ACCOUNT OF THE APPEARANCES, ON THE EXAMINATION OF
ANCIENT DISLOCATIONS OF THE TWO OSSA HUMERI, IN THE
SAME SUBJECT.

By John C. Warren, M. D.

DURING the last winter, I had an opportunity of examining an individual, in whom the os humeri, on each side, had been dislocated a long time previous to death. The external appearance of the shoulders was sufficiently remarkable, to be noticed at first view; the acromion process of the scapula formed a sharp projection, below which was a considerable depression, and the rounded form of the shoulder had disappeared. The head of the os humeri was felt, on one side, behind the great pectoral muscle; on the other, it was most distinguishable in the axilla.

The muscles, which surround the joint, were small and flaccid. The supra-spinatus, infra-spinatus, and especially the subscapularis muscles were very much wasted. Their origins were as usual; their attachments were confounded in a great mass of ligament, which surrounded the head of the os humeri. The long tendinous origin of the biceps was torn through; about an inch of the tendon was observed in one of the joints adhering to its usual place of origin. The inferior portion of this lacerated head was contracted and confounded with the second head of the same muscle. The triangular ligament, which extends from the coracoid to the acromion process, was not ruptured, but had not half its usual size. The capsular ligament was greatly changed in form and consistence. The portion which adheres to the os humeri was excessively thickened, especially at the superior part. Its thickness at some points was not less than half an inch. The augmentation of thickness was evidently produced by a condensation of the surrounding cellular membrane into a compact mass. The insertion of the capsular ligament in the os humeri extended lower on the outside than common; its superior attachment was partly to the external angle of the scapula and the glenoid cavity,

which in a great measure it covered, and partly to the ribs. The latter was an adhesion wholly the result of accident, and, therefore, much weaker and more thin than the other. In truth, the shining fibres of ligament could not be traced in this newly formed part; it consisted of layers of condensed cellular membrane firmly fixed to the ribs.

The interior of the articular cavities was very extensive. That of the left side was about six inches long, and proportionately broad near the head of the os humeri, but narrowed like a funnel toward the ribs. This cavity was partly divided by a ridge of ligament, extending round the middle. Through this contracted part, the head of the os humeri was capable of slipping freely backward and forward. This contraction was unquestionably formed by the fragment of the original capsule, which had been torn through at the time the dislocation happened. This had been kept open by the passage of the bone through it, which must always have taken place, when the head of the os humeri was resting against its bony support, the ribs: but whenever the limb was allowed to gravitate downward, the bone slipped through the opening; never so low, however, that the head of the os humeri returned wholly through the lacerated part into the place of the original cavity. This head rested on the ribs; a thin layer of smooth and shining cellular membrane intervening, covering the ribs and forming the inner coat of the articular cavity. The newly formed part of the capsular ligament of the right side adhered to the first and second ribs, and to the intercostal muscle between; but that of the left side adhered wholly to the second rib; in consequence of this limited adhesion, the articular cavity appeared very narrow toward the rib; if, however, the arm was drawn upward, in the direction of the axis of the os humeri, so as to relax the capsule, the head of the os humeri was capable of pretty extensive motion on the supporting ribs, in consequence of the great extent and the looseness of the new capsule.

The state of the glenoid cavity of the scapula was naturally an object of curiosity. It was sometime before I could ascertain the situation of this part; at last it appeared that nearly two thirds of the cavity were covered by a bundle of ligamentary fibres arising from it, and extending to the os humeri. The insertion of these fibres in the os humeri of the right side was

particularly curious. Nature had here made a powerful effort to assist the imperfect articulation formed upon the ribs, by another between the side of the os humeri and the glenoid cavity. In order to effect this, an imperfect head was formed on the outer and posterior part of the os humeri about an inch below the neck of this bone. The new head was an inch thick at its base, and of an oblong form; it did not project more than half an inch from the side of the bone, and, therefore, reached not the glenoid cavity. To remedy the shortness of this head, a new bone was developed between the side of the os humeri and the glenoid cavity, which bone was an inch and a half long, half an inch wide and thick. It was fixed by very thick, strong ligaments, about half an inch in length, on the one side to the glenoid cavity, and on the other, to the new head of the os humeri. It is probable, that if the patient had lived a number of years longer, the ossification between the side of the os humeri and the new bone would have been completed, and thus a new head would have been formed to correspond with the glenoid cavity, the direction of which would have been nearly at right angles with that of the os humeri.

On both sides, the original articulating surface of the head of the os humeri was changed from the upper and inner part of the bone to the inner part. This change took place, in consequence of the growth of ligament from the upper end of the bone, and the extension of the articulating surface downward. This articulating surface then, instead of presenting an orbicular form, was broad and flat like the back of a watch, in order to correspond with the flat surface of the ribs. The second rib of the right side was somewhat excavated externally and prominent internally toward the thoracic cavity.

The axillary artery was pressed on by the head of the os humeri in such a manner as to interrupt its direct course to the arm, and cause it to form an obtuse angle in passing round the head of the bone. Such a pressure must have interrupted the circulation of blood through the artery, and it appeared in consequence, that the arteries of the arm were generally small; but it did not seem, as I expected, that the subclavian artery above the part subjected to pressure, was larger than common. The axillary vein and the nerves of the brachial plexus were, of course, exposed to pressure, but in a smaller degree than the artery.

Having preserved the two articulations, I allowed one of them to dry in the most natural position, in order to observe the relations of the hard parts, in a more distinct manner. The superior extremity of the os humeri was then on a level with the coracoid process and the upper edge of the first rib; being an inch distant from the former, and an inch and a half from the rib. The head of the os humeri, although dried at some distance from the ribs, was not less than five inches from the glenoid cavity above and within. The head of the bone corresponded principally, on the inside, with the second rib. On the outside with the neck of the coracoid process and the scapula, and above with the clavicle.

This description is taken mostly from the articulation, in which the dislocation was in the axilla. In that, where the head of the bone was under the pectoral muscle, the capsular ligament was attached to the second rib farther forward than in the other case. This was the most remarkable peculiarity, dependent on the difference in the nature of the two dislocations.

Many years must have been required to produce these changes; but I was not able to ascertain how long a time had elapsed between the occurrence of the dislocations and the death of the patient.

The subject of these observations was about 80 years of age, of a robust form. Some other morbid appearances presented themselves on the examination of the body, which, although not apparently connected with the accidents, described above, it would not be proper to pass over.

As there was some reason to suppose an organic disease of the heart, this organ was carefully examined. The heart was enlarged, though not greatly; the arch of the aorta was dilated enormously, possessing about four times its usual capacity. The cause of this dilatation was discovered, on tracing the abdominal aorta: for this vessel was converted into a bony tube, through the whole extent of the abdomen. Other arteries were much ossified. The lungs on the right side were hard and full of blood, and exactly adherent to the parietes of the thorax in every part. These organs being turned over, a hard mass was discovered fixed to the posterior part of the bifurcation of the bronchiæ. This osseous mass pressed on and nearly inclosed the left bronchia, whence might arise the patient's

difficulty of breathing. It also pressed on, nearly enclosed and was intimately united with the nerve par vagum of the left side, in such a manner, as would lead to the opinion, that the function of this nerve must have been wholly interrupted.

The aorta being removed from the vertebræ, a considerable distortion of the spine appeared, together with a great enlargement and deformity of the lumbar vertebræ. These bones were also covered with excrescences of bony fungus. The bones, constituting the knee joint, exhibited instances of a similar fungus in a more remarkable degree. The inferior extremities of the ossa femoris were greatly enlarged, and when cleared of the soft parts, exhibited the appearance of a cauliflower. There was no ulceration in this or the other parts where these excrescences existed.

This patient had an inguinal hernia of the right side, which being carefully examined, presented an instance of that peculiarity in which the passage of the hernia, instead of extending an inch and a half obliquely upward and outward, opened into the abdominal cavities directly opposite the ring. Mr. Cooper has stated the course of the epigastric artery in such cases to be on the outside of the mouth of the sac. So it was in this instance. The artery, instead of passing under the mouth of the sac and rising on its inner side, came just to the outer side of the hernial orifice, then passing upward and inward, inclined over the mouth of the sac. An incision from the sac outward would probably have divided it, and an incision upward would have endangered the same accident in this instance.

If to these observations we add that one eye had perished, and that the cristalline lens was found petrified in the midst of its disorganized coats, we shall have stated the principal morbid appearances in this subject.

It is natural to inquire what kind of death this man died, and I therefore obtained the following minutes made by the physician, who attended him. Nothing additional to this could be readily procured.

October 29, 1813. Sulp. Sodæ unc i. et pil. scil comp. at night.

November 14th. Dyspnæa so urgent, as to oblige him to sit up most of the night—expectoration thick and hard—pain and dyspnæa somewhat relieved by vesication, bowels regular since the sulphate. pulse 66 rather feeble. Artery partially ossified—pil: scil comp.

18th. Hard tumor discoverable in region of the liver, across the epigastrium and just below the cartilages of the short ribs. Refers all his distress to this part. Unable to lie down in consequence of distress and dyspnæa—Not without appetite—Chronic cough, rattling—Chest resounds but not perfectly clear—R. pil. scil et subm. hydragarg. omni nocte:—till the system is affected.

20th. Costive—Sulph. Soda unc i.

23d. Continue the pills.

26th. Dyspnæa diminished, able to lie down at times—Spitting without soreness of mouth.

29th. Pulse 80, intermitting and very irregular. Dyspnæa severe at times.

Dec. 2d. Chest sounds somewhat dull on the right side of the sternum—Also on the right side of the vertebræ, better under the arm.

6th. Cough he says is somewhat alleviated.

12th. Complains of the dyspnæa—Pains alleviated—Pulse 64, irregular.

14th. P. 44 to 48 very irregular—only complains of a stoppage in breathing, which he refers to the right side.

18th. Cough not so urgent—Sleeps better—Continue the medicines.

28th. Strength diminished—Cough and pain somewhat alleviated—One gill of wine.

30th. Died last evening.

The circumstances most remarkable in these dislocations are the following.—The formation of a new socket for the head of the os humeri on the sides of the ribs, to which the head of that bone had become accommodated in form and situation. The enclosure of this socket by a new capsule composed of condensed cellular membrane, on the inside of which a synovial membrane was developed. The great extent of this new cavity, calculated to remedy the inconvenience of its situation. The guards, which nature had placed, against a new dislocation, by thickening the remains of the original capsular ligament, wherever it could be done with advantage to the strength of the articulation. The evident appearances, in one of the articulations, of the hole in the original ligament, through which the head of the os humeri had been dislocated. The glenoid cavity,

partly covered by ligament and altered in its form. Lastly, the effort of nature to form a new articulating head on the side of the os humeri.

REMARKS ON ERGOT.

COMMUNICATED IN A LETTER TO ONE OF THE EDITORS.

HAVING received by the post a Dissertation on the *Ergot*, I take the liberty of making my compliments through you, to the author, for this judicious and respectable performance. I presume also to add a remark or two on the subject of it.

The author says, that the quarter of France in which the *Ergot* is principally found, is the "province of Salonia; and Salonia he afterwards called Sologne. (See p. 3 and 5.) Now the portion of the country known by the name of Sologne was included before the French revolution in the province of Orleans; and according to M. D'Anville's map of France, it lies south of the great arch of the Loire. Sologne however being the mere name of a section of France under some of its old forms of division, and not the name of a town; it is not to be seen in every map, and is wanting even in the maps of Sanson. I do not find it in D'Anville's map of antient Gaul by the name Salonia, nor yet in his work on antient geography; but Busching says, that Sologne was "in Latin, Secalaunia or Segalonia; a country, the boundaries and appurtenances of which are not easily determined:" and this account may have been true in the decline of the Roman Empire, or in the middle ages.— But I dwell too long on *names*, and must proceed to *things*.

Among the various accounts given in the memoirs of the French Academy of Sciences, I find one (in the *Historical* part of the volume for the year 1710, p. 61,) from which I translate several extracts.

Speaking of the dry gangrene (as it has sometimes been called,) produced by eating the *Ergot* in the form of bread; the Historian says, "what was particularly astonishing was, that this disease in no degree affected *women*; though it occasionally attacked a few little girls." Will it not then be remarkable, if the *ergot* should be found to confine its effects to the form of dry gangrene, in the case of the male part of our race,