

and left hand, I found the difference did not amount to two to one. In one case I noted 137 carry the burden on the left shoulder to 81 on the right; in another case 76 to 45; and in the case of loading cord-wood, where the natural action of the right hand is to place the burden on the left shoulder, and where, therefore, the use of the right shoulder implies that of the left hand, the numbers were 65 using the left shoulder and 36 the right. Here, therefore, a practical test of a very simple yet reliable kind, fails to confirm the idea of any such mechanical cause inherent in the constitution of the human frame, tending to a uniform exertion of the right side and the passive employment of the left, in all muscular action.

But the unsatisfactory nature of this theory as a solution of right-handedness is placed beyond doubt, when it is applied to cases of deviation from the normal action which is assumed to result from it, and to render right-handedness a mechanical necessity. Many instances of left-handedness Dr. Buchanan considers to be probably "merely cases of ambidextrousness, when the habit of using the left side, in whatever way begun, has given to the muscles of that side such a degree of development as enables them to compete with the muscles of the right side, in spite of the mechanical disadvantages under which they labour;" but he affirms, "there is an awkwardness in the muscular efforts of such men, which seems to indicate a struggle against nature." But for those indisputable cases of "men who unquestionably use their left limbs with all the facility and efficiency with which other men use their right," he is compelled either to resort to the gratuitous assumption of "malformations and pathological lesions in early life, diseases of the right lung, contraction of the chest from pleurisy, enlargement of the spleen, distortions of the spine," &c.; or a complete reversal of the whole internal organic structure. There are men, he says, enjoying perfect health, "in whom the position of all the thoracic and abdominal viscera is reversed: there are three lobes of the left lung, and only two of the right; the liver is on the left side, and the heart on the right." But where such is the case, though it may escape observation, it is readily ascertainable during life. Any one can tell on which side his heart lies. I have long been accustomed to take note of left-handedness, and have never known a case where it could be accounted for in this way; while cases of ascertained transposition of the viscera are on record without any corresponding left-handedness. Professor Hyrtl, while referring to such abnormal organization as one of its causes, does.