

274 This gradation there is something very con-
sonant to the theory I spoke of before. I de-
view the matter on the other side. The disagreeable-
ness of a trapezium compared with a square is
considered as quite different from the cutting of a
knife; the last we refer to the body and call
bodily pain. All sensations of touch are more pro-
perly painfull; also perceptions of sound are
painfull, but they are a communicated sense of
touch; All the other modifications of these sense
is that are not pleasant we call disagreeable.
And here is a gradation. In passing from the agree-
ableness of form to the harshness of discord the
horror of faulid and nauseous, these are degrees
of sensation of which the last approaches to pain-
full. But among the disagreeable sensations
there is a kind distinct both from the painfull
& disagreeable strictly so called. These arise
from a perception of the different states of our
own functions, and which we distinguish un-
der the title of uneasiness. Our sensations of
touch are often our sensations of the state of our
body. And accordingly disagreeable taste often
with the state of our bodies, and you can hardly

distinguish them. Amongst the uneasy is first 275
the want of impressions, the want of our impres-
sions, the sense of debility, torpor and languor,
of interrupted thinking, confusion of head; the
sense of interrupted Circulations, of interrupted
digestion, Evacuations, & ungratified appetites.
I have subdivided the agreeable into the agreeable
& pleasant; the disagreeable into the uneasy dis-
agreeable & painfull; to the first of which I
can give no relative; Yet the pleasure
of motion as that of sailing, of riding in a
machine, & flying which we have not thought
of; and skating which I have liked because
it approached to flying, may be considered as cor-
responding to uneasiness. There is a pleasure
from facility, alacrity, and vigour in bodily
exerise, and lastly in the gratification of
pleasure & appetite, which last tho' it approach-
es to pleasure, yet we distinguish between the
indulging in these, and the pleasure we re-
ceive. Now all these may be considered as cor-
responding to what I call uneasiness. The ap-
plication will certainly come afterwards. Now
I would wish to consider the degrees of both these

246 general heads. I will attempt arrangement.—

On the side of the agreeable is first sensation; next
new sensations to be considered as diaphanous;
next perception of relation that amounts to the
perception of truth, and in a great measure
that of ability; and the perception of truth will
run very high if, our own invention; next is ges-
tation, then bodily exercise with facility, alac-
rity and vigour. The pleasure of strong drink is
of a mixed kind; the effects of it may be to give
facility, alacrity and vigour in acting and think-
ing; therefore it belongs to the head of easy
thinking or of easy motion. In the more spe-
cific sensations depending upon particular
organs, we put as the lowest, perception of
beauty abstracting from motion, & the sense
of the beauty of the sex. next to figure and
colour are the perceptions of melody and har-
mony, which too, are to be abstracted from
motion, next is taste without appetite. Then
I put as in a higher degree of corporeal plea-
sure that of fragrant odours. Next comes the
sense of titillation without appetite. Next
pleasure in the repose from fatigue; next

indulging our propensity. Our yielding to sleep
and fainting. But there is likewise a propensity
various and not to be limited here. First titillation
with appetite; next the pleasure of taste accom-
panied with its ~~appetite~~ gratification of appetite;
and last of all, the gratification of passions.—
The gratification of some appetites may be in a
higher degree than that of some passions. It
depends upon the greater or less degree of sen-
sibility.—

A scale of disagreeable sensations.—

First is want of impressions; next is want of
new impressions; next want of accustomed im-
pressions. Often habit introduces artificial ap-
petites the want of which is often attended
with a very high degree of uneasiness. Next
the dissipation of pleasures in their nature not
satiated, as in the case of taste and smell which
are soon satiated. Then of the ear which are much
longer, & of the sight which are scarce at all satia-
ble. Next the perception of interruption as con-
fusion of head. Next follows sense of interrup-
ted motion, in stupor, lethargy, Languor, & Delir-
ium. Next occurs a sensation of deformity pro-
viding it is not an object of fear. Next harshness

248 of discord. Whether music in exciting an uneasy passion is ever to be considered as disagreeable may be a question. But I deny it because like the pleasure of commiseration we willingly indulge them; therefore I mention simple discord. Next a general sense of disagreeable feeling takes place as more strong than the sensation of deformity or discord. So when I touch a woolen cloth, & more so when I touch velvet or plush, it throws me almost into a convulsion. Next nauseous taste and foetid odour, as in very different degrees, it may be doubtfull which should be put first. Next these is lassitude. Of a higher degree is what we call sickness; and still higher is anxiety. Next is the restraint of propensity, than that of appetite, and lastly bodily pain. With regard to these three last your experience will determine you to estimate them very variously; and your estimate upon the whole may be disturbed. Nor will I answer that it is right; different constitutions and Idiosyncrasies may vary the matter. But still an approach to accuracy tho' we do not exactly come up to it is usefull.

Lect. II. Jan^y. 29th. 249

It is necessary to mark out so many kinds of enjoyment. I have avoided species & reduced them to genera. The disagreeable I said belonged to external objects, the uneasy to the state of our own members, the Painless to On the other side between the agreeable & pleasant I can only find different degrees. Next I attempted to distinguish the degrees of the different kinds. It is but an approach towards accuracy; it naturally led me to some arrangement, in the different degrees I said it might be usefull on various occasions. I would wish to inquire upon what corporeal state are founded the different degrees of pleasure & pain. I said that with regard to species they were in a sort of compound ratio of the degree of impulse & sensibility taken together. It is more doubtfull whether that applies to the different kinds. The effects of kind as well as species depend upon age, temperment &c. Pleasure or pain very often depend upon a succession of impressions as is evident in the affair of melody. Something of the effect of sensation seems to constitute the whole of titillation and there is something like this in taste & smell. I desired

that compound impressions were more or less perfect; perfect in green, less so in purple: and from that perfection or imperfection an agreeable or disagreeable sensation arises; It is evident in sound and in the case of smell. All this may apply in the case of the species tolerably well. But genus can not on many occasions be referred to force or impulse. We are equally frightened by a frightful ghost or spectre as by a black decal. The modifications of the mind occasions this. This consideration of pleasure or pain is part of a large system which I can only sketch here in the way of enquiry.

In what conditions or circumstances the perceptions of PLEASURE or PAIN found our moral volitions. — We call this desire or aversion.

Haller says the one is what we will and the other what we avoid. And others go on to explain good or evil from that; But their words commendate no Idea. I can not explain it; for it is enough that they produce this new motion in the mind. Next I observe that the sensations of pleasure or pain, when they give motion do it always with a volition, a propensity or inclination. The power of breathing wind is not voluntary

we can not excite it without a particular feeling 281 in our intestines. But yet the effect is often restrained by decency or good manner. But it prevails seemingly against our determination and therefore is called involuntary; But I believe we are agitated between contrary motions, of which the stronger prevails. However I know no involuntary motions but where we are not conscious of the impression or motion following. Inclination propensity or will always prevail. I would willingly yield this to the operation of a sentient principle; because we know that by habit any motion may be entirely restrained. Thus we have a general propensity to yield to motions in cases of uneasiness yet we donot know what sort of motion will follow, nor to repeat the same motion by any effort of our will unless the original sensation is renewed. We make a number of random motions because we are acquainted with their fitness; such is the motion of yawning, hunchup, stretching, sneezing, coughing, voiding urine or stool; they can be in a certain degree restrained by a contrary motive; a man when he would cough may be hindered by a Pain in his side, and like instances will apply to the rest. When shut.

282 Men are under the operation of a vomit; they certainly hesitate between the propensity excited and the pain of the motion: it is at length determined by the motive that preponderates. All these are the motions then with propensity. There are others that arise from an uneasy sensation, with a particular propensity. The first time a man sneezes he does not know the action to follow. That action so intended and fitted to that purpose is unknown to us before experienced. In this case the particular action is with a blind propensity: and the will can not excite that action without the state of the Body is actually removed. These are the several appetites. Biting, chewing, swallowing, are determined by the appetite of hunger without our knowing their fitness. These last are without regard to end and purpose. A child has no apprehension that solids nourish his Body. I need not say that the sexual purpose in affairs of venery hardly enter into our thoughts. Particularly I must observe the powers of the will in exerting these motions. In the case of the appetites these are founded in a particular state of our Bodies, but are connected with

external impressions that prove incentives to 283 them, and that will affect them differently. Thus when a man is satiated he is difficultly excited to chew or swallow by the Dour, even of the most savory meat or the pleasure of taste; but when he is less satiated it is certain that these external incentives will renew the desire. Every body knows how long the morsel will be turned in the mouth before it can be thrust over the jaws; a curious instance is given of this by Eldonius; A man with an ulcer in his throat refused food because he had no appetite & had it not in his power to swallow; but an appetite arising spontaneously he could swallow easily and swallow a rough morsel without that pain which he had felt before on the slightest trial. In general with regard to all our appetites, that of hunger in this respect is the most restrained. We can the least command the motions of that appetite; as the taking of drink is adapted to a greater variety of purposes so we have it more in our power. And last of all are we restrained in the appetite of Lust. Now having observed how far the motions of appetite are in the power of the will, let me observe that even the propensities will

284 often be in our power to revere. If I can call
to my mind a very nauseous draught by merely
the recollection of that I can excite vomiting,
which many people in fact can do; and by looking
at a badly picture we acquire a power of the will
to venery. In our appetites tho' we do not force
it there is a pleasure to be obtained by the final
gratification of the appetite, separate from that
of the gratification itself. This leads to

DESIGN

Now we have instance in all our other emotions and passions that consist in desire of producing actions. Many call that will, only to have
~~and~~ a propensity to obtain a good, or avoid an
evil. With respect to will I do not perceive the
difference, unless in the will the propensity
is the thing. The perception of this end and
purpose is not the effect of the volition but the
cause of it. I think that human will is free but
it is in the choice of motives, which last being
determined the will and the action are also de-
termined; in many cases the passion when it first
arises admits of a balancing of motives and we

call that reason. And it is reason too when there 285
is room for a choice of means. Instinct and
reason, to me only differ as the ^{different} shades of the
same colour. If you chose only to call that volun-
tary where there is an end and purpose, you must
still attend that those are determined by perception
and the will accompanying, and in either case
the propensity is the same. Volition does not al-
ways determine the external actions; these are
produced by a volition to the effect. I stretch my
body to throw a stone and am very little attentive
to the mode of action by which I throw it, these
actions are hardly the effect of imagination with-
out our being attentive to them. It is nearly
the external action of the body, that is, will;
we are not conscious of the internal motions
of the body. I shall state this more fully
hereafter. Under repetition of action the ex-
ternal body becomes much more fitted to it,
but it is not from conscious ness, & it is without
mechanics. In any one action more or fewer mus-
cles concur, this admits of a particular applica-
tion that I have not time for just now. I am
next to connect volition with contraction which
leads us back to the mechanism of the body.

We are to proceed next to contraction or muscular motion. To enquire to what degree the mechanism takes place I am to connect it with

all impression exerting perception acts on the nerves. From our being able, more or less nearly to trace nerves to every sentient part we conclude this; and when that can not be done analogy allows us to make the application. As the extremities of the nerves are the organs of sense, they are such in so far as they are connected wth the origin of the nerves. so what destroys that connection destroys all sense. Let us see how far it depends upon a continuity of the same substance from the nervous extremity to the common origin; It has been supposed that nerves are only a continuation of the medullary substance; and compressions of the medullary substance constantly affecting the nerves arising from that portion, proves this. It is joined to this that from a great number of experiments it appears that the medullary substance of the Brain is exquisitely sensible. And the ^{continuity} ~~extremity~~ of this medullary substance is absolute.

ly necessary to every sentient part. We now return to explain upon what parts more especially do impressions excite sensations. It has been thought that the soul immediately sets up the motion in the extremity; others are of opinion that that motion is communicated from the extremity to the origin. This question affects our system very materially in another place and has been agitated for a ~~thousand~~ years. The supposition of the soul is very agreeable to the human heart, but it has on many occasions suspended, interrupted & disturbed our theory. I am cautious of admitting it because I do not know its operations; and I am for admitting mechanism as far as it will go. I think then that the motion is communicated and propagated to the Brain. I say then that there is a continuity of substance and that very uniform, and that is enough for the possibility. But that continuity of substance is equally sensible in every part of its course. Indeed the strictest Scholians will not refuse that a motion

288 is received in the extremity, and that it is received in a part of singular mobility & therefore it is difficult to suppose that, without propagation of motion. You know a maxim that no body can act but where it is. Communication of motion is made where there are contiguous bodies or continuous ones. Hence light falling on the surface of bodies is from thence reflected, and returned ~~from~~ some distance from that solid matter of bodies. We suppose then that there is a subtle fluid by means of which the impression takes place, or that there is an immaterial agent that takes up that & returns it again. Now we must take up one or other of those suppositions. It is enough that the soul perceives in the nose & acts upon the diaphragm and muscles of the abdomen producing sneezing. If then are communications of motion without interruption, they must be by being made to a common origin. Further it is rendered highly probable by compressions, ligatures &c

in interrupting all sensation and impression. 289
The Athenians say though the communication be necessary, it may be for other purposes than a communication of motions; and they say that ligatures do not destroy communication from the extremity to the origin, but by preventing some thing coming to it from the origin. This opinion then of mine is most simple and highly probable as supported by other arguments. May we are often sensible of it as in the aura of Epileptics & Burns that attend sensations, as in Delirium animi &c we receive as if a somewhat moved along our limbs we trace it till it comes near the head and arriving at the origin all sense is destroyed, and only very irregular motions produced. A motion also arises along the intestines to the stomach and then to the lungs and last of all suffocates us. Now it is not enough that we perceive that but we know that a tight ligature prevents its further progress towards the origin. This has at all times been admitted as a proof of what I have advanced. Another argument

290 is the singular phenomenon of a frequent sensation which a man refers to a formerly diseased foot or hand, as if it were still there. Now these feelings shew that that part of our sensations, referring us to a part impaired is no proof that the impression is truly made there; and proves that the impressions are made upon one place and the sensations on another. So many reasons are given for perceptions arising only in the common origin and the sensation being in the extremity of the nerve.

Sensorium commune.

It is pretty manifest that all our perceptions are strictly perceived in the sensorium. I say first that the whole of memory, the simplest act of reminiscence, depends upon the origin of the nerves. Innumerable histories shew that memory is impaired or destroyed by various morbid affections of the Brain. And there are others that prove that the diminishing of the memory depends upon the affections of the Brain only. The liver may be schirrus and yet the memory remain perfectly indur'd. But on the other hand almost always when the

memory is destroyed we can presume a particular change in the structure of the Brain. By the Brain I shall always mean the common origin of the nerves. The proofs have gone so far that many have supposed a particular mechanism in the Brain, as D.^r Hook — Astruc in France, & D.^r Bonni have all offered to explain it. But they have not done it so as to supersede a salutary principle. I will submit two proofs; the first is that our sensations or Power may be renewed, by impressions made directly on the Brain, independant of the external organs from whence they are commonly derived, and that these sensations are in the same condition as formerly, they had been perceived by impressions on the nerves. With regard to those, I observe in delirium when there has been no corresponding external impression made, it is not easy to suppose that they happen from motions directly excited in the Brain. In many instances we can find the change of internal conformation, and a fuller impulse of the Blood may be excited as in delirium and Dreams.

202 But I observe that they are only renewals of
impressions that at first had arisen in the or-
dinal way. Dreams have most usually a con-
nection with the actions of the preceding day,
as is illustrated in Petronius and Spencers
fairy queen. Now complex Ideas are formed as
in imagination, but whatever novelty attends
them they are always such as have been re-
ceived from various external impressions. Now
it gives the strongest presumption that there
is a mechanism, & that there are motions ex-
cited. These Ideas are renewed by internal
causes, but say they they are renewed by impres-
sions upon the organs of sense not the common
origin, as in the rubbing of the eye. This wa-
rion does not answer. If there be a mechanism,
it is owing to a mechanism in the common ori-
gin of the nerves. Dr. Shaw when deaf retained
all his former Ideas received by the ears, and he
could renew them. And so a blind man can re-
tain the Ideas of colour. And nothing can take
place here but a decay of memory for want of
repetition. When we touch a toad with a

stick, we may as well suppose the power of the ²²³
soul in the extremity of the stick as in extreme
parts of the Body, and we must extend the me-
chanism as far as possible. —

— Sect. LIII. July. 3? —

We must now come to an end in our chain of
cause and effect. Newtons Aether was supposed
to be the last cause and the energy of the creation.
But if I should push that still further I hope
will not be thought to hurt religion. We are
in no danger of thrusting a Deity out of the
universe, nor a soul out of the system ^{of men}, in so
doing. The memory I said before was not
only fundamental, but carried on the whole
train of the operations of the mind. Seams
then to be connected with a certain fabrication
of the Brain; and morbid affections of it im-
pair or destroy the intellectual faculties. Never
was the destruction of the medulla spinalis
seems to affect our mental operations. tho it be
a sensorium in some operations and a source
of motions in others, and when it is affected the
constantia mentis continues still entire.