

A letter to William Lawrence, Esq. F.R.S. on the nature and causes of intellectual life and the mind / [William Addison].

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A
LETTER
TO
WILLIAM LAWRENCE, ESQ. F.R.S.
ON THE
NATURE AND CAUSES
OF
INTELLECTUAL LIFE
AND
THE MIND.

BY
WILLIAM ADDISON,
MEMBER OF THE ROYAL COLLEGE OF SURGEONS IN LONDON.

LONDON:
THOMAS AND GEORGE UNDERWOOD, 32, FLEET-STREET;
AND JAMES KNIBB, WORCESTER.

1830.



A

LETTER,

ETC.

SIR,

AN inquiry into the Nature of Life and the Mind is surrounded by so many difficulties, that few persons are able to make any considerable progress in it ; indeed, some of the opinions recently promulgated would almost induce a belief that we are retrograding rather than advancing in this department of research ; one writer considering the mind and the soul to be the same*, while another imagines the mind material and the soul dormant†. Mr. Warren has, I think, pursued the right path, but his book is by no means free from objection‡. A know-

* Dr. Ryan, in London Medical and Surgical Journal for July, 1829.

† Dermott, in Lancet, 1829, vol. i. p. 40.

‡ Disquisition on the Nature and Properties of living Animals.

ledge of the nature of life, and an acquaintance with the phenomena it presents, are essential to a successful cultivation of medical philosophy : how, indeed, are disorders of the mind or diseases of the body to be properly treated without it?—The remark that we are living in a mechanical age appears to be well founded, physical means engrossing the attention of mankind, to the neglect of the phenomena exhibited by those intellectual powers, without which all mechanical agents must be useless and inert. As you do not acknowledge the existence of *an invisible principle* controlling the voluntary motions of the body, it may be necessary to state the grounds for an opposite opinion, which may be adduced from that feeling of imperfection we all at some period or other strongly experience within ourselves,—that consciousness of the incapacity of the organs of the body to satisfy our desire for more refined and more extensive acquirements.

By means of our corporeal organs we become acquainted with certain objects placed around us, yet are convinced, when meditating within ourselves, that we know only a small part of some great and stupendous whole ; we are impressed with the notion that our knowledge is imperfect from want of the means for extending it. Now this consciousness of possess-

ing the capacity to know more than our present instruments will enable us to know, I consider as sufficient proof that we have within us something far superior to our material bodies; an intellectual principle, in which consciousness resides, and from which it derives its origin. The capacity to know then is experienced by this intellectual principle; the imperfection of the means relates to the body. It is incorrect surely to say that any thing can discover incapacity or imperfection *de se*: a feeling or conviction of this nature must reside, I imagine, in some agent superior to the object in which the imperfection is perceived: where, therefore, it is said, "*Man is conscious of the imperfection of his nature,*" I understand the expression to mean that consciousness of the intellectual principle which discovers to us the imperfection of the body, its inability to furnish all the knowledge we require; not that we experience any thing imperfect in those faculties to which the body is subservient. This feeling of the inadequacy of our corporeal frame, or this consciousness of the superiority of our intellectual nature, is a proof not only of the existence of a Soul, but that its powers or faculties are not fully manifested, or exercised to their extent in this our present state of existence; and naturally leads

to the hope that there may be a Superior Being, in whom the power of extending our knowledge and gratifying our desires by a more perfect organization may exist*.

The body I consider as a machine living organically, or performing certain functions by the impulse of some agent, very different from that principle in which the consciousness of a capacity to know exists; containing organs (like a vegetable) adapted to build up, preserve, and repair its several parts; and possessing likewise instruments, fitted to convey a certain portion of knowledge to the intellectual principle, to develop its faculties and execute its will.

The arguments by which I would maintain the existence of a power controlling the organic or involuntary functions of the body, independent of the intellectual principle, are these: First, The nutrient or organic functions are not under the influence of the *will*, but go on without feeling or perception. Secondly, They are continued without interruption during sleep. Thirdly, We see the same, or very analogous functions, in vegetables, where no intellectual principle exists. The ordinary operations of

* *Cudworth* in his *Intellectual System* observes, that Aristotle remarks, there is a principle of reason which is not reason itself, but something better.—P. 203.

this *organic power* do not transmit any idea, knowledge, or sensation to the intellectual principle: we are not conscious of them. But it is necessary to the welfare of the body, that any derangement or disorder in these operations should become objects of knowledge or consideration to the intellectual principle abiding therein. Inflammation and the various other derangements to which the organic functions of the body are liable, and which would soon, if not checked, destroy its subserviency to the intellectual principle, are therefore indicated by pain, or some other sensation, the results of a communication which under these altered conditions the organs of the body are able to establish with its governing principle. We experience not *the jarring of the wheels, the friction of the cords, nor the rushing of the torrent* of our frame, when things are going on right; but no sooner is there any occurrence to check the regularity of the movements of our complicated machine, than *we* (our intellectual principle) are informed thereof, to adopt means for its removal. This is a wise provision, and coupled with the desire of mortal life is often the means of preventing the body falling into decay*.

Life, then, I propose to consider here, first,

* Consult Warren's Disquisition.

as simply organic or vegetable; secondly, as intellectual or human*.

Organic life is common to vegetables, animals, and man; it is effected by some power which may be electrical or not.

Intellectual or human life comprehends the effects resulting from a development or sphere of exertion afforded to the faculties of an intellectual principle by corporeal organization.

Bichât first pointed out the distinction between organic and intellectual (or, as he terms it, animal) life; but I think you will admit he soon forgets the distinction he had made, by saying that the power which controls the former may by mere increase in its activity pass on or be converted into that which governs the latter.

* Animal life will express the phenomena resulting from the union of that *principle* in animals which wills and retains with an organic living body. What analogy there may be between this principle and the soul of man, and what are the great and insuperable points of distinction, it is not my purpose to inquire here. To suppose that animals possess a principle of life analogous to the soul of man, and wholly differing from the *power* which governs the organic functions of their bodies, is not unphilosophical; nor is the opinion, I believe, unscriptural. "Who knoweth the spirit of man, which goeth upward, and the spirit of the beast, which goeth downward to the earth."—Eccl. "In whose hand is the soul of *every living thing*."—Job. It would be vain attempting to conjecture what is to become of this principle after death,—we can only speculate upon its existence.

How are we, I would ask, to imagine that an increase of one power can convert it into another very different? or that an excess of one thing can constitute another? This celebrated physiologist supposed the passions to arise from organic or vegetable life, and this error was naturally the consequence of confounding the power controlling *organic* with that governing *intellectual life*. I have endeavoured to show that the organic functions can go on independently of the intellectual principle: nevertheless, this principle may influence, and does indeed often derange, these functions, particularly when the passions are excited. But this affords no argument to prove that the passions have their seat and inhere in the various organs of the body.

The passions I conceive to be certain affections or properties of the soul or intellectual principle, excited or brought into a state of activity by means of some antecedent idea, or communication transmitted through one or more of the organs of the senses; some external communication being necessary to the primary excitation of any passion, although subsequently it may be re-excited, or may be maintained by certain intellectual operations, independent of any aid from the organs of the senses, as by thinking, remembrance, &c. So therefore, using

the words of Locke, we may say the passions are always first excited by *ideas of sensation*, they may be re-excited by *ideas of reflection*. For instance, one man sees another torturing his darling child, and in consequence the organic movements of the body are increased from the excitation of that passion we denominate anger, or from a desire to gratify what is called revenge. Two months afterwards, this man may recall or remember the occurrence, and the same passion may be re-excited by the recollection. Now here the passion or desire is primarily excited by an impression or communication transmitted by *the eye*, it is re-excited by memory. The increase in the organic movements is the result, and not the cause, of the excitation of the passion. Though anger accelerates the circulation and multiplies the efforts of the heart, it does not follow that it takes its origin from this organ; though fear produces paleness, and paralyses the vigour of the muscles, we cannot believe that it arises from that *capillary collapse* accompanying its excitation. Those peculiar sensations at the epigastrium, the nausea and faintness experienced upon sudden terror, those floods of tears produced by profound grief, are all consequences of excited passions, not the causes of their excitation. Who is there bold enough to assert, that the passions arise from the operations

of organic life, and belong as much to vegetables as to man? Who will persuade us that anger and revenge are seated in the heart, fear in the capillaries of the body, and grief in the gland which pours forth the tears? Such notions belong only to the fictions of poetry. The intimate connexion subsisting between the soul and the organic functions of the body is seen in the effects produced by the excited passions; but nothing can be more unphilosophical than to conclude, because these excited passions influence the organic functions, that they depend upon or have existence in the bodily organs: because one passion may affect one organ more than another, it does not follow that it is to be identified with it.

Having endeavoured to show that the human body is an organized instrument, placed at the disposal of an intellectual principle or soul; adapted to develop and exercise its several faculties, producing the phenomena of intellectual life, I shall proceed to inquire into the nature of sleep and death, pointing out the distinction between them.

Sleep is an interval of repose of the body, during which the intellectual principle resigns for a time its dominion, while all the functions of organic life are actively going on. The heart continues to beat, the lungs perform their ac-

customed office, and the various organs of the body produce their appropriate secretions ; while the muscles and other voluntary instruments remain quiescent, and are invigorated by repose. The organs of the senses no longer transmit any idea or communication : sounds may enter the ear, and objects may be imprinted upon the retina, as in those who sleep with their eyes open ; but these mere impressions upon corporeal structure are not now accompanied by perception, volition and consciousness are suspended. Sleep then is a temporary pause in the activity of the soul, necessary to the welfare, or, as we term it, health, of our corporeal organization : it is to the body what a cessation of action is to a complicated machine, during which the superintendent oils the wheels, places all things in due order, and fits them to renew their operations. Sleep ends when the intellectual principle resumes its dominion. Death differs from sleep in being a permanent separation between body and soul ; permanent, because the operations of organic life have ceased or are destroyed. But when the functions of organic life cease to be performed, and the body becomes amenable to the laws affecting inorganic matter, it does by no means follow that the soul, although separated from the body, partakes in its destruction. The organs of the senses being deranged

or destroyed is no proof that those faculties upon which the phenomena of perception depend are annihilated: on the contrary, we have every reason to believe, that as the soul is far superior to the body, so it is capable of an independent existence. It is clear that during sleep the organic functions go on without any control from the intellectual principle; so it is equally clear that this principle does not depend upon the functions of the body for its being. Death, therefore, must be regarded as the destruction of the organic functions of the body simply; which destruction terminates the period of its subserviency to the intellectual principle, and destroys the relations which subsist during life between the soul of one man and that of another, and between the soul and the phenomena of the material world, without any admission of destruction to the soul itself.

The following illustrations will, I think, make this perfectly clear. An individual could not see, hear, or smell, without the corporeal organs necessary for these purposes; yet no one surely will contend, that the *powers of discerning* or perceiving objects, sounds, and scents, inhere to the mechanism of the eye, the ear, or the nose: *these powers or faculties* must, I imagine, belong to that nobler essence to which these organs are merely, yet necessarily, subservient. We know

that a person may be completely blind from *cataract*, and that his vision may be restored by a simple surgical operation ; yet I cannot believe that the operation *bestows the faculty of perceiving*. The fact, indeed, that those who sleep with their eyes open do not perceive objects, shows that it is not the eye alone which sees, and proves that it is not the mere circumstance of rays of light impinging upon the retina of a perfectly healthy organ which produces vision. A rose may be placed close under the nose of one asleep, and the scent of it may enter this organ, without exercising the sense of smell: the same may be said of sounds, &c. From these facts, therefore, I infer, that a blind or deaf man has the same *abstract* capacity of perceiving objects or hearing sounds, as one who has the perfect use of his eyes and ears: so also with the other senses. I will explain:—The *abstract* faculty or power of perceiving objects, &c. belongs to the intellectual principle; consequently, those whose vision is imperfect or lost, have the *power* of perceiving objects as much as those whose sight is perfect. The blind differ from those who see, therefore, only in this: the eye, or instrument which ministers to, or develops the capacity to see, is in the former case defective, and incapable of performing its office; whereas in the latter it is perfect. Now the operation of *couch-*

ing removes the defect in the instrument, and the capacity or faculty is again employed or developed. The same will apply to the other organs of the senses.

The eye, therefore, is to be regarded as an instrument adapted and made essential to exercise or develop the power of perceiving objects; the ear, the power of hearing sounds; the nose, of smelling scents, &c. But the organs of the senses do not, even when quite perfect, develop or employ the several faculties of the intellectual principle appropriated to them to their full extent. These faculties are capable of a development far greater than the corporeal organs can afford them*. Thus I employ a telescope to see the ring of Saturn, and the object without this instrument would be unknown to me†: here the telescope adds to the power of

* Thus St. Paul says, "For now we know in part; but when that which is perfect is come, then that which is in part shall be done away." Again, "Now we see through a glass darkly, but then face to face." As though he had said, the faculties of the soul are not fully developed in this present state of existence, the body has not the power of exercising them fully; but when death severs the union between the body and soul, then all the faculties of the latter will be more eminently displayed by some means or other, then we shall see "face to face," "that which is perfect" will then come.

† Consult Warren's Disquisition.

the eye (or, rather, extends its subserviency), and conveys an increased or greater degree of knowledge by increasing the development or exercise of the faculty of seeing. Now, surely, any defect in, or even the death of the eye, does no more destroy the *abstract capacity* of perceiving objects, than laying aside or destroying the telescope destroys the capacity of perceiving the ring of Saturn. Or I take a microscope, and examine the divisions or lenses in the fly's eye, which without the assistance of this instrument I could never perceive or become acquainted with: surely no one would say, that any individual, because not possessed of a microscope, has not in an equal degree the power or capacity of perceiving the same objects. The telescope and microscope have, in fact, the same relation to the power or faculty of perceiving objects as the eye, they are all instruments ministering to the same end; the only difference is, that the eye is an instrument furnished by nature, the telescope and microscope are afforded by art. It is clear, then, I conceive, that we can no more argue for the annihilation of the intellectual principle with its faculties, when death or a cessation of the functions of organic life, has rendered useless the instruments or bodily organs that ministered to it, than we can argue for the absence of the power of perceiving the ring of

Saturn, or the lenses of a fly's eye, because the telescope or microscope through which they were seen is broken, or has never been used. When, then, death terminates the period of union and co-operation between body and soul, we may reasonably conclude, that the latter will be placed in relation with the laws and phenomena of some other abode, and in another state of mutual and more intellectual intercourse, through the medium of some similar but far more perfect combination of instruments than our present bodies exhibit. Reason, therefore, is capable of showing the manner in which a future state of existence may take place: for as the telescope may be mended, so we know our bodies possess the power to repair injuries; as the telescope may be renewed by one (from the maker) exactly similar, or replaced by one very superior, so also may our bodies be renewed or replaced at the resurrection *.

* It is Revelation alone which can make the renewal of our bodies a matter of certainty. We are told "that in the twinkling of an eye, in a moment, we shall be changed;" *i. e.* our material instruments will all be altered. "All flesh is not the same flesh; but there is one kind of flesh of men, another flesh of beasts, another of fishes, and another of birds. There are also celestial bodies, and bodies terrestrial; but the glory of the celestial is one, and the glory of the terrestrial is another. There is one glory of the sun, and another glory of the moon, and another glory of the stars; so also is the resurrection of the dead." We have now one set of instruments ministering to

Having thus attempted to establish the existence of a conscious and thinking principle, superadded to the structure of the human body, and endeavoured to prove that the voluntary organs are so many instruments adapted to develop its capacities or powers, I am content to take my station on a level with

“ The poor Indian, whose untutor'd mind
Sees God in clouds, and hears him in the wind.” *

the faculties of the soul,—we may have another and more exalted set;—we have now corruptible instruments,—we shall have incorruptible ones:—for the corruptible, *God* will give incorruptible; for the mortal, He shall put on immortality. “ But some will say, How are the dead raised up? and with what body do they come? Thou fool! God giveth it a body as it hath pleased Him;” *i. e.* God will furnish the soul with instruments as seemeth fit to Him. Is this wonderful?—what is not? Is this past *our* finding out?—turn to the objects around.—“ The caterpillar which is changed into a chrysalis, and the butterfly that proceeds from it, are two animals with respect to their organization and in their habits, but the same in *principle*. The first is altogether terrestrial, crawls slowly and heavily along the ground: the second is all agility; and so far from limiting its motions to the earth, it appears to disdain reposing on its lap. The first, all shaggy, presents a hideous and forbidding aspect; the other, arrayed in the most brilliant materials and the most gaudy colours, arrests our attention and excites our pleasure. The first feeds upon the grossest and coarsest food; the latter ranges from flower to flower, regales itself with honey and with dew, perpetually varying its enjoyments.”

* Vide the Introductory Lecture on Life delivered at the College, 1816.

Whether the “*hypotheses*” and “*suppositions*” by which I have arrived at my conclusions have any thing to fear from argument or opposition, I leave to be determined; still claiming your attention to the following considerations with respect to the mind. You have told us, that we must “regard the phenomena observed in the study of the physical sciences merely as generalized expressions, not indicative of any independent existence.” Notwithstanding this opinion, which you hold in common with some other writers, I cannot but believe that hardness, softness, heat, coldness, motion, &c. express the phenomena of a subject which does exist, and which is known to every one by the familiar term Matter. Hardness, softness, figure, motion, rough, smooth, hot, cold, &c., therefore, I suppose to express the phenomena of matter; while the term Mind I consider as embracing the effects which result from the communion established by the body between the souls of men, and from the development of certain faculties effected by the forms and qualities of matter operating through the medium of the organs of the senses*.

* Language is merely symbolic of the various modifications of matter exhibited by the senses, and of the operations of those faculties developed by them. Mind, therefore, in so far

In the study of the physical sciences, our inquiries and speculations, although confined to certain forms, qualities, and combinations, and to the ascertainment of those general laws by which they are influenced, lead us, nevertheless, to an irresistible belief in the existence of something to which these forms and qualities belong. In like manner, the study of the intellectual phenomena exhibited in the mind leads us as forcibly to acknowledge the existence of something upon which *they* depend. As attraction, heat, and motion, are properties of matter, so volition, perception, and reflection, are properties of the intellectual principle; the latter having no more necessary connexion with any opinion concerning the nature and essence of the soul, than the former have with the nature and essence of matter. We can define matter only by those forms and qualities exhibited to us by the organs of the senses: so, I acknowledge, we can know nothing of the intellectual principle, except from those faculties, properties, or powers exhibited in the mind.

I think you will allow there *may* be qualities and modifications of matter (or, if you will, other "*generalized expressions*") besides those

as it is formed by reading and study, is formed by certain conventional symbols which supply the place of the objects they represent.

at present known to us : so I imagine it possible there *may* be certain faculties or capacities appertaining to the intellectual principle which we are not now acquainted with. Many important and distinct modifications of matter are exhibited to us by the organs of the senses : so also the phenomena of mind point out essential distinctions in the attributes or faculties of the soul ; volition, perception, and reflection being the most prominent and engaging. There are many modes in which volition, perception, and reflection are exhibited to us : those of volition in the various acts of the will ; those of perception in the senses—seeing, hearing, smelling, &c. ; the modes of reflection in remembering, judging, reasoning, &c.

Now one or more of the faculties upon which the senses depend must be exercised before either the will or those faculties from which the modes of reflection arise can be exerted ; *i. e.* one or more of the senses must make known to us some of the modifications of matter before the mind can possibly exist ; we must see, hear, touch, smell, or taste, before we can will, think, reason, judge, imagine, or remember. But as we find some individuals who having the perfect exercise of the perceptive faculties—*i. e.* who hear, see, smell, &c.—yet have the reflective faculties dormant, or are

incapable of thinking, judging, and reasoning correctly, it becomes important to inquire how this happens. In doing so, I shall recapitulate the following points, which I consider as fully established in this Letter.

1. The senses, or modes of perception, are dependent upon certain intellectual faculties, or properties of an intellectual principle, developed or exercised by means of healthy corporeal organs.
2. The absence or deranged condition of any of the senses is no proof of the absence or deranged condition of the intellectual faculties, abstractedly considered, but only of some disorder in the function or structure of the organs by means of which they are developed.

Let us now examine whether the phenomena of mind will warrant us in concluding that the faculties of judging, reasoning, imagining, remembering, &c. are like those of seeing, hearing, smelling, &c., dependent upon corporeal organs for their development and activity. In the first place, analogy induces us to believe so; and the belief is much strengthened, not only by the fact that mental development accompanies and is influenced by organic development, but also by our finding the mind phrenzied by corporeal disease, and affected by corporeal decay; so that at all

events it is reasonable to suppose, not only that the modes of reflection constituting judgment, reason, imagination, memory, &c. are dependent upon the existence of certain corporeal organs, as necessary to them as the organs of the senses are to perception, but also that the absence of these modes of reflection, or any peculiarity of mind, is no proof of the absence or derangement of any of the reflective faculties, but indicative merely of some disorder in corporeal organization (most probably some parts of the brain?) as essential to the exercise of the faculties of reflection, as the eye is to vision, the ear to hearing, and the nose to smelling.

If a man sees objects differently from others in the jaundice, or smells them differently when he has a cold, he immediately attributes his disordered sensations to their proper cause, without at all supposing that the qualities of matter which form the subjects of his perception are altered: so, with respect to the mind, we must seek the causes of its peculiarities in some disorder of corporeal structure, not in any alteration in the faculties of the soul. From the foregoing observations, then, I infer:—

1. That *all* the faculties, properties, or capacities of the intellectual principle are developed or exerted through the medium of corporeal organization; and,

2. That, notwithstanding any disturbed or unnatural development, they remain, abstractedly considered, unaltered and the same; judgment, reason, imagination, &c. being disordered in the same way as hearing, sight, smelling, &c. and in no other.

Mind, therefore, is dependent upon organization; its peculiarities and defects arising from disorder in the organs appropriated to the reflective faculties, as peculiarities and defects in the senses arise from disorder in the organs appropriated to the perceptive faculties.

But, observe, because the senses and the mind are obnoxious to the diseases and disorders of the body, I consider that the faculties of the intellectual principle can no more be deranged than the nature and essence of matter can be influenced by one's being blind, deaf, or insane*.

* The opinions I have promulgated in this Letter may lead you to suppose that I am advocating the doctrines of modern Phrenology: true, indeed, it has been my endeavour to show that every faculty of our intellectual nature is exerted or developed through the medium of or in conjunction with some corporeal organ, as well those from which the mind is derived, as those upon which the phenomena of the senses depend:—so far, therefore, I am a phrenologist; but I imagine those to be gifted with a great degree of credulity, who can bring themselves to believe that our knowledge of the organs of the mind is so precise and accurate that their province and extent may be chalked out upon the cranium, or that the pe-

In order to illustrate the view of the nature of Intellectual Life and the Mind which I have here exhibited for your consideration, it might be interesting to go into a detail of the laws regulating the union between mind and matter, or, to speak more correctly, between the intellectual principle and the body, in so far as they are discoverable from the phenomena of our present existence. This would, I doubt not, tend in an essential degree to substantiate the truth of what has hitherto been advanced ; but the form into which I have thrown this inquiry precludes the attempt at present. Nevertheless, some remarks upon the influence which an exercise of the will and the faculties of perception has upon the organs of the body, as well as upon the manner in which man remedies and supplies

culiarities of mental development may be determined by feeling and measuring the head. How can we discover the condition of the organs lying on the orbital plates of the frontal bone, or in the depressions of the sphœnoid ?

The science of Phrenology may, by calm, patient, and judicious study, be productive of much good. Let then the inquiry which it lays open be pursued with patient and persevering industry, admitting only those facts which stand upon indubitable proof, rejecting the fancies and speculations of sanguine theorists,—thus allowing a sure foundation to be laid before the superstructure is attempted. Phrenologists by doing this will bring an important study from its present merited neglect.

their deficiencies, may find room here. Every extraneous or artificial instrument, from a needle to the steam-engine, must be considered as a contrivance invented by the intellectual principle, and used or adopted to supply some imperfection or deficiency in the corporeal organs. The lathe of the turner supplies the want of natural means to cut, carve, and figure different substances; the instruments and materials employed in writing and printing are resorted to because of the absence of natural means calculated to convey our thoughts and wishes to another at a distance; the telescope and microscope likewise formerly noticed, are, when in use, merely appendages to the eye, contrived to add to the power or usefulness of this organ: so that the intellectual principle of man has not only discovered the imperfection of its own corporeal instruments, but has rendered almost every form, quality, or property of matter subservient to its wants; attraction, gravitation, and motion, being in a certain degree subject to its control, and made to operate under its superintendence. When we look back then, and see what man has already accomplished with his limited means, we may form some notion of the far wider range of exertion his faculties would possess, were he furnished with more effective or more perfect instruments by his Maker, or

were he able to produce artificial ones more adequately compensating their absence. What is it that circumscribes the extent of our knowledge, sets a boundary to our power, and limits the phenomena of mind? An answer has already been given:—the inadequacy of our corporeal organization.

But there is an important consideration connected with the foregoing observations which must not be lost sight of, viz., that time, and often a considerable portion of time, must elapse ere an individual can acquire the dexterous use of the artificial instruments he may employ or have recourse to. It is not immediately he can direct the lathe in turning, the pen in writing, or the pencil in drawing: so also it is with the natural instruments of the body; months, perhaps years, elapse before the intellectual principle can obtain the wished-for or necessary command over them. It is long before an infant can voluntarily direct its eye to this or that object, long ere it can control the expulsion of the natural evacuations from the body, and longer still before it skilfully employs the voluntary muscles, and exercises the organs of speech; nay, the endeavours to acquire a perfect and ready command over particular muscles has formed the business of a life. So, therefore, a man cannot be proficient in every science, acquainted with every fact within

his reach, nor dexterous in every art, not, as some have supposed, because the employment or activity of one faculty takes away from or diminishes the rest, but because with this source of imperfection the shortness of human life will not admit of his contending*. If the union between the body (imperfect as it is) and the intellectual principle were prolonged, the memory commensurately capacious, and our industry in proportion, what might not man, with all his deficiencies about him, become!

With respect to the influence which an exercise of the will or any particular faculty has over certain organs, we find the more the ear is engaged with sounds, the easier it detects the slightest variation of tone; the tongue, by habit, or frequency of employment, will discover differences in savour inappreciable by those who have not accustomed this organ to similar discipline; the more the hand is used for any certain purposes, the readier it performs its accustomed task; the different voluntary muscles, also, em-

* Bichât imagined that the perfection of one sense was always accompanied by some corresponding deficiency in one or more of the others; and this opinion, if it has reference to the modes of perception or reflection exhibited through the agency of the body, is true; but if intended to apply to the intellectual faculties from which these modes originate, it stands without proof, and cannot be admitted.

ployed in particular mechanical operations, become stronger and more obedient to the will; the frequency of any organ's employment affording that facility and delicacy of execution embraced by the term Habit. But habit, or this facility of execution, is not peculiar either to the organs obeying the impulse of volition, or those subservient to the faculties of perception; that is, it is not confined to perfecting the acts of the will, or extending and improving the senses; but may be traced to the mind, and detected in those phenomena I have called modes of reflection, which become more perfect and more delicate, as it were, in a measure equal to the pains we bestow, and the time we appropriate to the employment of the faculties from which they arise. Now if an exercise of the will and of the faculties of perception has such a sensible effect upon the organs appropriated to them, so the influence of habit, exhibited in the phenomena of the mind, leads us to suppose that the time and pains bestowed in the development or exercise of the faculties of reflection are accompanied by similar effects upon the organs appropriated to *them*. At all events it is impossible to deny the amazing influence of habit in the modes of reflection: it is as evident as in the modes of perception: and if, as I have supposed, this influence operates upon the cor-

poreal instruments appropriated to the faculties of reflection in the same manner as it influences the voluntary muscles and the organs of the senses, you will immediately comprehend why intellectual habits are formed chiefly during the growth of the body, and why the *character* of our minds and dispositions is chiefly developed at the period of puberty. In learning any mechanical art, it is necessary to employ very often the requisite mechanical instruments in conjunction with some of the voluntary instruments of the body, before we acquire the dexterity or habit essential to accomplish the end proposed : so, in order to possess a capacious or well-stored mind, we must assiduously employ the faculties of reflection ; memory, imagination, judgment, thought, becoming more prominent and more extended only in proportion to the attention and pains we take to exercise those faculties upon which they depend. As the functions of the voluntary muscles and of the organs of perception are greatly improved by the attention and time we bestow upon them, so the organs necessary to the existence of the mind are improved in their several offices by the same means ; rendering obvious the importance of a careful education during the youthful period of life, not only in fashioning and determining the nature and extent of the mind, but also in

acquiring mechanical dexterity and acute or delicate senses. Want of skill in any mechanical art is the consequence of our not bestowing sufficient time or attention on the employment of the requisite organs : so stupidity and ignorance too frequently result from a neglect to employ the faculties of reflection where healthy and perfect organs are ready for them. Idiotcy I conceive to be the result of some congenital malformation or early defect in the organs appropriated to exercise the faculties of reflection, by which the intellectual function is abridged. In like manner, the various forms of Insanity result from more or less disorder occurring in the same organs at later periods of life ; and its cure will be accomplished in a degree equal to the success we may attain in our endeavours to remove this disorder either by moral or physical means, and in a manner similar to that which we employ in restoring the sight or hearing. It would be foreign to my purpose to enter here into any detailed description of the various forms of (what is called) insanity, or to attempt to define the meaning of the words, peculiarity, eccentricity, imbecility, fatuity, derangement, phrensy, delirium, and mania, when applied to the mind or actions of an individual. I shall only remark, that as the capabilities of the various organs of the senses and of the will to

perform the offices allotted to them are often very different, so also the capabilities of the organs appropriated to the faculties of the mind are most probably rendered as different by a variety of causes, giving rise to the phenomena expressed by the foregoing terms. That peculiarities or disorders of the mind are effects produced by some change in corporeal structure is shown, not only by the success which often attends judicious medical treatment, but by the causes which tend to produce them—as blows on the head, inflammation, congestion, or alteration in the structure of the brain. The violent excitation of the passions too, which we know will disorder the organic function of various organs, becomes frequently a cause of insanity. It is impossible to say that insanity is not within the pale of medical science, and often amenable to those general principles which guide us in the treatment of other disorders: so, therefore, we must acknowledge the condition of the mind to be dependant upon and influenced by the condition of corporeal structure. We form our judgment of peculiarity, disorder, or imperfection of mind, only by comparison. The mind of a man deaf and blind must be imperfect when compared with the minds of those who hear and see; the mind of the wisest man living, too, must be considered imperfect in comparison

with what it might be, were the body furnished with more perfect instruments; and in like manner the mind of the stupid, the idiot, and insane, is imperfect in comparison with those who are sane: as in the former instances the mind is circumscribed by defects or deficiencies in the natural instruments of the body, so it is also in the latter. We must not be so deluded by appearances as to suppose that because a person is idiotic or insane he has not, or cannot have, the same intellectual faculties or capacities as those whose minds are right. Imagine a man furnished with instruments of volition enabling him to penetrate to unknown worlds, and to leave this earthy sphere for the regions of space; with an eye capable of surveying the depths of ocean and the minutest atoms of our globe, with an ear to hear unheard-of sounds, and with hands of power commensurate: such a man would have a mind superior to his fellow-men because possessed of instruments of greater capability, and not because the faculties of his intellectual nature were one jot superior to theirs. Nor ought we to consider the deranged, idiotic, or insane, with feelings at all different from those we should expect to find in this imaginary man towards us; for as we should be inferior to him only in corporeal habiliment,

so they are inferior to us only in a similar way, the *capacities* being equal and the same in all.

In concluding this Letter, I hope, Sir, you will not think me tedious if I recapitulate the more important points which it has been my endeavour to establish.

The body is to be considered as an organized machine placed under the control of an active intelligent principle—having parts adapted as instruments to develop certain capacities or properties—being fitted for this purpose by some peculiar power, the phenomena resulting from which, observable in the vegetable as well as in the animal kingdom, are embraced by the term Organic Life, while those phenomena arising from the capacities of the intellectual principle developed by corporeal organization are included in the terms Intellectual Life and Mind.

Our belief in the existence of an intellectual principle rests precisely upon the same grounds as our belief in the existence of matter. Hardness, softness, attraction, and motion, are referred to a subject of which they are properties; so consciousness and volition must likewise be considered as properties of a different subject: and as we cannot bring ourselves to doubt the existence of matter, no more can we doubt the existence of an intellectual principle: indeed

the 'evidence in favour of the latter is much stronger than that in favour of the former, inasmuch as it is suggested to us by perception, reflection, and volition, whereas matter is suggested by perception only.

Consciousness and volition, then, are properties of an intellectual principle, as attraction and elasticity are properties of matter. Consciousness embraces perception and reflection.

Perception is exerted or developed in five different ways or modes, each requiring a peculiar and delicately constructed corporeal organ. The modes of perception—seeing, hearing, smelling, tasting, and touching—constitute the senses. The organs of perception are the organs of the senses.

In like manner reflection is developed or exerted in different ways or modes, as recollecting, judging, imagining, thinking, and abstracting: these modes of reflection constitute the mind, as the modes of perception constitute the senses.

If any mode of perception, or any one of the senses, is disordered or destroyed, it is because the necessary corporeal organ is disordered or made useless: so, if any mode of reflection, or any part of the mind, is disordered, analogy leads us to attribute it to some disorder in corporeal structure.

The organs of perception being external, and,

consequently, objects of perception, we are sure about them (or at least conceive ourselves to be so); but the organs of reflection being internal, our belief respecting them must rest upon the very striking analogies which occur between the senses and the mind, as influenced by the health and the disorder of the body.

If any mode of perception is disordered or destroyed, we cannot argue that the capacity for the mode is diminished or taken away; any more than we can argue, that because a man has broken his spade he is incapable of digging.

So I imagine we are right in inferring, that, notwithstanding the absence or disorder of any mode of reflection, the capacity for the mode remains the same. In order that I may not be misunderstood, I will adduce another instance or two in explanation. A loadstone has the property of attracting iron, whether the iron be in its vicinity developing it or not: so a saline solution has the same property of crystallizability, whether it be weak and the property not manifest, or whether it be strong and the process commenced. In like manner the intellectual capacities remain, whether any accidents interfere with their development or not.

The term volition denotes that property of the intellectual principle by which it controls and directs the various instruments of the body,

determining this or that mode of perception or reflection at pleasure. Volition may with propriety be considered in two distinct points of view, viz. will and desire; the instruments of the body, either alone or with artificial help, being capable of accomplishing *the will*, but too weak or totally inadequate to perform *the desire*. Thus I would say a man *wills* or determines to make a watch or build a house, to speak or hold his tongue, to put on or take off his hat: he may wish or *desire* to visit the moon, to fly through the air, or stay his descent when falling from a height. In the former instances the intellectual principle has or can obtain the means necessary to accomplish its pleasure: in the latter they are beyond its reach; at least, they have hitherto been so. Volition can be exercised only about the objects we see, hear, smell, taste, or touch; or about those which we remember, think of, or imagine; for we can have no will, not even a desire, concerning those things we know not or cannot imagine.

Corporeal adequacy forms the limit of our *will*, knowledge the boundary of our *desires*; and as we find the dictates of the *will* accomplished by the means now at our disposal, so we hope and trust the time will come for the fulfilment of all we can *desire*.

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