as many writers have ſuppoſed, but rather, as I ſhould think, to the Dorian mode having an equal diſtribution of the acuter and the graver notes above and below the ΜΕΣΗ, or middle ſtring of the lyre, which in this mode alone was the middle ſtring in ſound as well as in poſition, having ſeven ſtrings appropriated to the graver notes down to the προσλαμβανόμενος, and ſeven to the acuter up to νήτη ὑπερβολαίων; for as to the hemitones being in their natural order or otherwiſe, it was not regarded by the Mathematical Muſicians, who were bigotted

gotted to their favourite ſcience, and provided there was art and demonſtration enough, with reſpect to multiples and ſuperparticulars, it ſeems to have ſet every thing right with this artificial people.—Concerning theſe modes of Diapaſôn, there does not appear to have been any diſagreement in the accounts of the Greek writers, either as to the number or the names of them (though ſome muſicians began to reckon them from the graveſt, and others, as we learn from Ariſtoxenus, from the acuteſt note) and the effect of the antient muſic, ſo far as melody alone is concerned, muſt principally have been owing to theſe ſeveral ſpecies: as a proof of this, from authority, Ariſtides Quintilian concludes his account of Syſtems, under which head he has conſidered the Modes, with obſerving, that the Antients ſpoke of the *ſeven ſpecies of Diapaſôn as governing the character of the Melody*, by which they

ſwayed

ſwayed the affections and manners; tho' he afterwards acknowledges, that Melody, Rythmus, and Ode, were required to the perfection of Muſic.

Having thus far conſidered the Doctrine of the Modes of Diapaſôn or Octave, let us next enquire into that which reſpects the Modes of Tune: I have ſhown you in a former Letter, to which it is not in my memory to refer, that the number of theſe Modes, according to the Ariſtoxenians, was thirteen, and that they were afterward increaſed to fifteen; but as they were properly reduced by Ptolemy to an equal number with the Modes of Diapaſôn or the Species of Octaves, I ſhall conſider them only after their reduction, as ſtrictly connected with theſe ſeven Modes; and their great uſe to determine at what pitch or height of tune the notes in each Mode of diapaſôn were to be ſet, which might be applied by the compoſer or the practical

practical muſician, (who were generally united in the perſon of the poet) according to the nature of his ſubject, as it was occaſionally proper to paſs from the grand to the humble; from the placid and compoſed, to the impaſſioned; or to the light and the convivial ſtyle, and the contrary. Ὅταν ἐκ ταπεινοῦ εἰς μεγαλοπρεπὲς, ἢ ἐξ ἡσύχε καὶ σύννε εἰς παρακεκινηκὸς μεταβολὴ γένηται.*

The names of theſe ſeven Modes of Tune or Pitch, in their order, are as follow; beginning with the Mixolydian, which, as we learn from Bacchius, (of whoſe meaning there can be no ſort of doubt,) was the acuteſt of them:

The 1ſt. The Mixolydian.
2d. The Lydian.
3d. The Phrygian.
4th. The Dorian.
5th. The Hypolydian.

* Bacchius περὶ μεταβολῆς κατὰ ἦθος.

6th. The Hypophrygian. And

7th. The Hypodorian.

As the *Mixolydian* was the acuteſt of theſe Modes, (whoſe order of ſucceſſion was contrary to the order of the Modes of Diapaſôn) ſo we learn from the ſame author, that

The *Lydian* was graver than the Mixolydian by the interval of a hemitone. That

The *Phrygian* was graver than the Lydian by a tone. That

The *Dorian* was graver than the *Phrygian* by a tone. That

The *Hypolydian* was graver than the Dorian by a hemitone only. That

The *Hypophrygian* was graver than the Hypolydian by a tone. And, laſtly, That

The *Hypodorian* Mode of Tune was graver than the Hypophrygian by a tone.

Now the pitch of theſe modes with reſpect to each other being relatively ſettled,

First general Table shewing the Pitch at which the XV Strings of the Lyre were to be tuned in each of the VII Modes according to the modern Scale

Number, Names & order of the Notes	Mixo lydian 1	Lydian 2	Phrygian 3	Dorian 4	Hypo lydian 5	Hypo phrygian 6	Hypo dorian
ΝΗΤΗ ΥΠΕΡΒΟΛ.	a 15	a	a	a	a#	a	a
ΠΑΡΑΝΗΤΗ ΥΠΕΡΒΟΛ.	g 14	g#	g	g	g#	g#	g
ΤΡΙΤΗ ΥΠΕΡΒΟΛ.	f 13	f#	f#	f	f#	f#	f
ΝΗΤΗ ΔΙΕΖΕΥΓ.	e 12	e	e	e	e	e	e
ΠΑΡΑΝΗΤΗ ΔΙΕΖΕΥΓ.	(D) 11	d#	d	d	d#	d	d
ΤΡΙΤΗ ΔΙΕΖΕΥΓ.	c 10	(C#)	c#	c	c#	c#	c
ΠΑΡΑΜΕΣΗ	b♭ 9	b	(B)	b	b	b	b
(ΜΕΣΗ.)	a 8	a	a	(A)	a#	a	a
ΛΙΧΑΝΟΣ ΜΕΣΩΝ.	g 7	g#	g	g	(G#)	g#	g
ΠΑΡΥΠΑΤΗ ΜΕΣΩΝ.	f 6	f#	f#	f	f#	(F#)	f
ΥΠΑΤΗ ΜΕΣΩΝ.	e 5	e	e	e	e	e	(E)
ΛΙΧΑΝΟΣ ΥΠΑΤΩΝ.	d 4	d#	d	d	d#	d	d
ΠΑΡΥΠΑΤΗ ΥΠΑΤΩΝ	c 3	c#	c#	c	c#	c#	c
ΥΠΑΤΗ ΥΠΑΤΩΝ.	b♭ 2	b	b	b	b	b	b
ΠΡΟΣΛΑΜΒ ΑΝΟΜΕΝΟΣ	A 1	A	A	A	A#	A	A

Note the ΜΕΣΗ of each Mode is distinguish'd by capital Letter placed in a Circle.

tled, it follows, that if the abſolute pitch of any one of them can be determined, the pitch of all the reſt muſt be determined likewiſe.

It will appear, from a Diagram annexed to one of my former Letters compared with a ſcheme in the Poſtcript of my laſt, that the order of Intervals in the major or disjoin'd Syſtem of the Antients, exactly correſponds with the order of intervals in our modern ſcale, beginning with A-re from thence aſcending through a double octave; and as the pitch of the Guidonian or modern ſcale, may be preſumed to have correſponded with the pitch of the moſt antient mode of diapaſôn, which was the Dorian Mode, we may reaſonably infer, that our A-la-mi-re anſwered to the pitch of the ΜΕΣΗ in this Mode; but it may be added in confirmation of this inference, that the manner in which the pitch of the loweſt and of the

higheſt

higheſt note in the Syſtem of a Diſdiapaſôn were ſaid to have been obtained, may be brought to ſupport the conjecture here made, without relying upon the authority of Guido only; now this we learn was by conſidering the compaſs of a ſingle voice, neither remarkably deep, nor remarkably acute, ſuch as what we ſhould call a good tenor. This was found to be included within fifteen natural notes, the loweſt of which ſounding clear without grating, was fixed upon for that of προσλαμβανόμενος, and the higheſt ſounding clear without ſcreaming, for that of νήτη ὑπερβολαίων, but very few good tenor voices, I believe, are capable of riſing higher in the ſcale than an eighth above A-la-mi-re, that is, above a a, and of deſcending likewiſe more than an eighth below it, that is, of deſcending below A-re, though many can aſcend above it without being capable of going down

ſo

ſo low, whilſt ſome others which can go below this note, are incapable of reaching the higheſt note a a; this appearing, therefore, to be the perfection of a good voice, fixed the pitch of the Dorian MΈΣΗ upon a, as we tune it in the modern or Guidonian ſcale, which note was an eighth *above* the graveſt note, or that which is ſuppoſed to have been added by Pythagoras, and the eighth *below* the acuteſt note of the antient ſcale; and this of courſe muſt have been the only Mode which was capable of being modulated entire through both octaves of the Major Syſtem, by the ſame voice:—Ὁ μὲν ἓν Δώριος σύμπας μελωδεῖται διὰ τὸ μέχρι τῶν ιβ τόνων, τὴν φωνὴν ἡμῖν ὑπηρετεῖσθαι, καὶ διὰ τὸ μέσον αυτῆ [φθόγγον] τον προσλαμβανόμενον τε διαπασῶν εἶναι ὑποδωρίε.—Ariſt. Quintilian. Book i. of the Modes.

We learn accordingly, that the Antients generally ſet their Odes either to the Dorian, the Phrygian, or the Lydian Mode,

the former of which was beſt adapted to the powers of the graver voices; the Lydian to the acuter; and the Phrygian to the powers of ſuch voices as were between both, or, as we might ſay, the Dorian, the Lydian, and the Phrygian Modes were beſt ſuited to the tenor, the treble, and the counter tenor voices reſpectively; and that the other Modes were applied chiefly to ſuch melodies as were intended by the compoſer for inſtrumental muſic only:—Ὁ μὲν Δώριος πρὸς τα βαρύτερα τῆς φωνῆς ἐνεργήματα χρήσιμος, ὁ δὲ Λύδιος πρὸς τὰ ὀξύτερα, ὁ δὲ Ψρύγιος πρὸς τὰ μέσα, οἱ δὲ λοιποὶ μᾶλλον ἐν ταῖς ὀργανικαῖς θεωρῆνται.—Ariſtides. b. i. It is affirmed, if I remember, juſtly, by Plutarch, in his Dialogue on Muſic, (for I have not this work at preſent by me to conſult) that when ſinging in the Dorian Mode, the Antients *never* deſcended below ὑπάτη μέσων, the pitch of which note in the Dorian Mode, correſponded with E of the modern ſcale, and its ΜΕΣΗ muſt

muſt of courſe anſwer to our A-la-mi-re, as will appear by conſulting the firſt and ſecond general tables; their not deſcending below ὑπάτη μέσων, or E, according to this author, was for the ſake of preſerving the ἦθος; and moſt undoubtedly as the notes from E to e were both the fulleſt and the ſweeteſt upon the Lyre, they were beſt adapted to command the manners and affections, though I can hardly be perſuaded, that the limitation of the melody was ſo ſtrict as never to allow of an occaſional deſcent below this note, whilſt the Dorian Mode of Tune allowed of the muſician's paſſing through the Major Syſtem of a double octave from the aſſumed Pythagorean note, up to νήτη ὑπερβολαίων. Plutarch's obſervation notwithſtanding ſtrengthens the opinion concerning the connection here ſuppoſed between the ſeven Modes of Diapaſôn, and the ſeven Modes of Tune.

I am, &c.

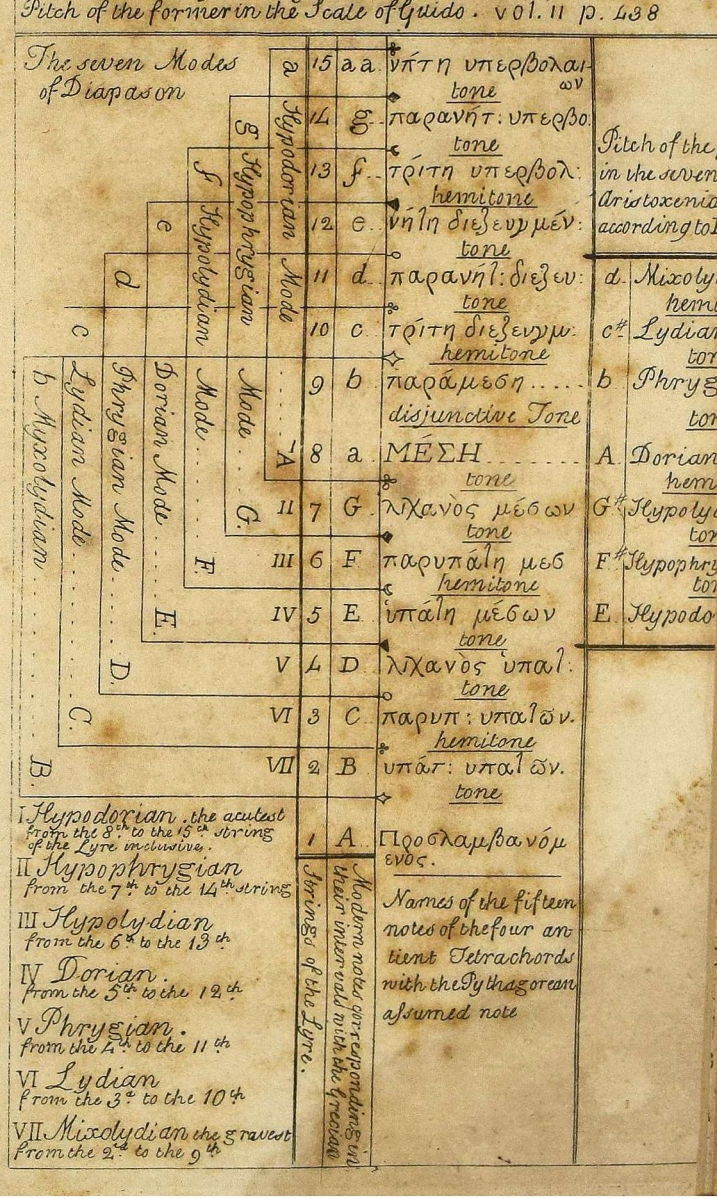
LETTER XXXI.

IF the pitch of the Dorian Μ΄ΕΣΗ corresponded with A-la-mi-re in the ſcale of Guido, there can be no doubt concerning the pitch of every other Μ΄ΕΣΗ; which will be found to ſtand in relation to this, at the following intervals as they are preciſely fixed by Bacchius:

I. The Mixolydian Μ΄ΕΣΗ in - d
II. The Lydian in - - - - - c^ſharp
III. The Phrygian in - - - - - b
IV. The Dorian in - - - - - - a
V. The Hypolydian in - - - G^ſharp
VI. The Hypophrygian in - - - F^ſharp
and The Hypodorian, the VIIth, in E

Having

Second General Table exhibiting the seven Modes of Di
with the order of their Intervals and the seven Aristoxeni
Modes allow'd by Ptolemy which answer'd to them. determinin
Pitch of the former in the Scale of Guido. vol. II p. 438



Having next taken the pitch of the * Mixolydian ΜΕΣΗ, which is a fourth above the ΜΕΣΗ of the Dorian, it will come out d, or five hemitones acuter than the Dorian Mode at a.

From a deſcend a tetrachord to E for the ΜΕΣΗ of the Hypodorian.

Then riſe a fifth, or ſeven hemitones, to b, for the ΜΕΣΗ of the Phrygian.

From b fall a fourth to F^{ſharp} for that of the Hypophrygian.

From F^{ſharp} riſe a fifth to c^{ſharp} for the ΜΕΣΗ of the Lydian.

Again from c^{ſharp} fall a fourth to G^{ſharp} for the ΜΕΣΗ of the Hypolydian; and we

* If you aſk me why this Mode was called the Mixolydian rather than the Hyperlydian, I can give no other reaſon for the appellation, than its not exceeding the Lydian by a whole tone, as the other Modes do thoſe to which each of them is ſuperior (except the Dorian or the middle Mode) and that it was ſuppoſed on this account to partake in the genius and character of the Lydian. If my conjecture is right, it makes ſtrongly in favour of the reduction of the thirteen Modes to ſeven.

ſhall

ſhall thus have the preciſe pitch of every ΜΕΣΗ in the ſeven Modes of Tune, the acuteſt of which correſponded with παρανήτη διεζευγμένων, and the graveſt with the ὑπάτη μέσων in the Modes of Diapaſôn, agreeably to their reſpective intervals as fixed by old Bacchius, in his Introduction to the Art of Muſic, whoſe account I ſhall give you in his own words, as he expreſſes himſelf ſo plainly on the ſubject, that his meaning cannot poſſibly be controverted.

Οἱ τὰς τρεῖς τρόπους ἄδοντες, τίνας ἄδουσι;

Λύδιον, Φρύγιον, Δώριον.—

Οἱ δὲ τὰς ἑπτὰ, τίνας;

Μιξολύδιον, Λύδιον, Φρύγιον, Δώριον, Ὑπολύδιον, Ὑποφρύγιον, Ὑποδώριον.—

Τούτων ποῖος ἐστὶν ὀξύτερος;

Ὁ Μιξολύδιος.—

Τοῦτο δὲ ποῖος ἐχόμενος;

Ὁ Λύδιος.—

Πόσῳ βαρύτερος;

Ἡμιτο-

Ἡμιτονίῳ.—

Τῷ δὲ Λυδίϛ πῶιος βαρύτερος;

Ὁ Φρύγιος.—

Πόσῳ;

Τόνῳ. Τῷ δὲ Μιξολυδίϛ, τριημιτονίῳ.—

Τῷτϛ δὲ πῶιος βαρύτερος;

Ὁ Δώριος.—

Πόσῳ βαρύτερος;

Τόνῳ. Τῷ δὲ Λυδίϛ διτόνῳ, τῷ δὲ Μιξολυδίϛ διατεσσάρων.—

Τέτϛ δὲ πῶιος βαρύτερος;

Ὑπολύδιος.—

Πόσῳ;

Ἡμιτονίῳ. Τῷ δὲ Φρυγίϛ τριημιτονίῳ, τῷ δὲ Λυδίϛ διατεσσάρων, τϛ δὲ Μιξολυδίϛ τριτόνῳ.—

Τῷ δὲ Ὑπολυδίϛ πῶιος βαρύτερος;

Ὑποφρύγιος.—

Πόσῳ βαρύτερος;

Τόνῳ. Τῷ δὲ Δωρίϛ τριημιτονίῳ, τῷ δὲ Φρυγίϛ τῷ διατεσσάρων. Τῷ δὲ Λυδίϛ τῷ διαπέντε. Τῷ δὲ Μιξολυδίϛ τετρατόνῳ.—

Τῷ

Τῶ δὲ Ὑποφρύγιε ποῖος βαρύτερος;

Ὑποδώριος.—

Πόσῳ;

Τόνῳ. Τῶ δὲ Ὑπολυδίε διτόνῳ. Τῶ δὲ Δωρίε διατεσσάρων. Τῶ δὲ φρυγίε διαπέντε. Τῶ δὲ Λυδίε τετρατόνῳ καὶ ἡμιτονίῳ. Τῶ δὲ Μιξολυδίε πεντατόνῳ.—

Q. How are the Modes called by thoſe muſicians who allow of three only, or who ſing in no more than three Modes?

A. They are called by them the *Lydian*, *Phrygian*, and *Dorian*.

Q. By what names do other muſicians call the Modes, who modulate in ſeven?

A. By the names of the *Mixolydian*, the *Lydian*, the *Phrygian*, the *Dorian*, the *Hypolydian*, the *Hypophrygian*, and the *Hypodorian*.

Q. Which of theſe ſeven Modes is the acuteſt?

A. The *Mixolydian*.

Q. Which Mode is next to the Mixolydian,

lydian, deſcending in the ſcale from acute to grave?

A. The *Lydian*.

Q. By how much is the *Lydian* graver than the *Mixolydian*?

A. It is graver by a hemitone.

Q. Which is the next Mode, in reſpect of Gravity, to the *Lydian*?

A. The *Phrygian* is the next deſcending.

Q. By what interval is it graver than the *Lydian*?

A. It is graver than the *Lydian* by a Tone, and than the *Mixolydian* by a Trihemitone.

Q. What Mode is next in ſucceſſion?

A. The *Dorian*.

Q. By how much is the *Dorian* graver than the *Phrygian*?

A. It is graver than the *Phrygian* by a Tone, than the *Lydian* by a Ditone, and than the *Mixolydian* by a Diateſſarôn.

Q. What is the next Mode deſcending?

A. The *Hypolydian*.

Q. By what interval is it graver than the *Dorian*?

A. By a Hemitone, than the *Phrygian* by a Trihemitone, than the *Lydian* by a Diateſſarôn, and than the *Mixolydian* by a Tritone, or a Fourth and a Hemitone.

Q. What Mode is next in gravity to the *Hypolydian*?

A. The *Hypophrygian*.

Q. By what interval is it graver than the *Hypolydian*?

A. By the interval of a Tone; ſo that it is graver than the *Dorian* by a Trihemitone, than the *Phrygian* by a Diateſſarôn, than the *Lydian* by a Diapente; and by a Tetratone than the *Mixolydian*.

Q. It remains to name the graveſt of the ſeven Modes.

A. This is called the *Hypodorian*, for it is graver than the Hypophrygian by a Tone,

Tone, than the *Hypolydian* by a Ditone; than the *Dorian* by a Fourth, or by five Hemitones; than the *Phrygian* by a Fifth; than the *Lydian* by a Tetratone, together with a Hemitone, or by nine Hemitones; and than the *Mixolydian* by a Pentatone, or the interval of ten Hemitones.

I am, &c.

LETTER XXXI.

DEAR CHARLES,

I Think by this time you will clearly diſcern that the general Doctrine of the Græcian Modes muſt have depended upon a combination between the Modes of Diapaſôn and the Modes of Pitch or Tune, as they were joined in playing upon the lyre: It is neceſſary, therefore, in order to explain the manner of this combination, to ſhow in what order the MESES of the laſt ſeven Modes were ſituated upon it, with reſpect to the ſtrings which ſounded the MESES of the ſeven Modes of Diapaſôn.

The lyre, after its laſt enlargement, conſiſted, as you have ſeen, of fifteen ſtrings,

ſtrings, which took in the compaſs of a Diſdiapaſôn, or two Octaves; now theſe ſeveral *ſtrings* were called by the ſame names as the fifteen *notes* of the Syſtem, of which they produced the ſounds. When the inſtrument was tuned in the Dorian Mode of pitch, the ΜΈΣΗ or middle *note* of the Syſtem, fell upon the ΜΈΣΗ or middle *ſtring* of the lyre; which, by the way, is a preſumptive evidence, as hath been before obſerved, that an idea of the Syſtem was originally taken from the uſage of the practical muſicians upon the lyre in this Mode.

It will appear to you, from the firſt general table, upon which numerical ſtring of the lyre, counting from the προσλαμβανόμενος upwards, the ΜΈΣΗ or middle note of each Ariſtoxenian mode of tuning fell, for which we have the authority of Ptolemy, in the eleventh chapter of his ſecond book. This excellent author having

fixed

fixed the Mixolydian ΜΕΣΗ upon the eleventh ſtring,

The Lydian upon the tenth,

The Phrygian upon the ninth,

The Dorian upon the eighth,

The Hypolydian upon the ſeventh,

The Hypophrygian upon the ſixth, and

The Hypodorian upon the fifth:

but although the note ΜΕΣΗ or the middle *ſound* in the Dorian Mode of pitch fell upon the eighth, which was the middle ſtring of the inſtrument in every other Mode, you ſee, it fell upon a different ſtring, and all the notes of the Syſtem were required to be tranſpoſed accordingly; from whence the diſtinction neceſſarily aroſe between a Note in Power, and a Note in Poſition; for when the melody was tranſpoſed from the Dorian to any other Mode; ſuppoſe, for example, to the *Phrygian*, the middle ſtring of the lyre which ſounded A in the Dorian

Mode,

Mode, from which the change was made, though it ſtill preſerved its original name of ΜΕΣΗ, and held the ſame poſition with reſpect to the other ſtrings both above and below it, yet it now acquired the power of παραμέση, or the ſound of the note b, ſo that in Mutations by Modes, one or more of the ſtrings of the lyre always required a different tenſion or new tuning, to preſerve their due relation in the ſcale; but notwithſtanding the difference of notes which was produced by ſuch changes from one Mode to another, or, as we ſhould call them, the modulating into different keys, all the ſtrings, as I have ſaid, retained their original names, taken from the ſeveral tetrachords in which they were reſpectively ſituated: ſo that in the preſent inſtance, if I may repeat it, (for I find I have been horridly guilty of tautology upon the ſubject already) the 8th ſtring ſtill retained its name of ΜΕΣΗ, although it now produced the

ſound

ſound of παραμέση, which was a whole tone higher; and, by this change to the Phrygian Mode from the Dorian, a ſuperior or acuter note was ſounded by a lower ſtring in poſition, throughout the whole compaſs of the inſtrument; after the ſame manner, had the mutation or change been made from the Dorian to the Hypolydian Mode, the ΜΕΣΗ or numerical middle ſtring of the lyre inſtead of A, would have given the note of λιχανὸς μέσων the ſeventh ſtring, whoſe ſound was graver by a hemitone; in other words, it would have been remitted down to G^ſharp, and every ſtring of the lyre would have been remitted with it according to the adjoined ſcheme.

Ptolemy, who grounded his reduction of the Ariſtoxenian Modes to ſeven, upon this connection with the ſeven Modes of Diapaſôn hath given a ſeparate ſcale of the powers of every ſtring in the ſeveral Modes of pitch; and though, I preſume, that

that nothing more is requiſite to render the double doctrine of the Modes ſufficiently clear, than a compariſon of the two general Tables together, at page 432 and page 438, though I may, perhaps, if I have leiſure, add, the ſeparate Ptolemaic Tables for each Mode, to eſtabliſh the authenticity of theſe two, upon the authority of that admirable writer.

I am,

Dear C. &c.

LETTER XXXIII.

DEAR CHARLES,

THE ſeven ſucceeding Tables are taken from the xith chapter of Ptolemy's ſecond book of Harmonics, in which he hath ſhown the impropriety of eight out of the fifteen Ariſtoxenian Modes, from theſe you will obſerve, that, after fixing the pitch of the Μ'ΕΣΗ according to any one of the ſeven allowed Modes of Tune, to the Μ'ΕΣΗ of any Mode of Diapaſôn, the ſeveral ſtrings of the lyre both above and below this note, were to be tuned after ſuch a manner in the Diatonic genus, that the firſt interval in each of the four tetrachords (agreeably to an eſtabliſhed Principle

Principle of the Greek Muſic) might always be that of a hemitone; and that the other ſtrings were to be ſo tuned that every tetrachord ſhould conſiſt of its legitimate number of hemitones, (namely, five,) in the order of a hemitone, a tone and a tone, from the graveſt ſound to the acuteſt; as likewiſe that the interval between Μ΄ΕΣΗ and παραμέση, (which was the ſituation of the disjunctive interval) ſhould be always that of a whole tone; an attention to theſe Principles, therefore, always cauſed ſome notes in the ſcale to be occaſionally flattened, and others ſharpened, in every different Mode of Pitch, except the Dorian, in which Mode alone, the intervals of the ſeveral notes coincided with the intervals in the Modes of Diapaſôn, throughout the Major Syſtem of the lyre.

Theſe obſervations will enable you to account for προσλαμβανόμενος and Μ΄ΕΣΗ,

the firſt and eighth ſtring of the lyre, anſwering to A^sharp inſtead of A^nat. in the Hypolydian Mode of Tune, namely, becauſe the firſt and ſecond note of a tetrachord could only be at a hemitonic interval in the Diatonic genus, and becauſe ΜΕΣΗ and παραμέση muſt be always at the interval of a whole tone to disjoin the ſecond and third tetrachords in the Major Syſtem, which cauſed likewiſe ſome other irregularities; and you will remark, from theſe Ptolemaic Tables, that as the diſjunctive interval moved higher or lower in the ſcale, by the movement of the ΜΕΣΗ, ſo the ſeveral tetrachords ſhifted their places in it, till the tetrachord ὑπερβολαίων, in the Mixolydian Mode of Tune, became the graveſt tetrachord of the lyre, inſtead of the acuteſt.

I am, &c.

LETTER

LETTER XXXIV.

DEAR CHARLES,

I HAVE taken ſome pains with the Tables of Ptolemy added to my laſt Letter, to render them as clear as poſſible, (which I think is not done in Sir Francis Stiles's Eſſay,) in order that there might be no difficulty in apprehending their uſe and application; and I am perſuaded, that by a very little attention to the Modes of Tune, as they are here ſhown to be connected with the modes of Diapaſôn, we might imitate the Græcian Muſic, ſo far as Melody only is concerned, with the utmoſt exactneſs. Its effects in the different Modes muſt have depended

principally upon modulating in ſome one of the ſeven ſpecies of Octaves, or from one ſpecies to another, with certain degrees of pitch, determined from the Μ′ΕΣΗ of each, and you will obſerve, that the difference of the Ariſtoxenian Modes in this reſpect, did not conſiſt in raiſing or remitting *the whole perfect ſyſtem* to a higher or a lower pitch, by one certain determined interval only, (which hath been ſuppoſed by ſome commentators upon the muſical writers) but in that the Μ′ΕΣΗ of each Mode, either aſcending or deſcending in the ſcale by an interval, which is ſettled beyond a doubt upon the authority of Bacchius, and the Ptolemaic Tables, all the other notes of the ſyſtem were then tuned upward and downward from each Μ′ΕΣΗ according to the general Principle, namely, that the firſt interval in each tetrachord in the Diatonic and Chromatic genera, ſhould be that

of

of a hemitone, and that the disjunctive interval ſhould always be that of a whole tone, a circumſtance which I am almoſt aſhamed to repeat. Upon the whole, the fifteen notes of the lyre in the Doric Mode of tuning from the προσλαμβανόμενος, which anſwered to A-re of the modern ſcale, as hath been ſhown you, were deemed the notes of *natural poſition*, in which the ſound of the eighth or middle ſtring correſponded with the modern A-la-mi-re; but when this middle ſtring, in the Phrygian Mode, was ſet a note higher, (by which the tuning of the other ſtrings was regulated,) ΜΕΣΗ had then the power of παραμέση, and λιχανὸς μέσων aſſumed the original power of μέση or a.

Again, if we look into the Table of the Lydian Mode, whoſe μέση was ſet *two* notes above its original degree of tune, παρυπάτη μέσων, which is the ſixth ſtring in poſition,

inſtead of ſounding F, as in the Dorian Mode, gave the ſound of a, that is, of the middle ſtring, and a, the original note of the middle ſtring, was changed into c^ſharp, above which the voice had only five notes to a a, or the ſound of the fifteenth ſtring, which, as I have already obſerved, gave the higheſt note the voice in general could reach without ſcreaming.

It hath been ſuppoſed, that there is only one change in modern muſic which properly anſwers to the antient mutations by Mode; I mean our change of Melody from a ſharp to a flat key, or vice verſâ, the effect of which upon the heart and affections, under proper management, we know to be very extraordinary; but the Græcian Modes were *all* in a flat key from the ΜΕΣΗ, as will appear from the Table of each: and Mutation by Mode ſeems to me to have been the only contrivance which the Antients had, not ſo properly

perly of changing the movement from a flat to a ſharp, or again from a ſharp to a flat key, (which they were capable of doing by means of the tritone,) as of diſtributing the ſuperior and inferior notes above and below the ΜΕΣΗ in power, by a change of the Mode, ſo as to anſwer the ends of the compoſer with reſpect to the ἦθος or the πάθος of his ſubject; an end which our modern muſicians can attain much better by the power of giving what length they pleaſe to any ſtring by ſtopping upon the finger-board, or by a change of the intermediate keys upon the organ and the harpſichord; or by the pedals and other mechanical contrivances of ſome late inſtruments. I muſt own I ſhould like very much to hear the antique Mutations tried upon a harp properly tuned in the Diatonic genus, (for I have no opinion of the Enharmonic or Chromatic,) by a ſkilful performer, of *taſte* as well as *judgment*, in the three different

different ſpecies of compoſition, the Sublime and Grand, the Mournful and Pathetic, or the Gay and Sprightly; and I have not the leaſt doubt, but the powers of the modern muſic would be found at leaſt equal to the ſo much boaſted powers of the antient, in exciting ſocial chearfulneſs or ſympathetic ſorrow and concern, in preparing the mind for the reception of majeſtic and ſublime ideas, or in giving force to them; nor is modern Poetry ſo far below the antient in the capacity of having melody and harmony adapted to it, as moſt of the great ſcholars would perſuade us; it hath been a faſhion with many of the birch-holders in all ages, to depreciate the modern and to raiſe the merit of antient Poetry above its value:

Et memini quæ plagoſus mihi parvo
Orbilius quondam dictabat———

The prejudices of thoſe gentlemen of real Taſte, who have ſpent many years of their life

life in admiring the ſuperior beauties of Greek and Roman Poetry, are not difficult to be accounted for, but abſolutely to contemn all other, is illiberal and unjuſt; we have modern compoſitions in Engliſh, which would not *diſgrace* a Greek or Roman author of the firſt claſs; and our language is by no means ill ſuited to metrical and muſical cadence, though it is not equal in this reſpect to the Italian. We have all the feet which can be wanted in any ſpecies of Poetry, and it would be as eaſy for us to adapt our notes to the quantity of our ſyllables, (upon which great ſtreſs is laid) as it was to the muſicians of antiquity; who, by the way, paid not ſo much regard to it as hath been ſuppoſed*, though it muſt be acknowledged, that

* The firſt Muſician of our own country, who attended to this circumſtance, is ſaid to have been Milton's friend, Mr. Laws, of the Chapel Royal, who ſet his incomparable Maſque of Comus, and was, probably, adviſed by the Poet to attend to it, who himſelf was a compoſer, though I do not know that any of his works of this kind are preſerved.

the

the quantity of our ſyllables is more frequently ſacrificed to notes, than expreſſion ſeems to require; and I am perſuaded that Rythmus is not ſo well underſtood at preſent, as it was amongſt the Antients, who were, probably, as much too nice in this reſpect, as we are too negligent; but that they aſcribed ſome effects to this branch of muſic, which were owing chiefly to the force of ſentiment is clear to me beyond a doubt. The great misfortune with us in England is, that an injudicious, or altogether an improper choice, is commonly made of thoſe metrical compoſitions to which muſical notes are ſet; in general they are mere deſcriptive florid poems either compoſed or ſelected for this purpoſe, with which muſic hath no natural connexion, but is only forced into union with them; nor hath any perſon, in my opinion, ſo *well* underſtood what ought to determine our choice of

poetical

poetical ſubjects, and language for muſical notes, as Mr. Jackſon, of Exeter, though he has not uniformly ſucceeded in his compoſitions. I have often pitied the muſician, a friend of mine, who has been obliged, by his appointment, to ſet ſome odes written expreſsly for ſong with inſtrumental accompaniments, (the expreſſive language of the paſſions and affections) which were as abſolutely incompatible with notes as a propoſition or a diagram of Euclid.

You will give me leave, my C. to add a word or two here upon muſical inſtruments, now is in my mind. There can be no doubt of our modern inſtruments being in every reſpect, not even elegance of form perhaps excepted, ſuperior in general to the antique, but in point of tone and power, there could be no compariſon; and as our harp, particulary, is free from the defects of the antient lyre, which had no occaſional flats and ſharps, but the performer

performer was under the diſagreeable neceſſity of going on according to the original tuning of the fifteen ſtrings, with which his compoſition ſet off; our modern artiſts muſt have great advantages, who can vary the melody according to their feelings during the continuance of a performance, and give conſiderable *force* to their execution by ſo doing, with a degree of elegance beyond what could be attained by a mere change of the mode. I have mentioned in my *laſt* letter, if I remember right, that what gave a ſuperiority of excellence to the Dorian Mode, was its having the ſame number of notes above the ΜΕΣΗ of the lyre and below it, which kept the moſt agreeable tones to the middle of the inſtrument, and it muſt have been as hurtful to the melody in other modes, to have had the acuter and graver notes ſo unequally divided; that in the Mixolydian Mode, for inſtance, the lyre had

had only four notes above the ΜΕΣΗ, the pitch of which was d, and ten notes below it, whilſt the Hypophrygian Mode had only five below the middle ſtring, and nine of the acuter notes above it, as will appear by reference to the Ptolemaic Tables: It was, doubtleſs, upon this account that the Greeks, as we are informed, ſet moſt of their odes either to the Lydian, the Phrygian, or the Dorian Mode of Pitch, not merely for the ſweetneſs of the tones, but becauſe theſe Modes were reſpectively more ſuitable to the powers of their vocal performers. I may remind you again in this place of the ſeven Ariſtoxenian Modes allowed by Ptolemy, having each of them a flat third; and you have ſeen above, that the Greeks did not conſider what is uſually called the natural or ſharp third as a conſonant interval, though they reckoned the ſharp third, and likewiſe the tritone or defective fifth, capable

of

of being conſidered as conſonant. This circumſtance, if there were no others which lean the ſame way, ſeems to prove almoſt beyond a doubt, that they made uſe of a very limited and confined harmony if of any other than that of uniſon, (as, I think, they called the eighth) and that of a fifth.

How much the powers of melody are aided and enforced by a harmonic union of notes when properly applied, may be felt in the compoſitions of Corelli and Handel, not to mention ſome of our Engliſh compoſers, their contemporaries, who, without running into the labyrinths of harmony to ſhow their art and their contrivance, have produced the moſt pathetic and the moſt ſublime effects; particularly in the ſlow and ſolemn movements of our ſacred muſic. How defective conſequently muſt the compoſitions of the Antients have been, with all their boaſted powers over the paſſions and affections,

Hypodorian Mode of Diapason from Μέση to Νήτη ὑπερβολαίων
or from a to aa with the Dorian Mode of Pitch or Tune, from
notes to the same notes in power and Position

Note, the Letters in this column do not determine the Pitch but shew the Intervals only according to the Scale of Guido.	Positions of the Notes according to the order of the Strings as they are fixd upon the Lyre.	Number of the Strings	Order of intervals in the Hypodorian Mode of Diapason.	Powers of the Notes according to the Pitch of the ΜΕΣΗ in the Dorian Mode of Tune	Order of intervals in the Dorian Mode of Tune.	Corresponding Modern Notes
a a.	Νήτη ὑπερβολαίων	15	.....	νήτη ὑπερβολαίων	....	a
			tone		tone	
g.	παραν: ὑπερβολ:	14	....	παραν: ὑπερβολ:	....	g
			tone		tone	
f	τρίτη ὑπερβολ:	13	....	τρίτη ὑπερβολ:	....	f
			hemi tone		hemi tone	
e	Νήτη διεζευγ:	12	....	Νήτη διεζευγ:	....	e
			tone		tone	
d	παράν: διεζευγ:	11	....	παρα: διεζευγ:	....	d
			tone		tone	
c	τρίτη διεζευγ:	10	....	τρίτη διεζευγ:	....	c
			hemit		hemit	
b	παραμέση:	9	....	παράμεση:	....	b
	disjunctive		Tone	disjunctive	Tone	ro
a	ΜΕΣΗ	8	....	ΜΕΣΗ	....	a
			tone		tone	
G	λιχανὸς μέσων	7	....	λιχανὸς μέσων	....	G
			tone		tone	
F	παρυπαὶ: μεσων	6	....	παρυπ: μέσων	....	F
			hemi tone		hemi tone	
E	ὑπατη μέσων	5	....	ὑπάτη μέσων	....	E
			tone		tone	
D	λιχανὸς ὑπατ:	4	....	λιχανος ὑπατ	....	D
			tone		tone	
C	παρυπατ: ὑπατ:	3	....	παρυπατ: ὑπαὶ:	....	C
			hemit		hemit	
B	ὑπατ: ὑπατῶν	2	....	ὑπάὶ: ὑπατῶν	....	B
	Pythagorean Interval.		Tone	Pythagorean Interval.	tone	
A	προσλαμβανόμε:	1	....	προσλαμβανόμενος	....	A

Hypophrygian Mode of Diapasôn
from λιχανὸς μέσων to παράνητη ὑπερβολαίων or from with the Hypophrygian mode of June
from ΜΕΣΗ in power to νήτη ὑπερβολαίων
which as immediately below ὑπάτη ὑπατῶν was call'd like προσλαμβανόμενος i:e from F# to f# in power

	Notes in Position or according to the Order of the Strings of the Lyre	Number of the Strings	Order of Intervals in the Hypophrygian mode of Diapasôn	Notes in Power according to the pitch of the Μεση in the Hypophrygian mode of June	Order of Intervals in the Hypophrygian mode of June	Corresponding modern notes in the Scale of Guido
aa	Νητη ὑπερβολαιων	15	tone	παρυπ ὑπατων	hemit-	a
g	παραν: υπερβολαιων	14	tone	υπατη υπαλ:	tone	g#
f	τριτη ὑπερβολ-	13	hemitone	νητη ὑπερβ: & προσλαμβ	tone	f#
e	νητη διεζευγμενων	12	tone	παραν: ὑπερβολ:	tone	e
d	παρανητη διεζευ:	11	tone	τριτη υπερ:	hemitone	d
c	τριτη διεζευγ:	10	hemitone	νητη διεζευγ:	tone	c#
b	παρα μεση	9	disjunctive	παραν: διεζ:	tone	b
a	ΜΕΣΗ	8	tone	τριτ: διεζευ:	hemitone	A
G	λιχανος μεσων	7	tone	παραμεση	tone	G#
F	παρυπαλ: μεσων	6	hemitone	ΜΕΣΗ	tone	F#
E	ὑπατη μεσων	5	tone	λιχαν: μεσων	tone	E
D	λιχανος υπατων	4	tone	παρυπ: μεσων	hemitone	D
C	παρυπατ υπαλ:	3	hemitone	ὑπατ μεσων	tone	C#
B	ὑπατη ὑπατων	2	pythagorean Interval	λιχανος υπατ:	tone	B
A	προσλαμβανομενος	1		παρυπ υπατ:		A

Hypolydian Mode of Diapasôn from παρυπάτη μέσων or from F to f with the Hypolydian Tune from its ΜΕΣΗ which is G# in power to νητη υπερβολαίων in Power or g# its Octave which Note as immediately the ὑπάτη υπατῶν was also call'd προσλαμβανόμενος.

	Notes in Position or according to the order of the strings of the Lyre	Number of the Strings	Order of Intervals in the Hypolydian mode of Diapason.	Notes in Power according to the pitch of the ΜΕΣΗ in the Hypolydian mode of Tune	Order of Intervals in the Hypolydian mode of Tune	Corresponding modern Notes in the Scale of Guido.
a a.	Νήτη ὑπερβολαίων.	15	.... tone	ὑπάτ: υπατῶν	.... tone	a# Pytha.
g.	παραν: υπερβ:	14	.... tone	νήτη ὑπερβολ: or προσλαμβανομ	.... tone	g#
f.	τρίτη υπερβολ:	13	.... hemi-tone	πάραν: ὑπερβ:	.... tone	f#
e.	νήτη διεζευγμ:	12	.... tone	τρίτη ὑπερβολ:	.... hemi-tone	e
d.	παραν: διεζευ:	11	.... tone	νήτη διεζευγ:	.... tone	d#
c.	τρίτη διεζευγ:	10	.... hemi-tone	παράν: διεζευ:	.... tone	c#
b.	παράμεση....	9	.... tone	τρίτη διεζευγ:	.... hemi-tone	b
a.	ΜΕΣΗ.....	8	.... tone	παράμεση....	.... tone	A# τουος
G.	λιχανὸς μέσων	7	.... tone	ΜΕΣΗ.....	.... tone	G#
F.	παρυπ: μέσων	6	.... hemi-tone	λιχανὸς μέσων	.... tone	F#
E.	υπάτη μέσων	5	.... tone	παρυπ: μέσων	.... hemi-tone	E
D.	λιχανὸς ὑπατ	4	.... tone	υπάτ: μέσων	.... tone	D#
C.	παρυπ: υπατ:	3	.... hemi-tone	λιχαν: ὑπατ:	.... tone	C#
B.	ὑπάτ ὑπατῶν Pythagorean Interval	2	.... tone	παρύπ: ὑπατ:	.... hemi-tone	B
A.	προσλαμβανόμενος	1	....	ὑπάτ: υπαλῶν.	....	A#

Dorian Mode of Diapason, from ὑπάτη μέσων to
διεζευγμένων or from E to e. with the Dorian mode of
from the ΜΕΣΗ in power to νήτη ὑπερβολαίων i:e from a

	Notes in Position or according to the order of the strings of the Lyre	N°. of the Strings	Order of intervals in the Dorian mode of Diapason	Notes in Power according to the pitch of the ΜΕΣΗ in the Dorian mode of Tune	Order of intervals in the Dorian mode of Tune	Corresponds to modern Notes in the Scale of Guido.
a a.	νήτη ὑπερβολαίων	15	.... tone	νήτη ὑπερβολ:	.... tone	a a
g.	παράν: ὑπερ:	14	.... tone	παράν: ὑπερ:	.... tone	g
f.	τρίτη ὑπερβ:	13	.... hemit	τρίτη ὑπερβ:	.... hemit	f
e.	νήτη διεζευγ:	12	.... tone	νήτη διεζευγ:	.... tone	e
d.	παράν: διεζε:	11	.... tone	παράν: διεζε:	.... tone	d
c.	τρίτη διεζευγ:	10	.... hemit	τρίτη διεζευγ:	.... hemit	c
b.	παράμεση.... disjunctive	9	.... tone	παράμεση....	.... tone	b τονος
a.	ΜΕΣΗ.....	8	.... tone	ΜΕΣΗ.....	.... tone	a
G.	λιχανὸς Μέσων	7	.... tone	λιχανὸς μέσων	.... tone	G
F.	παρυπ: μέσων	6	.... hemi	παρυπ: μέσων	.... hemit	F
E.	ὑπάτ: μέσων	5	.... tone	ὑπάτ: μέσων	.... tone	E
D.	λιχανὸς ὑπατ:	4	.... tone	λιχανὸς ὑπατ-ῶν	.... tone	D
C.	παρυπ: ὑπατῶν	3	.... hemit	παρυπ: ὑπατ:	.... hemit	C
B.	ὑπάτ: ὑπατῶν Pythagorean Inter.l	2	.... tone	ὑπάτ: ὑπατῶν Pythagorean Inter.l	.... tone	B
A.	προσλαμβανόμενος.	1	....	προσλαμβανόμενος.	....	A

Phrygian Mode of Diapasôn from λιχανὸς ὑπατῶν to παραν
διεζευγμένων or from D to d with the Phrygian mode of Pitch fro
ΜΕΣΗ in Power to νήτη ὑπερβολαίων i:e from b to a ascendi
taking in A and B in the gravest Tetrachord of the Lyre, to comp
the Tetrachord ὑπερβολαίων.

	Notes in Position or according to the order of the strings of the Lyre	Number of the Strings	Order of Intervals in the Phrygian mode of Diapas.	Notes in Power according to the Pitch of the Μέση in the Phrygian mode of Tune	Order of Intervals in the Phrygian mode of Tune	Corresponding modern Notes
a a	νήτη ὑπερβολ:	15	. . . tone	παραν: υπερβ:	. . . tone	a a
g	παραν: ὑπερβ:	14	. . . tone	τρίτη υπερβ:	. . . hemi-tone	g
f	τρίτη ὑπερβ:	13	hemi tone	νήτη διεζευγ:	. . . tone	f#
e	νήτη διεζευγ:	12	. . . tone	παραν: διεζευ:	. . . tone	e
d	παρανήτη διεζ:	11	. . . tone	τρίτη διεζευγ:	. . . hemi-tone	d
c	τρίτη διεζευγ:	10	. . . hemi	παράμέση	. . . tone	c# τονος δια
b	παραμέση . . .	9	dijunctive . . . tone	ΜΕΣΗ . . .	. . . tone	b
a	ΜΕΣΗ . . .	8	. . . tone	λιχαν: μέσων	. . . tone	a
G	λιχανὸς μέσων	7	. . . tone	παρυπάι μέσων	. . . hemi	G
F	παρυπ: μέσων	6	hemi-tone	υπάίη μέσων	. . . tone	F#
E	υπατ: μέσων	5	. . . tone	λιχανὸς ὑπαί:	. . . tone	E
D	λιχανὸς υπατ	4	. . . tone	παρυπ: ὑπαί	hemi-tone	D
C	παρυπ: υπάί:	3	hemi-tone	ὑπάτ: ὑπαί:	. . . tone	C# Pythag inte
B	υπατ. υπάί	2	. . . tone	νηί: υπερβ: & προσλαμβανο:	. . . tone	B
A	προσλαμβανο-μένος.	1	. . .	παρανήτ: ὑπερβολαίων.	. . .	A

Lydian Mode of Diapason from παρυπάτη to τρίτη διεζευγμένων or from C to c with the Lyd Mode of Pitch from ΜΕΣΗ in Power to νήτη ὑπερ ων ι. e from c♯ to aa ascending and from A to C♯ gravest Tetrachord of the Lyre to compleat the Tetr ὑπερβολαίων.

	Notes in Position or according to the order of the strings of the Lyre	Number of the Strings	Order of Intervals in the Lydian mode of Diapason	Notes in Power according to the Pitch of the Μεση in the Lydian mode of Tune	Order of Intervals in the Lydian mode of Tune	Corresponding modern Notes in the Scale of Guido
aa	νήτη ὑπερβολαίων	15	tone	τρίτη ὑπερβολαι	hemitone	aa
g♯	παρανήτη ὑπερβολαίων	14	tone	νήτη διεζευγ	tone	g♯″
f♯	τρίτη ὑπερβολ	13	hemitone	παραν διεζευγ	tone	f♯″
e	νήτη διεζευγμ	12	tone	τρίτη διεζευγ	hemitone	e
d	παραν διεζευγ	11	tone	παράμεση	tone	d″
c♯	τρίτ διεζευγμ	10	hemitone	ΜΕΣΗ	tone	τονος c♯″
b	παράμεση	9	tone	λιχανὸς μέσων	tone	b
a	disjunctive ΜΕΣΗ	8	tone	παρυπάτ μέσ	hemitone	a
G♯	λιχανὸς μέσων	7	tone	ὑπατ μέσων	tone	G♯″
F♯	παρυπ μέσων	6	hemitone	λιχαν ὑπατῶν	tone	F♯″
E	ὑπάτ μέσων	5	tone	παρυπ ὑπατῶν	tone	E
D	λιχανὸς ὑπατ	4	tone	ὑπάτ ὑπατῶν	tone	D″ Pythag
C♯	παρυπ ὑπατῶν	3	tone	νήτη ὑπερβολ & προσλαμβανόμ	tone	C♯″
B	ὑπάτ ὑπατῶν	2	hemitone	παραν ὑπερβο	tone	B
A	προσλαμβανόμενος	1	tone	τρίτη ὑπερβολαίων		A

Mixolydian Mode of Diapason from ὑπάτη ὑπατῶν παράμεση, or from B to b with the Mixolydian Mode of Pitch from ΜΕΣΗ in power ascending to νήτη διεζευγμένων the acutest string of the Lyre, & taking in the four grave strings from A to D to compleat the Octave, the Tetrachord ὑπερβολαίων having now shifted its Place.

	Notes in Position or according to the order of the strings of the Lyre	N°. of the Strings	Order of Intervals in the Mixolydian mode of Diapason	Notes in Power according to the Pitch of the Μέση in the Mixolydian mode of Tune	Order of Intervals in the Mixolydian mode of Tune	Corresponding modern Notes in the Scale of Guido
aa	νήτη ὑπερβολαίων.	15	. . .	νήτη διεζευγμένων.	. . .	aa
			tone		tone	
g	παρανήτη ὑπερβολαίων	14	. . .	παρανήτ: διεζευ:	. . .	g
			tone		tone	
f	τρίτη ὑπερβολαί	13	. . .	τρίτη διεζευγμ:	. . .	f
			hemi tone		hemit	
e	νήτη διεζευγμένων	12	. . .	παράμεση	. . .	e
			tone		tone	διεζευγμένων τόνος διαζε
d	παρανήτη διεζε:	11	. . .	ΜΕΣΗ	. . .	d
			tone		tone	
c	τρίτη διεζευγμέ	10	. . .	λιχανὸς μέσων	. . .	c
			hemi tone		tone	
b	παράμεση	9	. . .	παρυπάτ: μέσων	. . .	b
	disjunctive		Tone		hemit	
a	ΜΕΣΗ	8	. . .	ὑπάτη μέσων	. . .	a
			tone		tone	μέσων
G	λιχανὸς μέσων	7	. . .	λιχανὸς υπατ:	. . .	G
			tone		tone	
F	παρυπάλη μέσων	6	. . .	παρυπάλη ὑπαλ:	. . .	F
			hemi tone		hemit	ὑπατῶν
E	ὑπάλη μέσων	5	. . .	ὑπάτ: ὑπατῶν	. . .	E
			tone		tone	Pythagoree Interv.
D	λιχανὸς ὑπαλ:	4	. . .	νήτη υπερβολαί:	. . .	D
			tone	& προσλαμβανόμες	tone	
C	παρυπάτ ὑπαλ	3	hemi tone	παραν: ὑπερβολ:	. . .	C
					tone	
B	υπαλ: ὑπατῶν	2	. . .	τρίτη υπερβολα:	hemi tone	B
	Pythagorean Interval		tone			ὑπερβολαίων
A	προσλαμβανόμενος.	1	. . .	νήτη διεζευγμένων.	. . .	A

ſections, in which the aids of a perfect harmony were wanted: in ſhort, I ſhould not ſcruple to affirm to a real muſician, though I would not to the maſter of your band of grammar choriſters in St. John's Chapel, that modern muſic, ſuppoſing the judgment and taſte of the compoſers equal, muſt be far ſuperior upon this account to the muſic of antiquity; and as muſic flows more from the affections and the feelings, than from rules of art—and no reaſon can be given why Nature ſhould be leſs bountiful at preſent than in the days of Ariſtoxenus and Terpander—ſo no reaſons can be urged why, with equal advantages from Nature, and additional ſkill in the ſcience and practice of harmony, with more perfect inſtruments, we ſhould not produce ſuperior muſical compoſitions. Poetry, it is true, the nearer we approach the origin of States, hath uſually more ſublimity and grandeur to aſtoniſh and to

captivate the ſoul, for which abundant cauſes may be aſſigned, but I am inclined to think, the ſame does not hold good with reſpect to inſtrumental muſic, its accompaniment. Before I conclude this Letter, I ſhall juſt mention a paſſage in the eighty-fourth epiſtle of Seneca, which I once heard triumphantly quoted as determinate for the Antients' ſkill, in what we call the harmony of muſic in parts; I was not ſufficiently acquainted with the ſubject at that time to join on either ſide of the debate, which was very warmly conducted, but inclined rather to believe the paſſage would bear all the weight which my friend laid upon it, though I have ſince thought otherwiſe. Seneca is ſpeaking of the folly of reading for mere amuſement, and that to render our ſtudies uſeful, we ſhould make other peoples ſentiments our own by a kind of digeſtive aſſimulation of them in our minds: he adds, quod in corpore

pore noſtro videmus ſine operâ noſtra facere Naturam, idem in his quibus aluntur ingenia præſtemus; concoquamus ea, alioquin in memoriam ibunt, non in ingenium:—and he adds this fact moreover in illuſtration of the ſubject, that whatever knowledge we collect from others, is poſſible to be blended and united ſo intimately with our ideas, as to differ very little from the original conceptions of our own minds; nonne vides quam multorum vocibus chorus conſtet? Unus tamen ex omnibus ſonus redditur; aliqua illic acuta eſt, aliqua gravis, aliqua media, accedunt viris fœminæ, interponuntur tibiæ; ſingulorum illic latent voces, omnium apparent:—upon which it will be ſufficient to obſerve, that all this is applicable to tone only, and may have nothing to do with harmony as reſpecting tune, or a diſtribution of a concert into parts, any more than in a Turkiſh concert at this day, in which we know

that all the performers play, or ſing in uniſon, notwithſtanding the fuller tones of ſeveral inſtruments, and that ſome voices are trebles, others tenors, and others baſſes: what Seneca adds afterwards is curious enough; that the number of muſical performers was increaſed in his time, ſo as to equal the uſual number of ſpectators in the old theatres; that ſingers filled the paſſages to the benches; that the cavea or pit was encompaſſed by the horns and trumpets, and that the ſtage reſounded with ſeveral ſpecies of flutes and inſtruments of every kind. Make your own reflections upon this luxury of the Roman theatres, in which Nero was a manager; it ended, (and I think it could not poſſibly do otherwiſe) in a total corruption of the public taſte: a debaſement of manners, we are told, kept equal pace with it, and rendered the temporary political reformation of them by Auguſtus, of a very ſhort duration.

I am, &c.

LETTER XXXV.

DEAR CHARLES,

I THOUGHT that I had abſolutely finiſhed the ſubject of the Græcian Muſic in my laſt letter; but, upon recollection, it may not be improper to repeat ſome of the reaſons, why the Doctrine of the ſpecies of Diapaſôn is ſuppoſed to make a part of the Doctrine of the Modes. The firſt is, becauſe, as you have ſeen, the ſeven ſpecies are called, in Euclid's and the other muſical treatiſes, by the ſame names as the ſeven allowed Modes of Ptolemy, though they are not expreſsly termed Modes; ſecondly, becauſe the whole reaſoning of Ptolemy for reducing

the thirteen Modes of Ariſtoxenus to ſeven, is grounded upon a ſuppoſition of their connexion with the Modes of Diapaſôn, and implied in the rejection of the ſix ſupernumerary Modes of ſimilar appellations, which were conſidered, even by the Ariſtoxenians themſelves, as the very ſame Modes with thoſe which Ptolemy allowed, only in a higher or a lower pitch by the interval of a hemitone; and their Hyperphrygian or Hypermixolydian Mode was only a replicate of the Hypodorian. In the next place, Ariſtoxenus, in his ſecond book, ſpeaks of the ſeven ſpecies, as ſome how or other oppoſed to the Modes of Tune, though the whole paragraph is not ſo clear as might be wiſhed. The mere correſpondence of Euclid's and Bacchius's definition of Mutation by Tone, hath great weight with me; and the latter author, after explaining the ſeven ſpecies of Diapaſôn, tells us, that theſe were

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the ſeveral forms of conſonancies upon which the whole art of muſic was eſtabliſhed, συμφωνιῶν τα εἴδη εν τῇ μουσικῇ τέχνῃ, δι ὧν πᾶσα μελοποιΐα συνίσταται. We are told, moreover, in the ſeventh chapter of Ptolemy's ſecond book, that a change of pitch in the ſeveral mutations by Mode, not being made for the ſake of an accommodation to the deeper and the acuter voices, was deſigned to vary the *character* of the melody, τροπήν τινα τοῦ ἤθους ἀποτελεῖν; and no muſician will ſuppoſe the ſtyle of a compoſition to be ſo much altered by a ſmall variation of the pitch of ſome few ſtrings* of an inſtrument, or the pitch of the whole number collec-

* This hath notwithſtanding been conjectured, from an expreſſion of Anacreon, in his firſt Ode; but I rather ſuppoſe that the poet meant, not a change in the tuning of his inſtrument, but, either the ſtringing it with larger nerves, or a change of the lyre for the Barbitos, which probably had fuller and more ſolemn tones, δι' ὧν σημαίνεται μεγαλοπρέπεια, καὶ πράξεισ ἡρώικαι.

tively, as utterly to change its character; the cauſe would be by far inadequate to the effect; a different application of the major and minor tones, it is true, would doubtleſs occaſion ſome difference in it, but a change of the octave or key, together with a change of pitch at the ſame time, I ſhould conceive, muſt concur to produce ſo conſiderable a variation of ſtyle, and character as muſt be ſtriking to the dulleſt muſical ear.

There remains one remark ſtill to make, which would have come in with more propriety in another place, but muſt not be omitted, namely, that when the Antients mentioned the Dorian, Phrygian, or Lydian Mode, &c. they meant the Dorian, Phrygian, or Lydian Mode of Diapaſôn, in conjunction with that Mode of Tune, which was uſually adapted to it; as the Hypodorian Mode of Diapaſôn

was

was, I believe, moſt frequently joined with the Hypodorian Mode of Tune; the Phrygian with the Phrygian, &c. agreeably to the Tables above given, which it was needleſs for the compoſer to mention, unleſs he choſe to depart from general uſage, for the ſake of varying the Melody, or of giving more expreſſion to his performance by the union of two Modes which were not commonly joined. In ſuch caſes, it became neceſſary for the compoſer to expreſs his intention, that the performer might know after what manner the ſtrings of the lyre were to be tuned, that the notes might not be at variance with the ſentiments to which they were to be applied, or with the general character of the Melody.

In reſpect of the very high encomiums you have heard of Mr. Malcolm's Treatiſe on the Antient Muſic, you may reſt aſſured,

aſſured, upon the authority of Sir Francis Stiles, that the greateſt part of what he hath delivered concerning the Modes, is not only falſe in reſpect of the order, and indeed almoſt every other circumſtance relating to them, but at the ſame time is ſcarcely intelligible; or if any meaning can be put upon his explanations, it is too foreign to the truth, of either of the Doctrines relating to them, to be worth conſidering. Should theſe reflections, upon a Treatiſe of ſuch eminence as to have been quoted in all our late publications upon the ſubject, be thought too ſevere; they muſt be imputed to Sir Francis's diſappointment in the ſtudy of an author, whoſe title-page promiſed ſo much, and whom he had painfully followed to no purpoſe; for after leading his reader into a rough perplexed track, like a true blundering guide he leaves them in

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the dark, and is forced to acknowledge his ignorance and incapacity to conduct them through it, when he could get on no farther.

END OF OBSERVATIONS ON THE GREEK MODES.

TO

SIR GEORGE BEAUMONT, BART.

NEW COLLEGE, OXFORD.

Henſted, May 7, 1773.

MY DEAR SIR,

STRANGE as it appears to you, it is by no means an unuſual thing, to meet with many worthy perſons who are unwilling to believe the doctrine of a particular Providence, whilſt they allow that it is extended to the whole ſyſtem, but to ſuppoſe a general ſuperintending Providence, and at the ſame time to deny the exiſtence of a particular one, involves ultimately this abſurdity in the allowance, (as it ſeems to me) that what is general doth not include particulars: There is

room

room indeed for a debate about the preciſe meaning of the terms, or what is to be underſtood by a general Providence, and what by a particular one: but the whole might be eaſily ſettled by referring to a firſt Principle; and the following ſimple propoſition will admit of no diſpute:— That the ſelf-exiſtent Creator muſt be as much preſent in one place as in another, at every point of time; it neceſſarily follows then, if no part of the univerſe can ever be without him, (though his glory be not manifeſted equally to all his creatures) that his perfections, which neceſſarily flow from his eſſence, muſt be no leſs infinitely boundleſs in extent and in duration than his Nature, if I may be allowed to uſe a term which properly belongs to creatures only of a limited exiſtence; whereas his own cannot poſſibly be circumſcribed by any portions of time or ſpace; and as he cannot but be always intimately preſent

to

to the evil and the good, he cannot but regard them always with a due diſtinction, unleſs we could ſuppoſe that Juſtice, Mercy, and Truth, are different, not only in their effects with reſpect to God, but in their nature and qualities likewiſe from what they are in Man; who, upon this ſuppoſition, was not morally created after the image of his Maker, the only ſenſe in which there can be any image or reſemblance between the Creator and his works, life alone excepted.

We may conclude then, without a poſſibility of being in an error, that the pious, the beneficent, and the juſt, that all who make a proper uſe of thoſe talents which the Creator hath imparted, and endeavour ot conform their livesin due obedience to the precepts he hath given them to the utmoſt of their power, will be certainly in ſome degree protected, and rewarded too in this life, ſo far as it may be conſiſtent with their better and ſuperior intereſt in another

another ſtate, to which their Being may, or rather muſt, perhaps, in moral juſtice be extended; where all inequalities ſhall be compenſated, and all farther *trials* of men's faith and obedience, moſt probably be at an end. If they endeavour to preſerve a conſcience void of offence during their continuance in this world, they may with confidence rely upon the over-ruling guidance of the Supreme Diſpoſer of all events, that with reſpect to conſequences, at all times and in all places, they ſhall work together for their good; although it is not poſſible for human conduct to be perfect, or for human reaſon, in this complicated ſtate of things, to diſcover how it poſſibly can be effected; but Chriſtianity ſuggeſts a remedy for more than imperfection, and the wiſdom of God is no leſs infinite than his goodneſs.

It is an opinion grounded only upon falſe humility, or pretended lowlineſs of heart,

heart, that individuals are too mean and insignificant to have a place in the attention of the Supreme Being; a doctrine which hath been insinuated by a French author, the proudest and the vainest of mortals, whose pernicious books will probably be put into your hands: the opinion must be false, because, certainly whatever it was not beneath his dignity to *create* on earth, as well as in the heavens, it cannot be below his dignity to preserve and to regard: and his character of a moral Governour, must influence him, as I have before observed, either to protect, or to chastise us, even in this lower world, as individuals obeying or transgressing the laws of virtue and morality; that is, as endeavouring to promote his plan for universal happiness, or as opposing the designs of his infinite goodness and wisdom; though it must at the same time be allowed, there may be reasons, in many in-

ſtances, for a temporal *permiſſion* of moral as well as natural evil, concerning the propriety of which, in all reſpects, we are incapable to form a judgment.

In anſwer to another objection which is made to a particular Providence, drawn from the multitude of rational creatures: To ſuppoſe that any one can be unnoticed, becauſe there may be ten thouſand times ten thouſand myriads of ſuch Beings in the works of God, beſides man, at this inſtant coexiſting in the univerſe, which equally require his care, is to harbour mean, unworthy ſentiments of his extended preſence, power and knowledge; in fact, to deem him finite. And to ſuppoſe it can be any trouble or ſolicitude to a Being infinite in preſence, power, and wiſdom, to preſerve and govern and direct the world, is eſtimating his power and wiſdom by our own, and attributing our human weakneſs to the author of all wiſdom and ſtrength.

I be-

I believe it may be proved beyond a doubt, from the very nature of matter, that our involuntary animal motions, ſuch as the contraction of the heart and arteries, upon which the circulation of the blood depends, with all ſuch other active powers which the continuance of life requires, are both begun and aided, if not wholly carried on, by an impulſe of Divine agency, which is continually impreſſed, and that it is the ſame influence *conſtantly exerted*, which holds the parts of all matter together, and keeps it in one maſs; in other words, which conſtitutes its eſſence or continues it in being: this is what we call the attraction of coheſion, and can plainly ſee ſome laws by which this ſeeming property of all material ſubſtances is regulated: the ſame is true of that attraction which holds the planets in their orbits, and by which all near approximating bodies tend directly to their centers; but

any the leaſt tendency to motion in matter, is a contradiction to its *nature*, or to that which conſtitutes it what it is: all ſuch tendencies, therefore, in a particular direction, which are commonly termed natural attractions, muſt be real impulſes ab extra, from what is capable of a volition to determine motion one way rather than another; for a tendency to move in every direction at the ſame time, muſt be abſolutely reſt; and a ſubſtance which hath no powers of motion in itſelf either to begin or to renew it, or to alter its direction, but an oppoſition to it, called the *vis inertiæ*, cannot poſſibly impart it to another. All tendencies to motion in matter, therefore, wherever they are found, muſt be the act of what is different from it in its eſſence, that is, the mediate or immediate original act of ſomewhat not material, or an energetic influence of the ſubſtance we call ſpirit; in other words, the origin of every

every motion, or of the renewal of it, when it hath ceaſed, muſt be owing to the impulſe either of a delegated Power, from the firſt Mover, or, what with all humility and diffidence I rather ſhould ſuppoſe, the immediate influence of the Supreme and Univerſal MIND himſelf, conducting and carrying on the neceſſary operations of the univerſe, agreeable to certain laws, whoſe obſervance we call *Nature*, by which his wiſdom hath determined, or rather conſtantly determines to act in one perpetual NOW, which comprehends all time.—But I check myſelf for a preſumption—Give me credit, however, for what I have advanced, reſpecting the nature of Matter, foraſmuch as upon the ſtricteſt enquiry, after almoſt forty years reflecting frequently upon the ſubject, with the utmoſt intenſion of which I have been capable, I am fully convinced of its truth; namely,

that this material ſubſtance, *that* which is the object of our touch, could not poſſibly exiſt, and be what it is, without a renitency to all motion, and conſequently cannot have a tendency to begin it: It follows, that whatever lives and moves in us, muſt be a diſtinct ſubſtance from our material conſtitution, by whatever inconceivable tie our ſpiritual and corporeal natures are connected, and united after ſuch a manner, as to form *one* thinking Being; and that this inferior ſubſtance of our bodies, like every other ſubſtance of the ſame kind, depends for its continuance in exiſtence, upon the conſtant agency of God exerted in its preſervation; that he muſt, therefore, be at all times preſent to us, and in every part of his Creation, as the directing, animating, and upholding Mind and Spirit of the Univerſe: In the ſublime quotation by St. Paul,

Paul, which is taken probably from ſome Cilician Poet:——

ἘΝ Ὧ ΖΩ̃ΜΕΝ: ΚΑ᾽Ι ΚΙΝΟ῾ΥΜΕΘΑ: ΚΑ᾽Ι Ἐ῾ΣΜΕΝ.

I am, my dear Sir,

Your moſt affectionate,

And faithful humble Servant,

C. DAVY.

P. S. The late very pious and learned Dr. Doddridge, has altered our Engliſh tranſlation, *we move*, and rendered κινέ-μεθα in the paſſive ſenſe, *we are moved*; which, with ſubmiſſion, appears to have much more propriety and force, if underſtood as a reciprocal in the middle voice, *we move ourſelves*; and in a liberal expoſition, the Apoſtle's meaning ſeems to be,

Through whom, or *in whom*, that is, by whoſe conſtant will and influence we enjoy *a life of ſenſe, with the power of ſpontaneous movement*, as oppoſed to vegetable life: and by whoſe *perpetuated creative energy we are even held in our exiſtence*. I ſhall add to what I have already ſaid upon the ſubject, that a communication of the powers of beginning motion, and of acting with free will, is the ſublimeſt myſtery of Creation; whilſt at the ſame time it is a truth of which we cannot really entertain a doubt, in oppoſition to the doctrine of Fatality; and that on this account, there is more perfection in one rational created immaterial ſpirit, endued with liberty and choice, than in the whole material creation, however exquiſitely formed, to anſwer its determined and appointed ends.

Henſted,

Henſted, Suffolk, April 21, 1777.

YOU are this day, my dear Frederick, entered into your nineteenth year, and, I truſt, as you advance in life, your ſituation and employments will be rendered ſtill more and more agreeable to you; one certain method of encreaſing its ſatisfactions and of lengthening the enjoyments of it, is not to let the mind *dwell* upon any uncomfortable circumſtances which are paſt, but ſo far as it is in our power, to baniſh the ideas of them; to look forward with chearly hopes and expectations, and to ſurvey every thing which is preſent, as we ſhould the objects of a landſcape in the brighteſt and moſt advantageous

geous point of view. Thus far you have ſucceeded beyond our warmeſt expectations; you have a friend in Mr. C. who will treat you with as much kindneſs as if you were in truth a near relation of the family by which you are ſo affectionately recommended to him, and promote your intereſt to the utmoſt of his power. He is an intimate friend of His Excellency Mr. Haſtings, the Governour General, to whom you are likewiſe ſtrongly recommended in two letters, by the worthy and ingenious Mr. Cozens, for whom he has a great reſpect, and who aſſures me that Mr. Haſtings is one of the moſt condeſcending, the moſt friendly, and the moſt generous of mortals. Endeavour to acquire an habitual chearfulneſs, in return for all the favours you receive, not only to render your converſation more agreeable to your friends in general, but as it is the beſt evidence you can give them of a

ſatisfied

ſatisfied diſpoſition and temper, with a grateful heart.

We long to read your account of Canton, at which you are to touch before your return to Bengal, with your opinion of the people, ſo far as you can be ſuppoſed to have an opportunity of knowing them. Lord Anſon's *ſeems* to have been dictated by prejudice; and our friend Captain Manwaring, who was in China when the *Centurion* came up the river Tai, confirms my ſuſpicions. The variety of characters you muſt neceſſarily be acquainted with, in trading thus from port to port, and the different manners and religions of the ſeveral nations you may viſit, will, I hope, not indiſpoſe you for thinking favourably of all mankind, and judging candidly of their opinions; but be upon your guard againſt a falſe inſinuation that all religions are the ſame, according to a Gentoo notion which

which is entertained by many Europeans: I mean that the ſincere profeſſion of any mode of it, not attended with cruelty in its rites, is equally acceptable to God, and will be equally rewarded by him: Integrity of heart indeed muſt be accepted by the God of Truth, but the conſequence deduced from this is falſe, which ſeldom fails to root out every moral Principle, and end at laſt in no religion at all. It was unneceſſary to apologize for your queſtions; be aſſured I have no objection to your aſking my opinion upon any of your doubts; I approve your doing it; if I can ſatisfy them it will be a pleaſure to me; and if the objects of them are beyond my ability to clear up, I will fairly tell you ſo, and lay my hand upon my mouth.

There will be differences of opinion concerning many particulars even of true religion, but theſe do not affect the more eſſential parts of it; and what matter of

importance

importance is there in the world, about which men agree in all reſpects without variety of judgment: There are differences of opinion even amongſt the learned and judicious, concerning the beſt form of government; different tenets and different modes of worſhip prevail in almoſt every ſeparate nation; but I am perſuaded you will find the great acknowledged outlines both of Natural and Revealed Religion, or ſome imperfect traces of them, amongſt the rudeſt and moſt barbarous nations wherever you may ſail, ſuch as theſe for inſtance; that the earth, with its inhabitants, was made by an infinitely great and good Being, who preſerves and governs it; and that men are to be rendered happier after death in ſome other diſtant world or fertile region than they are at preſent, in proportion as they have directed their actions conſcientiouſly, and not violated certain laws. You will haply find ſome faint

faint obſure memorials of the baniſhment of mortals from the Paradiſe originally deſigned for us; ſome traces of the Sabbath as a day of reſt and holineſs, preſerved either by oral tradition, or in the forms and rituals, or ſtated times of a religious adoration: That *ſome* attonement at leaſt is required for the *wilful* tranſgreſſions of our duty both to God and Man, is certainly an univerſal doctrine; as likewiſe I believe it is, that certain places and perſons ſhould be ſet apart for the celebration of divine worſhip: whether the earth which we inhabit hath been created in time; at what diſtant period of it, or from eternity; and what *ſort* of ſacrifices, or what attonement is required by God for the pardon of wilful offenders; theſe are points in which men differ; be candid to their opinions, but not obſequious: take the prejudices and the paſſions of mankind, from faſhion and the indulgencies

of

of habit, into your conſideration, in order to judge rightly of their religious practices and tenets, as of every thing elſe in which they are intereſted, but diveſt yourſelf as much as it is poſſible, of theſe corrupters of the judgment in your own caſe. You may depend upon it for a certain truth, that God will deal in equity and mercy with all the creatures of his power, according to the light which he hath given them, of reaſon or of revelation, provided they have made a proper uſe of it, and not ſhut their eyes to what he hath diſcovered of his will:—If this fail—*the pillar'd firmament is rottenneſs.* But that all men ſhall be made *equally* happy in a future ſtate, upon the ſuppoſition only of their having acted conſcientiouſly in this world, we have no warrant either from reaſon or analogy, or from the Sacred Scriptures, to determine. All men are not *equally* happy in this life;

nor

nor have all men equal opportunities of rendering themſelves ſo; ſome perſons are evidently framed with natural conſtitutions ſo infirm, and liable to pains and ſickneſs, as no medicines, ſobriety or care, can ſtrengthen and ſupport; and others, with capacities ſo weak, of ſuch a limited inferior caſt, as no inſtructions can improve: the lot of both ſeems hard, and certainly, this world alone conſidered, it is truly ſo: yet no man, upon this account, can arraign the juſtice of God; for do we view the *whole* of their exiſtence? In his creating the ſeveral ranks of brute animals, it would be both arrogance and folly for us to enquire, why the poor beetle that we tread upon, was not originally ordained to be one of a ſuperior order; and why ſome reptiles or ſome inſects were created to be cut and torn, or bruiſed in pieces, by ploughs and harrows, &c. which is unavoidable; but at

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the ſame time it is *poſſible* that many creatures which *ſeem* deſtitute of nerves*, whoſe movements, probably, are carried on by ſome electric powers, entirely different from thoſe of other animals, may be inſenſible of corporal pains and ſufferance; at leaſt I am inclined to hope that they may be ſo, though I can have no conviction which will warrant my treating them as deſtitute of painful feelings. That, taking in the whole of its condition, nothing hath been created by God to a ſtate

* Many of thoſe aquatic animals, for inſtance, whoſe bones are a ſort of caſes for their muſcles, as the crab and the lobſter, and others of amphibious natures, as the common water-newt, &c. with ſome inſects, approach ſo near to the conſtitution of plants, that if an entire limb be lopped off, or broken from their bodies, another of the ſame form will ſhoot out in its place: and it is probable that their ſenſations may be duller than thoſe of other creatures, in proportion as their animal life approaches nearer to the vegetable. The conjecture may be allowed, though ſtill it can be but a mere conjecture.

of miſery without demerit, we may be abſolutely certain; but why human creatures had not an angelic nature from the firſt of their exiſtence, (and who can ſay that this was not the caſe) or why they have not an equality of happineſs in this *entrance* into Being, as it appears to us at preſent, are bold enquiries which do not become us: *equal* happineſs to rational yet ſtill imperfect creatures, and liable to an abuſe of freedom in ſo many inſtances, may, in any ſtate, for aught that we can underſtand, be utterly impoſſible: how far ſoever below you in advantages, therefore, reſpecting a knowledge of true religion men are found to be in diſtant climates, leave the portion of their future happineſs and bliſs with all humility and reverence, as you do the happineſs of their preſent ſtate, to the wiſdom, the goodneſs, and the juſtice of their maker; remember that Chriſt died for *all*, and probably

bably (in my opinion) for the inhabitants of other worlds, though not revealed to us, as well as other regions; but daily call to mind what is of the utmoſt importance to yourſelf, that as you are bleſſed with many ſuperior advantages of civil life, for which your gratitude is due, more eſpecially as you are called to the knowledge of Chriſtianity, and promiſed ſtill higher rewards in a future ſtate than others, which our Creator may gratuitouſly give as he thinks proper; remember that the laws of the Goſpel muſt be the rules of *your* conduct, and the meaſure of *your* obedience, or that you will be juſtly ſubjected to puniſhments more exquiſite hereafter for the tranſgreſſion of them.

It hath been the obſervation of philoſophers in all ages, that with reſpect to moral and religious reaſoning, there is nothing blinds the eyes ſo much as vicious practice; and it may be ſome apology for

heathen blindneſs, or at leaſt it is an argument for human candour, that many even of their *ſacred* rites of old, were acts of groſs obſcenity, or followed by the commiſſion of intemperance and lewdneſs. Some indecent rites, I fear, are ſtill practiſed in ſeveral parts of India, under the pretence of a ſymbolic reverence for the Author and Giver of Life; ſuch was the ſuppoſed worſhip of the Antediluvians, moſt probably revived by Ham the ſon of Noah, which ſpread through every part of Ægypt; ſuch was that to which the Iſraelites revolted at Mount Horeb, and in which they joined the Moabites; from Ægypt it made its way through Syria into Greece and Italy, where it mixed with manners or produced them* ;

* It is ſcarcely credible yet certain, upon ſuch authority as is inconteſtible, that theſe impure ceremonies were introduced and propagated lately here in England, by the people called Moravians, under the patronage of a Count Zinzendorff.

and

and well might the Apoſtle ſay, their fooliſh heart was darkened by ſuch abominable deeds: but evil inclinations when indulged in the imagination only, though never carried into action, have a ſimilar effect to warp the judgment in favour of irreligious Principles; wicked and impure *thoughts* muſt, therefore, not be harboured, becauſe they diſorder the underſtanding, and throw a miſt over the powers of diſcernment, like intoxication; nor is this all, they are abſolutely wicked in themſelves, and lead directly to the *perpetration* of what our reaſon and our conſciences diſapprove, the inſtant we can think and judge with freedom:— Animus ubi ſemel ſe cupiditate devinxit malâ, ſays the old man, in Terence, to his ſon; neceſſe eſt Clitipho conſilia conſequi conſimilia. But how are *thoughts* to be reſtrained, you ſay? they ſeem to come into the mind *without* volition; and

even in oppoſition to our ſtrongeſt reſolutions.—In this reſpect, my Frederick, we deceive ourſelves; all ideas have a limited variety of connected objects, and the mind hath power to chuſe which train of them to follow, though it is naturally carried on in that, whoſe connexions are the eaſieſt and moſt amuſing, or to which we have ſome predilection from a habit of indulgence: our thoughts are not incapable of being guided and directed by the Will, but the man who does not ſet a guard over the train of them, will yield to very ſlight temptations, to which the almoſt infinite powers of our imagination join to give an additional impetuoſity, and a ſtrength which is not properly their own.

It hath been finely obſerved by one of the Antients, that the pleaſures of vice are not only contradictory to our reaſon, but to each other: and that a vicious man, notwithſtanding the ſeeming ſatisfaction

and

and complacency which he has in the indulgence of his vices, is ever at oppoſition to himſelf: different appetites and paſſions, whilſt they ſtruggle for indulgence, muſt of courſe diſtract the heart; one vicious inclination is hurt by the gratification of another: as covetouſneſs is inconſiſtent and at variance with the luxury and pride of life, and all irregular or improper exertions of our faculties, all immoral conduct, (even in idea only) diſturb the peace and quiet of a man's own boſom; but after the actual commiſſion of what the conſcience muſt condemn upon reflection, they gnaw and prey upon our ſpirit with an unabated fury—Prima eſt hæc ultio.——

On the contrary it may be remarked, that there is a concord and agreement between the Virtues; the man who practiſes one virtue, does not thereby act in oppoſition to another; they are all in harmony

together; their exercise is attended with a self-approbation at the time, and succeeded by a joy of heart; whilst the vices only are discordant; now this must make a life of piety and virtue, where the appetites and passions are under due restraint and government; that is, where they are directed to the ends for which alone they were implanted, much more pleasant and delightful upon the whole, than a life spent in their unlimited gratification; as they impel and urge the mind by turns to opposite tumultuous and inconsistent indulgencies; because such a life is without distraction; hath no solicitations repugnant to each other; no contrariety or oppositions but what may render the variety of our pursuits still more delightful, and add to every enjoyment: whilst the conscience is at rest, and we can raise our eyes to heaven and beg support with confidence, whatever evils may befal us.

I have

I have received a ſad account from the Hon. Mrs. W. of the loſs of her dear father, whoſe regard and kindneſs does us ſo much honour; he died after a very ſhort indiſpoſition, (as he had always wiſhed to do) on Wedneſday the 5th of the laſt month; his underſtanding unimpaired, and his ſpirits unbroken by ſickneſs; and although the whole family, and his old friend Dr. Reeve were then preſent with him, his death was ſo exceedingly eaſy, that not one of them perceived when he went off. How much is ſuch a paſſage out of the world, after ſuch a life, to be deſired; and how few men are ſo happy in their exit. To die, apparently, without the leaſt degree of pain, or ſo much as a convulſion—to die ſurrounded with his children, after he had ſeen the virtues he implanted in them, taking root and flouriſhing—to leave them all not barely independent, but in ſplendid affluence—

to

to leave a character behind him unimpeached—to die in peace with all the world—to be lamented by all who had the pleaſure of knowing him; and moſt by thoſe to whom he was beſt known—to leave the noble fortune he acquired with ſo much honour, and the vaſt eſtate which he has realized, to a ſucceſſor, who knows both how to keep and to enjoy it with becoming dignity, and who endeavours to alleviate the loſs to his family, to his friends, and to his dependants—theſe are altogether ſuch extraordinary circumſtances of felicity as fall to the lot of few perſons in a century.

He had ſome preſentiments that his diſſolution was not very diſtant, upon the firſt attack of his diſorder, and though he allowed his phyſician to call upon him in the character of a friend more frequently than uſual, (as well aſſured it was by the tender deſire of his children) yet he would

not

not ſuffer Nature to be interrupted in her laſt operations, by ineffective medicines, at his advanced age of ſeventy-ſeven, but retired from the world like a ſatisfied gueſt from an entertainment. I ſhall add but little more upon the melancholy ſubject:—he knew the world, and he knew himſelf; for what is ſingular, and may be given as a proof of this—he never formed a plan in it, which did not anſwer to his expectations. With ſtrong ſuperior parts, and with the ſoundeſt judgment, he had much vivacity and wit, and was the ſoul of his table, at which, though every perſon was in perfect freedom and at his eaſe, yet no one dared to take improper liberties; and he generally ſaid the beſt thing that was ſpoken at it. There was one particular part of his conduct which I would moſt earneſtly recommend to your imitation, when you are ſufficient maſter of your time, and can call it properly your own;

own; he always gave up half an hour in every morning before he left his dreſſing-room, to private thought and recollection. In this he acted wiſely as a man of the world, but I am far from ſuppoſing that his mind was taken up by this world only. If converſation turned at any time upon religious ſubjects, and others ſpoke with unbecoming levity, he never joined them, or ſaid any thing which poſſibly could give offence to the moſt devout mind.—He received the ſacrament according to the ritual of the Church of England, and was truly charitable to the poor and afflicted, not from a weakneſs of compaſſion, but a ſenſe of duty and of gratitude, the only praiſe-worthy motives.

You muſt deeply feel and lament his loſs, and Mr. C. will ſympathize with you, for he knew his worthineſs, and revered him as a parent; for my own part it will be long before I can bear a viſit to

the

the houſe where I have experienced ſo much of kindneſs from him; and when I do, notwithſtanding my regard for its preſent owner, who moſt kindly continues to me his father's friendſhip, there will appear an aukwardneſs in my behaviour, for which no reaſon can be given: This muſt be diſguſting to the Family, and, excluſive of my deep concern for his death, will give me very uneaſy ſenſations, which are liable to be miſtaken, and impoſſible to be concealed.

Our worthy friend Mr. Hingeſton died at Raydon, upon the thirtieth of the ſame month, and has left a large family to the care of Providence, who, I am perſuaded, will raiſe them up friends: all his thoughts and ſtudies were directed to the good of his fellow creatures and the glory of God, whoſe will he endeavoured to ſearch out, and to follow; his painful labours, and his undiſſembled piety and reſignation

reſignation under the ſevereſt of afflictions, cannot fail of their reward. Theſe are heavy loſſes to us, but we ought not to repine.

Converſation in general is engroſſed at preſent by the unhappy Dr. Dodd; and the papers which I ſhall ſend you, are filled either with ſevere remarks upon his conduct, or with apologies for him:—There is room for both: he certainly has a mind which taſted all the ſweetneſs of benevolence.—He falls a victim to extravagant indulgencies, and what are *called* only the *innocent* luxuries of life, have ſeduced him to his ruin.

I am, ever, &c. &c.

One-

Onehouſe, Sept. 2, 1777.

THE concluſion of my laſt letter, my dear F. which may come to you, perhaps, by the ſame ſhip with this, will be a ſufficient introduction and apology for the ſubject which I ſhall now purſue: Let me earneſtly diſſuade you from accepting the offer of the young gentleman you mention, however generouſly it has been made; no ill conſequences can follow from your declining it; but many, many evils may ariſe from your accepting of his kindneſs. If you have already been obliged to him in this way, my advice is, to diſcharge the debt as ſoon as poſſible; trifling ſums received at ſeveral times, amount in a very

a very ſhort ſpace to a conſiderable one, without the additional increaſe of intereſt, which, in India, I am told, is twice as much as here in England; and perſons are ſurprized to find themſelves in difficulties before they were aware of them. Let me again intreat you, therefore, as you would avoid the deſtruction of your hopes and expectations, to live within your income, be it ever ſo contracted. Your benevolent patron will generouſly ſupply whatever may be neceſſary; and to accept the loan of money for the purpoſes of vanity or diſſipation, is the firſt ſtep to ruin; one year's extravagance of this ſort, (for I call every indulgence extravagant in your preſent ſituation, which you can decline with decency) is hardly ever to be retrieved; the ſolicitations of pleaſure will increaſe, till the appetite for them grows inſatiable: you will want the diſſipated ſums you might have ſaved, to avail your-

ſelf

ſelf of accidental advantages in trade, and regret your inability to raiſe them, when they would be of the greateſt ſervice; if not, the report of diſſipation in a merchant is exceedingly injurious to his character: I have no reaſon to ſuppoſe you either are at preſent, or are likely to be, extravagant, yet avoid the temptation to profuſeneſs.—It may not be in your power to pay even a moderate ſum at the time you may be called upon for what you borrowed; your friend may poſſibly grow cool; and upon your not doing what it is not in your power to do, which he may conſider as a pretence only, a total change of his affection may ſucceed, accompanied with upbraidings; and a man who can ſupport the idea of being in debt under ſuch circumſtances, muſt be loſt to all the finer feelings, and he muſt probably ſubmit to groſs indignities, without preſuming even to look diſpleaſure—Et quam miſerum eſt

homine ab illo lœdi de quo queri non auſis. There is an eaſtern proverbial aphoriſm, of great force—*Proſtrate; riſe again; ſpeak; be ſilent; theſe things are the ſport of the creditor with his debtor.* A borrower muſt often crouch and ſtoop to ſervile mean compliances, and loſe the ſpirit of a gentleman under ſuch dependance: but this is not the whole, nor yet the worſt; it leads to rapine and diſhoneſty. There have been hundreds of young people in the world, who, driven by the neceſſities they have brought upon themſelves, act almoſt without remorſe or ſhame, what they ſuppoſed it would have been impoſſible for them ever to engage in: practiſe every dirty artifice to acquire money, either to extricate themſelves from their embarraſments, or to ſupply the means of their continuing extravagance, and who have proceeded from ſuch ſcandalous and diſhonourable actions, to diſhoneſt ones, till they have been

been totally abandoned, and either put an end to their own lives, or forfeited them to public juſtice: of ſuch, the papers within a few years have afforded remarkable examples.—There is no knowing to what dreadful lengths a ſingle inſtance of improvidence may carry us; to ſuppoſe the beſt, money borrowed in ſmall inſignificant parcels as they appear at the time, give only trifling ſatisfactions; but the diſtreſs they draw upon us, is in no light of the trifling ſort; the uneaſineſs is paſt enduring, and admits a very ſhort alleviation by the change of a new creditor to avoid the importunities of an old one, which in general only plunges men deeper in calamity, till it is without remedy; and in this caſe, poverty ſucceeds almoſt unpitied; but when it ariſes from a *vicious* extravagance, contempt likewiſe never fails to attend it: The general friendſhip of the world, (what we call abſurdly by

that ſacred name) is but a temporary good humour, which is commonly founded upon an aſſociation in the vices or the follies of voluptuouſneſs; and of courſe it muſt come utterly to an end, when what is neceſſary to enable ſuch companions to aſſociate together, can no longer be ſupplied: I would not have you think that I ſuppoſe you capable of doing any thing that is either wicked or diſhonourable, but, inexperienced as you are, you may not be guarded againſt what might be productive of the deepeſt ſorrow and affliction. Men's tempers and diſpoſitions alter, and the beſt way to preſerve your friend, is, if poſſible, to preſerve your independence.

It is a common error, not confined to early life, to ſuppoſe that all the innocent amuſements which our fortunes will allow, may be indulged without a check; but the dangers from theſe are very great;

we

we ſlide from vain amuſement into that degree of folly, which is ſo nearly allied to vice, as ſcarcely to be diſtinguiſhed from it; one ſingle ſtep farther, carries us beyond the undetermined boundary, into the confines of wickedneſs; and a young perſon has reaſon to tremble at the thought how ſoon he may be hurried down to abſolute ruin; but ſhould his expences not lead him into inextricable diſtreſs, they may ſtill render him a troubleſome companion to himſelf, by bringing him into laſting difficulties; and certainly it is impoſſible that there ſhould be any inward ſatisfaction of heart, upon which to build our happineſs, when the mind is diſquieted with fundamental cares; ſuch a perſon is a wild projector, diſpoſed to run the greateſt riſks, and if thoſe events, which are built upon the uncertainty of contingencies, ſhould fail him, he has little conſolation in his own

reflections for his support, and is often mortified to see that others have succeeded in life so far beyond himself, who had fewer friends at setting out, with fewer advantages, and who now look down upon him from superior stations; in short, my dear Frederick, do not despise my present letter, but give it due attention: though some amusements and relaxations from the cares and the employments of life are necessary, they must be regulated by the ends they ought to answer; and prudentially confined not barely within the limits which our present circumstances will allow; or evil consequences probably will follow, from the deceitfulness of pleasure; the effects of which may reach beyond the present life.

I am, &c.

January 5, 1778.

DEAR FREDERICK,

YOU barely acquainted us that you touched at Goa; my ideas of that city had been very much raiſed, and I ſhould have been particularly entertained in reading your deſcription of it, but I ſuppoſe your ſtay was very ſhort, perhaps you ſcarcely ſaw it: The Portugueſe, within their *native* climate, are ſaid to be the moſt abandoned in their manners of any people in Europe; their eaſy penances and prieſtly abſolutions, of whoſe efficacy they have the higheſt notion, are favourable to a general vicious courſe of life; and it is not to be expected, they ſhould have leſs influence in their foreign Settle-

ments, where the ſame blind ſuperſtition operates with equal, if not greater force, in proportion to the greater ignorance it hath to work upon: The Portugueſe women, in their colonies eſpecially, are ſaid to be at the top of the profeſſion of lewdneſs, which, except in the Religious who have taken the veil, is hardly conſidered as a vice, and the ſeduction of their wives or daughters is looked upon rather as a violation of property, the ſubject of private retaliation and revenge, than as the corruption of innocence, and a violation of the law of chaſtity. The appetites in general were undoubtedly implanted for other ends than a continual reſtraint; they act upon the conſtitution by internal powers, excluſive of the intervention of their objects, towards which they are carried out in ſearch, without ſuffering firſt the influence of external agency, as in the paſſions: they were given to be gratified;

but

but ſtill it was with a reſtriction to the purpoſes for which they were ordained. Hunger was not intended for the ends of gluttony; nor thirſt for the indulgence of the drunkard; but both deſigned for the continuance of *life* and health and ſtrength to *individuals*; the appetite which prompts to a continuance of the ſpecies, muſt be regulated likewiſe by the ends of Providence; I ſay the ends, for there are doubtleſs many; in brutes it acts with a degree of violence, which renders them outrageous and ungovernable at certain times; but it does not urge them conſtantly, nor doth imagination act upon *their* fancy probably to inflame it: where reaſon has been given, it hath, or ought to have, the guidance of the groſs deſires, and to reſtrain them in their impulſe; mere animal gratifications of this ſort are certainly unworthy of our rational and ſentimental nature, and unbecoming a hu-

a human creature; nor ought a view to the continuance of poſterity to be alone conſidered: the future education and inſtruction of our offspring, ought to be regarded; ſince, excluſive of a poſitive command, our children have a native claim of right to our affection, and to a moral and religious education. I can leave you to imagine the unhappy ſituation of a child, who has but one parent; the harmleſs infant is deprived of half the tender conſolations and endearments it was born to; and where no fixed and ſettled love ſubſiſts between the parents, it is commonly abandoned, (even in civilized communities) to make its way amidſt the vices and temptations of the world, unprepared to combat their aſſaults, and biaſſed by domeſtic bad example, in favour of abandoned lewdneſs, which leads to every other criminal exceſs; to ſay nothing of the hardſhips and diſtreſſes which ſuch friendleſs unprotected children meet with:

with: What I have hitherto advanced, without any other arguments upon the ſubject, ſhows, that vague and lawleſs love, (for this mere appetite is ſometimes complimented with a name to which it hath no title) defeats the purpoſes of Nature, which calls upon both parents, jointly, for the proper education and inſtruction of their offspring, and is, therefore, ſo far an unnatural crime, as it offends againſt a Principle of Nature's fixing and eſtabliſhing; for however natural the appetite implanted is, the abuſe of it is contrary to Nature.

I have ſaid more than I ſhould otherwiſe have done, upon the practice of abandoned lewdneſs, that you may have ſomewhat to oppoſe, with modeſty, upon the prevailing faſhionable, but falſe aſſumption of its being excuſable, as *conformable to Nature*, for if a ſtrong propenſity of conſtitution, and an inclination to the commiſſion of it, renders an irregular indulgence

gence natural, there are few vices which may not plead the tendency of our corrupt Nature as an excuſe; and, if I am not miſtaken, you have told me, that the Gentoos urge a ſimilar argument in defence of murder, and that the corruption of the fourth jogue, apologizes for every thing. How deeply muſt it wound the conſciences of ſome who call themſelves Chriſtians, and fill them with compunction, when they ſeriouſly reflect upon their commerce with the women of infidel nations, that ſome of their children have been maimed or murdered, or may be wandering at preſent, naked and diſtreſſed, under all the ſpiritual and corporal miſeries of ſavage life; or who that hath given himſelf up to vague and caſual *unendeared* fruition (as the Poet calls it) here in Europe, can be ſure his children, of either ſex, have not been initiated in the practice of the moſt enormous villainies, or are

not,

at preſent, languiſhing under the torments of ſome loathſome and incurable diſtemper inherited from their wretched mothers, or ſtruggling with a multitude of evils, the conſequence of poverty, and a want of moral precepts having been inſtilled into their minds in early life. Theſe things may be hinted at at leaſt, ſhould you be called upon in company, when to be ſilent would be looked upon as giving up your principles.——

> I hate when Vice can bolt her arguments,
> And Virtue hath no tongue to check her pride.

But there are ſeaſons, my dear Frederick, when to oppoſe prevailing faſhions, however evil, would do more harm than good; and a profeſſed advocate ought to be well aſſured of his abilities, or he may injure the cauſe of Virtue and Religion, which he intended to promote; I would propoſe our friend Mr. Oram, of Madraſs,

as

as the model upon which to form your conduct in this reſpect; I truſt you keep up a correſpondence with him; his letters will confirm your virtuous reſolutions, and he is as ſenſible and polite, as he is prudent and worthy in all other reſpects.

I am, my dear F.

&c. &c.

POSTSCRIPT.

I have now for a long time been heartily fatigued with the dulleſt of all employments, that of correcting the preſs, and ſhall put a final period to my troubles of this ſort, after adding, as in the former volume, an apology for thoſe errors, which an ill ſtate of health, and a diſtance from the printing-office, with the ſhort time allowed for examining and returning the proof ſheets, have rendered more numerous than I preſumed they would have been; and as ſeveral omiſſions and miſtakes are diſcerned upon looking over the whole together, which eſcaped me in a ſeparate examination, I again particularly beg

beg the reader's candour to excuſe them, together with thoſe faults, which have ariſen from a deficiency of my judgment or my memory, which it was not poſſible to obviate.

By a want of proper attention to a draught after the Ptolemaic Table of the Hypodorian Mode of Diapaſôn, which was ſent to my engraver, (who has committed no miſtakes for which I am not anſwerable) I have unwittingly joined the Dorian Mode of Pitch with it, inſtead of the Hypodorian; which, though it might be done by the practical muſicians and compoſers of antiquity, who were allowed to adapt what *eſtabliſhed* mode of tuning they thought proper to any mode of Diapaſôn, which might give the beſt expreſſion to the ſubject of their melody, yet was not my deſign in this attempt to illuſtrate the uſe of the Ariſtoxenian Modes, as connected with the Modes of the Harmonic writers.

The

The Reader, therefore, if he thinks it worth his trouble, will pleaſe to conſult the firſt general Table, at page 432 of this volume, in which the power of the Hypodorian ΜΕΣΗ is found to coincide with that of ὑπάτη μέσων, or the fifth ſtring of the lyre, in poſition, from the graveſt; which gives the ſound of E, according to the modern ſcale of Guido, at the interval of a tetrachord or of five hemitones, below the Dorian ΜΕΣΗ, which ſounded the note *a*, or an eighth above the aſſumed Pythagorean note; and as the power of every ſtring both above and below the ΜΕΣΗ of the Hypodorian, is preciſely determined in the ſame column, this acknowledgment will prevent any doubts reſpecting the tuning of this Mode of Diapaſôn in particular, which might otherwiſe have ariſen from my application of the Dorian Mode of Pitch to it.

Before I tranſcribe a general table of errors for this volume, I ſhall inſert a ſhort note, intended to have been given at page 258 of the former, which follows here in italics, though I may, perhaps, take this opportunity of enlarging it :—

Our admirable Chaucer, whoſe genius I revere, hath added a new character to the group, in the Cave of Somnus, which is finely imagined; namely, the perſon of his ſon and heir brought up to nothing:

Who ſlepte and dy'd, none other werke,

as his name imports, which ſignifies an utter diſregard of every thing.

CHAUCER's Dream, l. 165.

The deſcription of the Cave, indeed, is leſs ſtriking than that of Ovid; by an omiſſion of thoſe numberleſs fantaſtic dreams, which were huddled round the couch of the God: but our Engliſh poet hath

hath given a fine variety to the ideal picture, by contraſting the attitudes of ſome of his attendants, who were ſnoring in the dark receſſes of the cavern.

Truly it is nat here myne intente
To ſpeken more of their Convent.
But that derke over all aboute,
They had gode leiſir for to route
To vye who mighten ſlepe the beſt.
Some hyng her chynne upon her breaſt,
And ſlepte (upright her heed yhed,)
And ſome lay nakid in her bed,
And ſlepte whyles her dayes laſte:—

His ſketch of the dark valley itſelf, *that ſtante between rocks tweye*, and which can hardly be ſaid to have been copied from Ovid, brings Middleton dell, which he might have ſeen ſtrongly before the imagination, and is ſolemnly picturesque and ſublime.

There never yet grewe corne ne graſs,
Ne tree, ne nought that ought was,
Beeſt ne man, ne nought elles,
Save that there weren a few welles,
Came rennyng fro the clyffs adowne,
That made a dedely ſlepyng ſowne,
And renne alonge right by a cave,
That was under a rocke ygrave;
Amyd the valley wonder depe,
Where theſe Goddis lay aſlepe,
Morpheus aud Eklimpaſtiere,
Who was the God of Slepe's heir.

The candid Reader, it is hoped, will forgive my ſtill lengthening out this Poſtſcript, with quotations from the Father of our Engliſh Poetry, as the lines would not have diſgraced the imagination of the Roman Poet; and he can paſs them by unnoticed, if he thinks their introduction an impertinence.

Chaucer had ſuffered much, as he tells us, now for eight years, by a lowneſs of

ſpirits,

ſpirits, accompanied with watchings, that threatened the utter ruin of his conſtitution; and ſitting upright one night in his bed,

He bade to reachen hym a boke
To rede, and drive the night away.

It may be preſumed, from the affecting ſolemn manner of the beginning of the original narrative, that thus far was really the fact; nor would it be very difficult, perhaps, to determine upon what diſagreeable circumſtances of his life, ſo great an evil befel him: This Poem of the Ducheſs, or his Dream, as it is uſually called, fixes its firſt attack to the age of two or three and thirty, whatever was the occaſion of it; for John of Gaunt's firſt Ducheſs of the Houſe of Lancaſter, whoſe elegance of perſon and engaging manners are deſcribed, and whoſe loſs is ſo pathetically lamented in this Poem, died in the year 1369, and our Poet was born in 1328.

Ovid moſt undoubtedly was a favourite author of Chaucer's, nor could a more engaging Fable than this of

" *Alcyone and of Ceyx the King,*"

have been choſen for his amuſement :—

So when I had red this tale wele,
And overlooked it every dele,
Methought wonder if it were ſo—
But lever than that I ſhould pace
Through Dethe's door, as in thys caſe,
By defaulte of ſleepyng thus,
I wolde give thilke Morpheus,
Or his Goddeſſe Dame Juno,
Or ſome wyght els, I ne rought who,
To maken me ſlepe, and have ſome reſte,
I wolde give him the alther beſte
Yefte he ever abought hys lyfe :
And here onward right now blyve,
If he wol make me to ſlepe a lyte,
Of the downe of pure doues white,
I wol give hym a fetherbed,

'Rayed

'Rayed with golde; and right wel cled
In fyne blacke ſattyn, d'outremere;
With many a pylow; and every here
Of clothe of Reynnes to ſlepe on ſoft,
Hym there nat nede to tourne hym oft:
And I wol gyve him all that falles
To his chamber, and to his halles;
I wol hem paynte with pure golde,
And tapyte hem ful many folde:
Of one ſute this ſhall he have,
If I wyſt where were hys cave.

Chaucer's poetical pencil always gives us the moſt perfect ideal preſence:—And let me now turn my thoughts to you, my dear Sir George, with the friends of Taſte, whom your goodneſs hath made mine, in the neighbourhood of theſe enchanting ſcenes, which he hath deſcribed with the preciſeneſs of a painting; and recal ſome paſſages of this Poet to your memory, whom you formerly

merly admired, when we read a part of his works together, in the ſequeſtered humble ſituation you then loved; a time I now delight to live over again, in my imagination, which is aided by Mr. Woollet's and Mr. Hearn's delightful drawings, together with thoſe of the worthy Pouncey and Smith; they place me upon the very ſpot, where we uſed to paſs our chearful ſummer's evenings——but to return to Chaucer—*Again* with you I ſee him at the inſtant I am writing, ſlumbering in his airy chamber—the ceiling, oak, adorned with carved work—the bedſtead, cedar, buſily inlaid, and turned with many a bead, after the antique guiſe; the ſame, I trow, on which his anceſtors han whylom ſlepte—upon the corniced ſhelf over his heed, ſome eight or ten illumined manuſcripts according to his fantaſye—

Boccacio; and the laureate Poete,
That lerned clerk, whoſe flowing rhetoricke ſweet,
Enlumined