

the psychosis must be what the physiology of the matter, of which it is the phenomena or force, makes it. This you have well exemplified in the imbecile's brain before you—the whole mass of the man's brain resembling more the brain of an ourang-outang than that of an ordinary man. It is a hard matter to give a definition of sanity, insanity, and imbecility that would be acceptable to all, particularly to judges that have to adjudicate in criminal cases. The reason is obvious: Some consider the mind to be soul or entity, *causa vera*; others, like myself, look upon mind, as far as we know it, as a phenomenon or force of matter. What is sanity? I answer, it is an equilibrium of mental forces or phenomena, due to the physiology of physical organisms; and sanity or intelligence differs in degree, depending upon the physiological state of physical organisms. What is insanity? A physical disease, to be diagnosed by the person's psychosis and conduct, due to a loss of equilibrium of mental phenomena or forces, the result of pathological defect of physical organisms; and insanity differs in degree, depending upon the greater or lesser degree of the pathological defect of physical organisms. What is imbecility? It is a want of absence of equilibrium of mental phenomena or forces, due to teratological defect of physical organisms. Imbecility differs in degree, depending upon the greater or lesser degree of teratological defect in physical organisms. It is from the imbecile class that we get another class of society, viz., the criminal class, therefore the necessity of having the imbecile class cared for, but separated from society.

You perceive, gentlemen, that physical science naturally leads me to be a physiological psychologist; and I maintain that for physical effect there must be physical cause; therefore, that for all psychical phenomena or force there must be physiological cause. In the brain before you, taken from an imbecile, this truth is fully established. You may ask me, if mind is a phenomenon or force of matter, how is it that mind acts upon matter? I am sure that all nature's forces, which are phenomena of matter, whether organic or inorganic, not only act upon other forces, but react upon the cause. For example, you see it every day. Fire is a phenomenon of matter which acts on the very matter of which it is the force or motive. Atmospheric electricity or lightning is a phenomenon dependent upon the physiological state of the atmosphere. So does mind act upon the very

organs of which it is the phenomenon, as well as it acts upon other organs. It is the antagonism of forces, when equal, that creates an equilibrium in nature, and not only in nature, but in our organisms. Therefore, as I have said, sanity is due to an equilibrium of mental forces, and insanity and imbecility to a loss of equilibrium of physical and mental forces. You will understand, then, that when I, or any other physiological psychologist, speak of the locality of the organ of intelligence being situated in the anterior hemisphere of the brain, the motor organs in the lateral hemispheres, and the organ of consciousness in the posterior lobes, it is not meant by such statements to imply anything more than nerve centres with particular functions. It is not meant that such centres are independent of one another, or independent of other nerve forces. These terms are used for want of a better that would imply as much. The whole nervous system constitutes mind matter as well as the brain and spinal cord. All centripetal nerve forces, or forces running towards the centre by means of the afferent or sensory nerves, find their centres in the posterior lobes of the cerebrum; therefore this centre is called the organ of consciousness. But, should there arise any abnormal state of these afferent nerves by which the centripetal current would be cut off, there would be, so far, a loss of consciousness although the nerve centre might remain normal. Again, if there was an abnormal state of any of the efferent or motor nerves by which the centrifugal current would be arrested, loss of motion in the peripheral nerve would take place, although the motor nerve centre was in a normal state. So it is with all other nerve centres—the eye, the ear, &c. All nerve centres are dependent upon each other for the perfect working of organic forces, and when all are normal, there is an equilibrium of organic forces, and there is an intellectual man. But when any of these forces are abnormal, then there is a loss of equilibrium of forces, and a consequent loss of intellect to a greater or lesser degree, depending upon the abnormality of the affected organ. This is physiological psychology, or cause for effect, which is vastly different from the psychology of the past, which was based upon the supposition that mind was entity, or *causa vera*, and not what physical science or experimental philosophy has proved it to be, so far as we have any conception of it, a phenomenon or force of matter.