

Remarkable case of a boy, who lost a considerable portion of brain, and is recovered, without detriment to any faculty, mental or corporeal / by R. Leny.

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REMARKABLE
C A S E
O F
A B O Y,

WHO LOST A CONSIDERABLE PORTION OF
BRAIN, AND IS RECOVERED, WITHOUT DE-
TRIMENT TO ANY FACULTY, MENTAL OR
CORPOREAL.

BY
R. L E N Y.

EDINBURGH:
PRINTED IN THE YEAR 1792.

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REMARKABLE

C A S E

O F

A B O Y.

ALTHOUGH the brain be not only the feat of those powers which distinguish animate from inanimate matter, but also of all those mental operations which dignify man above the inferior orders of animals, yet there is no part of the human body concerning which we possess so limited a knowledge. Its intricacy is great, and to that our ignorance seems to bear proportion. We neither know the manner in which it performs its functions, nor the share each of its parts have in their performance. The former is perhaps for wise purposes placed above human understanding,

understanding, and the latter, though it appears more within our reach, has hitherto eluded the research of enquirers. Perhaps with regard to it also we shall always remain in the dark. Its different parts are so intimately connected, that when one is affected, so, in general, are the whole ; and it is possessed of such delicacy of structure, and is so immediately connected with the vital principle, that it cannot easily be made the subject of experiment. Accidental injuries seem to bid fairest towards its elucidation ; but even these, as a source of information, must be regarded as exceedingly uncertain. Some times, when to appearance small, their effects have been almost instantly fatal, while at other times, when seemingly of much greater importance, they have been productive of little subsequent harm. Of the latter kind, the following case of William Stewart, in the parish of Kippen, and shire of Perth, affords a most remarkable instance, the detail of which, if it

can in the least conduce to illustrate a subject so curious and interesting, will afford much pleasure to the person within whose observation it fell. This at least he thinks it points out, that every part of the brain is not equally concerned in the execution of its functions; but being little acquainted with this subject, he neither pretends to trace causes, nor to draw conclusions. Whatever inferences it may suggest, he leaves to be deduced by those more versed in physiology. He only aims at an accurate statement of facts, which, from a regular journal he kept during the progress of the cure, he hopes he shall be able to give, and, if in this he shall succeed, the singularity of the case will, he hopes, of itself, entitle it to attention.

The patient is a servant boy, about 14 years of age, and met with the accident on the 1st of July last, in consequence of a blow from the foot of a horse, which knocked him to the ground, and left him in a state of insensibility.

sibility. He remained alone nearly two hours, and was then accidentally discovered by a person of the same family, who, being strictly interrogated concerning the condition in which he found him, and what happened before the circumstances of the case were examined into, related, " That his face, and the ground underneath, were covered with blood, which still continued to issue in considerable quantity, from a wound on the right side of his forehead : That, from the same wound, a whitish, or rather greyish substance, of a soft and pulpy consistence, and of nearly the size of a hen's egg, was discharged, but that no pieces of bone were observed along with it : That he was sensible, (which, from the boy's own account, he became soon after the accident), but was so weak, that he could not rise : That, upon raising him from the ground, he fell into a swoon, (perhaps from the erect posture), and continued in it till brought home, and laid in bed : That his recovery

from

from this was attended with several efforts to vomit, which occasioned the discharge of about half the quantity of the same greyish coloured substance, as formerly, from the wound ; but that, from this time, till he fell within the writer's own observation, in about an hour thereafter, nothing remarkable took place." The last portion of the greyish substance discharged from the wound, being preserved for the purpose of examination, was now found to consist of brain, principally cortical, but that also intermixed with striæ of medullary substance. The former was left on the field where the injury was sustained, but from the exact similarity observed by the person who discovered the patient, must have been of the same nature.

When the wound, which was ragged and unequal, was laid open, the substance of the brain projected a little way from its surface,

face, which being wiped off, exposed to view an orifice in the bone, extending from a considerable way above the external corner of the right eye-brow upwards, and backwards toward the coronal future. That this might be examined with accuracy, the integuments were more freely divided through its whole extent, and its dimensions thereby ascertained to be in breadth at the middle part about an inch, and in length rather more than two inches, with its sides gradually converging together, so as to form an acute angle at each extremity. From its edges fissures ran in almost all directions, and one piece of bone, about the size of a fixpence, on its upper side, was so nearly detached, that it could have been removed by the finger; but being no ways depressed, was left remaining. That portion, the separation of which occasioned the hole, was in all probability either beat out by the horse's foot, or left so loose as to be carried away by the first portion of brain discharged,

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as no pieces of it could be detected, though sought after with all possible attention. The dura mater appeared on all sides torn and ragged, and the heaving and falling of the brain underneath, were so great during examination, from the full inspirations and expirations occasioned by his cries, that at one time some of it was pushed out through the wound, while at another it receded so far from the bone, that a void space was left, into which the finger could for a good way easily have been insinuated. The protruded parts were so torn by the sharp and ragged edges of the bone, that at different times more than the size of a hazle nut required to be wiped off; and this appeared to consist principally of medullary substance, or, at least, contained now a much smaller intermixture of cortical than that formerly discharged.

It being by a careful search made pretty evident, that no pieces of bone were so situated, as to be productive of any future injury

to the parts below, either by compression or irritation, the integuments were brought together, and secured near the upper extremity of the wound with a future. This was done, to prevent as much as possible the access of air, while more was thought improper, for fear of obstructing the egress of matter, which apparently would be great, and which, if in any way confined, might occasion very pernicious effects. The wound was covered with lint, and all secured with a bandage; and in order that the lower extremity of the wound might be made as depending as possible, he was laid to rest, with his head pretty much elevated in bed.

The patient's pulse, which before the examination of the wound, was 120, in about half an hour after it, had risen in frequency to 160, and was so weak as hardly to be counted. His respiration was very anxious, and he felt very feeble and languid. On being raised erect, he had a tendency to delirium.

quium. A clammy moisture was present on his skin, and he had frequent starting of the muscles of his extremities.

Every circumstance here was unfavourable, and seemed to forebode approaching dissolution ; but a desire to know the issue of so remarkable an accident made it appear improper to desert the patient till the fatal event had actually taken place. This, with another consideration of equal importance, namely, that of the boy's low situation in life, excluding him from proper medical assistance, and not the sanguine expectation of performing a cure, were the motives which induced the writer to undertake its management ; and this he did, though he had been hitherto more engaged in the study than in the practice of his profession. He regulated the medical treatment, entirely by the symptoms which presented themselves, thinking it more expedient carefully to watch the efforts of nature, and implicitly to follow her indications, than by too active an interference

rence upon the rules of method and system, probably to counteract her operations. This plan was adopted the more readily, as it coincided exactly with the sentiments of Mr Campbell, a very intelligent surgeon at Balfron, who was present at the examination and dressing of the wound; and it afterwards gave much satisfaction to hear it approved of by Dr Leckie of Broich, a gentleman who has had an extensive and successful practice, both here and in the West Indies, for many years, who saw the patient during the progress of the cure.

As the symptom which required most to be counteracted, seemed debility, the patient was ordered a drink moderately cordial*, and this appeared to take effect so far, that next day his pulse had descended to 120, and had now a much fuller and firmer beat than the preceding evening. The starting of the muscles was quite gone; the sensation of languor was much diminished, and he breathed

with

* Whisky toddy.

with considerable freedom ; but the symptoms of debility were again aggravated by a slight hæmorrhagy from the wound, which, during the first two days, took place repeatedly. On this account, the same cordial was continued, and had seemingly the same good effects. Afterwards, however, the pulse gradually rose in strength, and the other symptoms of fever supervened which required the discontinuation of this and the pursuit of another very different plan. The antiphlogistic regimen, in all its branches, was strictly enjoined. All impressions from sound, from light, and from heat were carefully avoided, so likewise whatever could call the attention, or in any way excite to action any of the internal faculties. Indeed all this seemed strongly pointed out by nature herself, an over sensibility to every impression appearing a very urgent symptom. Sleep was wanting ; but supervening inflammation, seemed to forbid opiates. The thirst too was great, but was as much as possible guarded

guarded against by acidulated drink. The only medicines administered were refrigerants and cooling laxatives ; by the former, if possible, to moderate the violence of circulation ; and by the latter, not only to produce the same effect, but also to obviate any irritation from an improper state of the alimentary canal. On the fourth and fifth days, he was at times delirious, with his pulse above 100 ; great heat of skin, thirst and restlessness. From these circumstances, blood-letting was on the point of being used ; but a general sweat upon the morning of the sixth day, moderated all the symptoms, and made it afterwards unnecessary.

In the mean time, the wound was very painful. The discharge of blood mentioned took place from its edges, on the two first days, but from that till the fourth, its edges were rather dry ; when by the help of emollient applications, it began to discharge copiously ; at first a matter thin, and intolerably
 fœtid,

foetid, but about the ninth day became changed into a laudable pus. About that time also, small masses, seemingly brain, in a dead and corrupted state, constituted a part of the discharge, the egress of which was much assisted by the depending position in which the wound was always kept.

After the sixth day, the symptoms of fever began to disappear. His tongue, which was before white, and furred, gradually became clean. The heat of his skin, and thirst, totally went off, and his pulse from 100, descended first to the natural standard, and afterwards sunk so low, as for a number of days, not much to exceed 60. It sunk however in frequency, not in strength. With this his sensibility also diminished, but could never be perceived to be below its natural state. His sleep was now sound, abundant, and refreshing, and his appetite began to-recover. His urine, which was red, and in small quantity, was now more copious, and deposited a large
brownish

brownish sediment. He had still transitory headach, but except of this, and general weakness, from the 11th day onwards, he made little or no complaint.

The discharge was at this time great, but consisted of matter that was well formed. The edges of the wound looked clean, and granulations began to sprout out all around. No adhesion was the consequence of the future; but as the orifice in the integuments was rather superior to that in the bone, that in the latter was thereby kept pretty well covered. The motion of the brain seemed now to be synchronous with the action of the heart and arteries, and not with respiration. This indeed was the case from the beginning, except when the latter was increased by preternatural causes. The edges of the wound were daily covered with slips of linen, spread with common cerate, and lint was laid over its middle part, to absorb any matter discharged. About the 18th day the discharge seemed to diminish,

minish, and the integuments had fallen considerably inwards, thereby forming a hollow. The former of these circumstances arose apparently from the matter not getting free exit, in consequence of partial adhesions having formed underneath. This gave considerable irritation, which for a short time caused head-ach, quickness of pulse, and a slight return of fever. But these symptoms were prevented from running high, by the introduction of a probe below the integuments, by which they were gradually raised, and free exit given to matter which had accumulated in considerable quantity.

From this time he felt himself so well, as to have an inclination to get out of bed, and being permitted, he rose at first for a short space only, but increased it by degrees. He was now also allowed to take more nutritive diet than for some time he had been permitted to do, which was thought the more necessary as the discharge was great, and as night sweats,

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and the other symptoms of hectic fever appeared in a slight degree to supervene; but these were in this manner obviated.

The discharge now diminished apace, and the wound gradually filled up, so that at the end of the month, it was almost well. Only a small portion of it remained open, which in little more than a week afterwards, was completely cicatrized. The part was still considerably hollow, and to all appearance will remain permanently so, it being hitherto little filled. At that time its bottom felt soft and yielding; wherefore to prevent the chance of its sustaining any injury from accidental causes, a piece of paste-board lined with flannel, was thought proper to cover all that side of the forehead.—He was now sent home to his friends, who lived farther north in the country, with strict injunctions to avoid exercise. Indeed that he might the more conveniently do so, was the principal reason for sending him thither; and its propriety was evident from this,

this, that its use always gave him pain on the side of the head affected.

On the 10th of September, an opportunity having offered of examining him, it was found, that the paste-board was laid aside, and the orifice which had been in the bone, seemed completely ossified in its whole extent. The bottom of the hollow part, felt hard, and made a resistance when pressed upon that could only be done by bone. His general health was now complete, and had been so since he was sent to his friends. In short, he said, that he never enjoyed more perfect health. Every function, both mental and corporeal, was unimpaired, and indeed had always been so since the accident, except the short time he was delirious. His external senses were all entire, and his internal faculties, so far as could be distinguished either by his relations, or by others who have seen him, have not suffered the smallest diminution of acuteness. He seems naturally to possess great
vivacity,

vivacity, and quickness of apprehension, which to all appearance will continue. At least so far as yet appears, no alteration in these, or any other endowment, will be the consequence of the present accident.

N. B.—Since the above was written, the patient has been examined frequently, and is found to enjoy health, strength, and the exercise of all his functions, entirely as before the accident. A circumstance of some curiosity which he has repeatedly mentioned, is, that since his recovery he has been quite free from an occasional headach, with which he was formerly much troubled.

GARDEN, *Stirlingshire*, }
Nov. 9. 1792. }