

On the effects of the Anatomy Act, and the facilities for the study of practical anatomy in Glasgow / by George Buchanan.

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Buchanan, George, 1827-1905.
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Publication/Creation

[Glasgow] : [William Mackenzie, Printer], [©1855?]

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to a short account of the method of
training bodies by "Resurrecting"
visions after passing of the Act—

ON THE
EFFECTS OF THE ANATOMY ACT,

AND THE FACILITIES FOR THE

STUDY OF PRACTICAL ANATOMY IN GLASGOW.

BY GEORGE BUCHANAN, A.M., M.D.

THE medical traveller who has visited the Hague, could not fail to have been struck with one of the paintings in the Museum or Picture Gallery. It is a masterpiece of Rembrandt, unique in the subject, and unexcelled in execution and colouring. The subject chosen is curious, and requires all the talent of the painter to make it even tolerable to the public eye. It is an anatomical demonstration. The professor (Tulp) stands at the side of a dissecting table, on which a body is lying, and holds in his forceps one of the superficial muscles of the fore-arm, which, for obvious reasons, is the only part of the dissection exposed. The students, who are grouped around the table, are listening with great eagerness, a perfect pattern to those who now have such facilities for dissection; and the whole picture is a valuable, though unintentional, record of the time when dissection was the privilege of the teacher only, the pupil learning his anatomy by watching the performance of his master. It also recalls to our mind the necessity that at one time existed for those who wished to have a complete surgical education, to repair to continental schools for what was denied to them in this country, or at least was obtained with the penalties of the law hanging over their heads, and it presents a striking contrast to the advantages enjoyed by the student of the present day.

In the last number of this Journal there was a paper,* in which the claims of Glasgow as a school of medicine were prominently set forth, principally in reference to the large field for study pre-

* The Medical School of Glasgow.

sented in the wards of our excellent Infirmary. The subject was not exhausted, and may well be continued in another branch, and especially as regards the peculiar facilities afforded in the school of Glasgow for the study of anatomy, contrasted with the difficulties before the passing of the Anatomy Act.

It is instructive, as well as interesting, to reflect on the advantages possessed by the student of the present day over those of former times, and even of a period not very remote. In the matter of books alone, how great is the difference! We have treatises on every subject in the cheapest and most accessible form, while the introduction of woodcuts not only adds to the clearness of the text, but relieves the tediousness of a long description. The manuals and handbooks on almost every course in the curriculum, are marvels of completeness, as well as conciseness. In anatomy we have no lack to choose from: Quain's, Wilson's, and Knox's in descriptive—the Dublin Dissector, Ellis, and Holden, in practical anatomy, all within the means of any student. Indeed, in every branch of study there is some *vade mecum* in which the matter is so arranged and condensed, that the reader obtains the marrow of the information without wading through whole chapters of explanations; and it is only in some such way that he could overtake the extended course of study now required of him. Passing from this, and refraining from noticing the increased attention that is given to clinical teaching, in nothing is there such a marked difference as in the advance of practical anatomy in this country.

What was the state of the case a hundred years ago? Anatomy was cultivated with considerable ardour by some intelligent persons in England, but the schools in which it was taught were few and miserably defective, both as respected the plans of the teachers and the facilities afforded to learners. To what a lamentable degree these deficiencies continued to exist in the time of Dr. W. Hunter, who began to lecture in 1746, may be judged of from the following extract from one of his introductory lectures:—"In the course of my own studies," he says, "I attended as diligently as the generality of students do, one of the most reputable courses of anatomy in Europe. There I learned a good deal by my ears, but almost nothing by my eyes; and therefore hardly anything to the purpose. The defect was, that the professor was obliged to demonstrate all the parts of the body, except the bones, nerves, and vessels, upon one dead body. There was a foetus for the nerves and blood-vessels, and the operations of surgery were explained, to very little purpose indeed, upon a dog. And in the only course which I attended in London, which was by far the most reputable that was given here, the professor used only two dead bodies in his course. The consequence was, that at one of these places all was harangue, and very little was distinctly seen; in the other, the course was contracted into too small a compass of

time, and therefore several material parts of anatomy were left out." In confirmation of this statement, it may be mentioned that the syllabus of Mr. Bromfield's lectures, published in 1743, including anatomy and surgery, comprises the whole in thirty-eight; that of Dr. Nichols, in 1746, proposes anatomy, physiology, the general principles of pathology, and midwifery, to be completed in thirty-nine; and that of Mr. Nourse, published in 1748, "*Totam rem anatomicam complectens*," has only twenty-three.*

What a contrast does not that present to the present day, when the "*Res Anatomica*" is included in two separate and distinct courses, taught simultaneously during a period of six months, and into which the whole subject can with difficulty be condensed! But what would one of those teachers have said, who was in the habit of teaching operative surgery on a dead dog, could he now walk into one of our dissecting-rooms and see the students in the pursuit of practical anatomy? And yet the importance of this branch has been much overlooked of late years, in consequence of the attention that has been drawn to the discoveries in microscopical anatomy and animal chemistry. These two studies are most important, and are peculiarly interesting from the light which they throw on physiological inquiry; but so much has been said and written about them, that anatomy, and particularly practical anatomy, which is, after all, the true basis of surgical proficiency, has been thrown into the shade, and has met with apparent neglect. This should not be the case, for it is one of the few branches of study which, in most instances, can only be acquired during student life. Others may be pursued as well, and even better, during the first few years of practice; but with regard to this, the practitioner is removed from his school, and, except from an occasional inspection, his real anatomical knowledge remains in *statu quo*. It is idle to talk of books and drawings; the practitioner well knows that the anatomy which is to avail him, is what he saw while a student.† Now, in this respect, the Glasgow student has immense advantages, which are not sufficiently recognised, nor well enough known. There is no presumption in stating what is consistent with fact, that Glasgow stands unexcelled, and probably unequaled, as a school of practical anatomy. The con-

* Hunterian Oration of Thomas Chevalier, F.R.S., 1821.

† It is sometimes said that the crying up of anatomy is a piece of affectation, and that an intimate knowledge of anatomy is not required for the vast majority of surgical operations; that the only difference between a good anatomist and one who is not so proficient, is, that during an amputation, for instance, the anatomist names the arteries as he ties them, while the other ties whatever bleeds without more ado. But in the present day this fallacy does not need to be exposed—the ligature of arteries, the excision of tumours from the neck, the decision on the practicability of an operation in the neighbourhood or under the lower jaw, are examples requiring a thorough and ready knowledge of anatomy. There is more affectation in decrying anatomy than in supporting its claims.

trast between its present position and that before the passing of the Anatomy Act is most striking.

The manner in which the schools in London were supplied is now well known. A set of men, of great bodily strength, and of usually low and depraved habits, as well as ungovernable temper, who were styled "resurrection men," undertook the supply of the dissecting-rooms. They resorted to the most extraordinary means to obtain bodies for disposal. They had men in their pay who assisted them in their actual labours, but they kept in their own hands the arrangements with the various teachers. They bought over with large bribes the keepers of graveyards in and around London, and often paid large sums to watchmen to admit them to vaults and other places of interment. They sometimes succeeded in robbing houses of unburied bodies, filling the coffins with stones or other heavy substances; and on one occasion they were known to have taken from the outhouse of a tavern, a body which was lying for a legal examination by the coroner the day following. They were not unfrequently detected, either by the vigilance of private watchers, or by the jealousies of some other *set*, who informed on each other, and were imprisoned for longer or shorter periods. They were liable to attacks from parties of friends, who sometimes watched the graves for several days, and were in various ways subject to danger. In consequence of these difficulties, the sums they demanded from the teachers of anatomy were enormous, and had the effect of preventing the great body of the students from learning anatomy by dissection. For a considerable time the regular price demanded for subjects was £12, and even at that rate it was difficult to get the men to work. Besides the ordinary payments made to these men, the teachers had often to pay large sums for carriage and as *douceurs* to get them to work, and often they had to pay their expenses at the rate of 10s. a-week when they were detected and fined, or lodged in prison.*

In reflecting on the difficulties of those times, one cannot help shuddering at the atrocious and inhuman expedients resorted to by those who supplied the anatomical rooms in Edinburgh for some time. The facts brought to light at the trial of the barbarian, Burke, and his associate, Hare—names that will be execrated in all time to come—present a picture of brutality unsurpassed in the annals of history, and cast a blot on the science with which they were connected, that will not soon be eradicated. This in passing, for at present I am referring to the more legitimate but still disgusting means employed by the resurrection men, who gained a livelihood, and sometimes amassed large sums of money, in the pursuit of their laborious and loathsome employment. Such were some of the disadvantages attend-

* Many of the above statements are taken from the "Life of Sir A. Cooper."

ing the study of anatomy in London; but if the students had to expend considerable sums of money in obtaining dissection, they could, at least, do so without much trouble or danger to themselves, the duty of procuring the subject being entirely left to the resurrectionists.

In Glasgow it was different. There were no men who made it a business to obtain bodies, and the onus of supplying the dissecting-rooms lay with the teachers themselves, and with their students. The students were therefore compelled to band together, and perform the disgusting duty which in London was delegated to the resurrection men. Many of the surgeons of this and other towns, will remember with horror the escapades in which they were engaged while studying anatomy in this city. What would the students of the present day say, if, in addition to mastering the details of their dissection, they had been compelled previously to become masters of the body, by a laborious and disagreeable operation? For the information of those who are now enjoying in ease and safety the fruits of Mr. Warburton's Bill, I shall detail the mode of procedure of the private resurrectionists of Glasgow, as related to me by one who was not unfrequently present at these predatory excursions. The grave of a recently buried body was carefully observed and marked during the day, and a band of a sufficient number—usually four or six—was made up. The party, provided with a dark lantern, an old carpet, a sack, and shovels and pickaxe, took the advantage of the first dark, cloudy, perhaps windy night, in order that their proceedings might be the better concealed. Sentries were posted to give notice of any alarm which might get up, and the principals entered the graveyard by climbing the wall, at a distance from the gate. The grave was then opened to about half its extent, and, by dint of hard labour, about one-third of the coffin lid was exposed. The strongest of the party now entered with the lantern to perform the most difficult part of the whole, and over the open grave was thrown the carpet above mentioned, for the double purpose of concealing the light and deadening the noise of the working. The coffin-lid was wrenched open by a short crowbar, and, by sheer force, was broken off where it remained covered with earth. The noose of a strong rope was now put round the neck of the body and handed up to the others outside, who soon pulled up the corpse to the surface. It was then wrapped up in the sack, and carried off to a convenient place, and the grave was filled up and covered, great care being taken to leave the surface as near as possible in the same condition in which it was found.

Such were the means that the students were necessitated to employ in order to gain a knowledge of their profession, and it may easily be conceived that, with such difficulties in the way, only a scanty supply could be obtained, and the bodies often con-

siderably advanced in decomposition. Such as they were, however, it may be believed that the dissectors would be most diligent in the study of what it had cost them such hard labour to obtain. But, in addition to the difficulty and toil of resurrectioning, it was attended with no small amount of danger. The friends of those who were buried used frequently to take their turn of watching the grave, and sometimes were armed with loaded pistols, thus endangering the lives of their fellow-men for the sake of a dead body. Parties of students have actually been fired at while engaged at or leaving a grave, and on one occasion, many years ago, a young man, while watching the grave of a relative, was shot dead, in consequence of a pistol accidentally going off. This was in the old Ram's-horn, or North-west burying-ground. The unfortunate lad received the bullet in his chest, was immediately carried to the Infirmary, and died soon after. On another occasion, a bullet was lodged in the window-shutter of a dwelling-house in George Street, having been fired from a pistol by one of a party of watchers in the same burying-ground. It is truly surprising that, notwithstanding these and similar accidents, the custom of watching our graves with loaded fire-arms was winked at or encouraged by the authorities, even up to the passing of Mr. Warburton's Anatomy Act; while, at the same time, the lives and properties of the living lieges were thought sufficiently protected during the night by a set of lazy old men, armed, not with guns and pistols, but only with stout sticks. One would think that the dead might have been as easily and as well protected in a similar way. It is a curious circumstance, that up till very lately, if not still continued, a pistol used to be fired in one of the graveyards near the High Church at midnight, to give notice that the watch is set, and fire-arms are kept on the premises.

The following incident, which shows the danger to which the students were subjected, and their determination to get what they wanted in spite of all difficulties, may be remembered by some who were then at their studies. A patient of a celebrated surgeon in Glasgow, having died of some internal disease, under peculiar circumstances, he was very anxious to be allowed to examine the body after death. The friends having decidedly refused to permit the body to be opened, the surgeon determined to obtain, without their consent, what they had refused to his reasonable request. He therefore employed a party of his students to get the body from the grave. As was usual under similar circumstances, the friends employed some men to watch the grave, and prevent the body being removed. These men being accustomed to the job, and not being so immediately interested in the security of the grave, contented themselves with sitting in a watch-house, which was in a corner of the graveyard, and occasionally coming out and firing a pistol, to warn off any depredators who might be

skulking about. For the further enabling them to observe that nothing went wrong at the grave, they placed upon it a lighted lamp, so that if any one came to open it, he must first move the lamp, which would lead to his immediate discovery. Having taken these precautions, they refreshed themselves with a cheerer of whisky, with which they were always supplied, with a view of *keeping out the damp*. The resurrectionists, well knowing the effect of alcoholic liquids on the brain, resolved to risk the pistols of the watchers, and actually succeeded in taking off the lamp, opening the grave, removing the body, refilling the hole, and replacing the lamp, under the very noses of the keepers, without having been observed, and the removal was never detected. This, however, was at a great hazard, for if these half-drunk men had come upon them unawares, fighting, and perhaps shooting, would have been the order of the evening.

Besides this danger of personal harm to which the resurrecting students were liable, if caught in the act, they might be discovered afterwards, and were subject to punishment, fines, or imprisonment, if legally convicted. An instance of this kind occurred to a party of students, some of whom are now practitioners in Glasgow, and who at that time did not think they would ever arrive at their present high position.

Four students, who were attending the private medical school of Glasgow, were engaged in removing from a grave, in what was then called the North-west Burying-ground, a body which had been recently buried. They accomplished their object, and succeeded in leaving the grave in a proper condition, removing all traces of the depredation. Unfortunately, one of them dropped near the spot one of his gloves, which were worn on these occasions for protecting the hands from injury; and in the morning this tell-tale was found by the watch, and information immediately sent to the friends. No time was lost in examining the grave, when, of course, it was found empty of its late tenant. The Sheriff was applied to, and a warrant granted for the search of the dissecting-rooms. By this time the hue and cry had got abroad, and a perfect mob beset the approaches to the College and High Street, vowing vengeance on the body-snatchers. Before the private medical school was searched, the face and other parts of the body were disfigured by dissection, and it was hoped that it would not be recognised; but the deceased had a false tooth, set in gold, which had not been taken out of the mouth, and this at once led to the detection. The teacher and his principal dissector were at once accused of the deed, but stoutly denied being the parties concerned, and as firmly refused to give the names of those employed. Some of the students were precognosced, and there is little doubt that the offenders would have been discovered at last, if they had not made the best use of their present liberty by leaving the country, until the investigation was finished, and the

fama had subsided. They therefore left the town, some under assumed names, and remained away for a considerable time, until it was deemed safe to return. In the meantime the teacher, and two of his senior students, were tried, at great length, before the Justiciary Court in Edinburgh; and after hearing a great amount of evidence on both sides, the jury brought in a verdict of "Not proven."

The amount of popular excitement produced by these disclosures was so great, that it was hardly safe to be seen entering or leaving the schools, and it resulted in a closer watch being set on the graveyards, and the more general adoption of mortsafes and iron stanchions around the tombs. A lingering remains of this feeling is to be found in the greetings which our newly-fledged collegians receive, as they walk about High Street in their gaudy plumage, being congratulated, on the opening of the session, with contemptuous sneers of "Doctor," "Burker," &c.

It certainly appears strange to us now to hear of a professor and his students being tried before the Justiciary Court, for adopting the only means open to them for the pursuit of anatomy; it being a singular anomaly, that a surgeon, before obtaining his license to practise, was required by law to have studied practical anatomy, and, at the same time, was liable to imprisonment or transportation, for adopting the only plan whereby he could obtain a competent knowledge of that branch. The consequence was, that great numbers of students from this country repaired to the schools in Paris, where the same absurd restrictions were not in force, and where there was a legal provision for the study of anatomy, as among ourselves at the present day.

How different is the case now! A student has but to intimate his wish, and in a few days he finds himself supplied, without being aware of the source whence the material for dissection has been obtained; he gives himself no trouble about the matter, and is very well satisfied with himself, if he is so persevering as to go on quite to the end with what he has begun. The expense, too, is so trifling, as to enable the humblest individual to avail himself largely of these advantages. The students, and even the teachers, are now quite relieved from all trouble connected with supplying the anatomical rooms, there being an official appointed to carry out the provisions of the Anatomy Act, and a government medical Inspector, to observe and report on the transactions of the anatomical schools of Scotland. Under these auspices, our supply in Glasgow is practically unlimited, and hitherto has been far more than sufficient for the wants of our school; and hence no one is ever obliged to wait on, wasting time in idleness. If a student, at any time, is required to wait a few days, it is always because there are not a sufficient number unoccupied to join him. As soon as he finds a proper number of companions, they are at once supplied. The knowledge of this fact not unfrequently induces

naval and military surgeons to come to Glasgow for a little revision, and many more would avail themselves of it were it more generally known. The assistant-surgeon of the *Banshee*, last winter, spent a fortnight, before passing his examination for full surgeon, in studying in our dissecting-room; and though he had given me no previous notice, he was kept constantly employed. The surgeon of the *Princess Royal*, one of the Baltic fleet, called with a naval friend, and expressed a wish to go through a course of operations before sailing. Although this was in the month of January, at the busiest time of our session, he was supplied, and was hard at work in a few days.

Last spring, my friend, Dr. Davidson, R.N., was residing, for a short time of recess, in Ayrshire. Without previous notice, he received an appointment as surgeon to the naval hospital at Therapia, on the Bosphorus. He got the official letter on a Friday, and was ordered to sail from Southampton on Tuesday. This being impossible, he got leave till the Tuesday fortnight, and being very desirous to refresh his memory a little, he applied to me. He was supplied in two days, and being an excellent anatomist and clever surgeon, before he sailed from Southampton he had dissected the principal regions, taken up the main arteries, and performed all the capital operations on the body.

These are mentioned as instances of the rapidity with which we obtain our supply; and I do not believe that it could be got with the same certainty in many other anatomical schools. Those surgeons in Glasgow who occasionally revise their anatomy at our dissecting-room, can easily corroborate the above statement.

But, perhaps, the best way of showing the extent of our resources will be to give, in a few figures, the returns from the superintendent of our receiving-house, to the Inspector of anatomy for Scotland:—From 1846 to 1850, both years included, there were of unclaimed bodies, to be buried at the public expense, and available for the purposes of anatomy, under the Anatomy Act, 842. Of these, 300 were required and used in the anatomical schools. From 1851 to 1854, both years included, there were 548 bodies available, of which 267 were used for the purposes of anatomy. In all, during the last nine years, there were of available bodies 1490, of which only 567 were required for the schools; leaving 923, which might have been got if needed.* It is true that some of these must have died during the vacation, at a time when they could not have been made available; but to make up for this it must be remarked, that those who have charge of the working of the Anatomy Bill have only taken advantage of certain sources, to which it is most readily applied; but by a little trouble there are others, which, if necessary, could be taken advantage of,

* The last nine years are taken, because, during that time, the present superintendent has had charge of the *Morgue*, and the figures have been most accurately kept.

so that the preceding figures might easily be increased by a half, perhaps doubled.

These remarks apply equally to the supply of the anatomical schools at the College and the Andersonian University; yet so carefully and quietly are the provisions of the Anatomy Act carried on, that few of our citizens are aware that there are two flourishing anatomical schools in our city; at least their existence is not forced on their notice by any disagreeable proceedings, and the feelings of the poorest are held sacred. Besides this, in terms of the Act, every body, after having been examined at the schools, is regularly interred at the expense of the teachers. What a contrast does not this present to the night-watching, the rioting, the mobbing, of former times!

I am not sure that this increased facility in obtaining bodies has produced a corresponding amount of application on the part of the students; for although those who earnestly set to work, and those who have a partiality for the study, take advantage of these resources, yet I cannot help thinking that there are others who sometimes *shy* their practical studies, under the belief that they can pursue them at any time they choose. I am confident that the receipt of a body into a dissecting-room in the olden time, when it was obtained by a hard night's labour, at the risk of life or liberty, would be attended with an amount of interest which cannot be expected at the present day, and would be followed by a degree of perseverance in study, and attention to the directions of the teacher, which would be well to be imitated by those who now occupy the rooms. A feature, however, is now to be found which could not have existed formerly. The more advanced students, after having completed their dissections, are in the habit of performing the operations of surgery on the dead body. This is one of the most important parts of practical anatomy, for a knowledge of practical surgery, sufficient to enable a surgeon to enter on the practice of his profession, is not to be obtained in any other way. It would be an act of fool-hardihood for a man to go forward to an operation, who has not previously performed a similar one, as well as examined the relations of the parts implicated, on the dead body. The explanation of the steps of the operation in the class-room, and seeing it performed by another, are powerful auxiliaries in enabling him to take up a proper idea of its nature, but cannot give the confidence which results from the satisfaction of having already performed it on a dead body. Besides this information, and consequent confidence, the student acquires, what is not less necessary, an ease and firmness in the use of his instruments, which he soon finds are to be managed in a way quite different from ordinary dissection. And this makes it all the more necessary, that, before finally quitting the dissecting-room, he should learn to change the light and sweeping movements of his knife, to which he has been accustomed, for

the circumscribed and more decided incisions usually required in surgical operations. With this object in view, in our dissecting-room in the Andersonian University, we use every means for encouraging the student to perform the operations, especially in the summer session, which, except during the first six weeks, is not so favourable for dissection; and in the later weeks of the session, our room might be likened to the cock-pit of a man-of-war during a naval engagement.

It has often surprised me, that the surgeons in practice in Glasgow do not more frequently avail themselves of the above-mentioned abundance of supply, especially during the autumn recess, when there are no students in town to reap the advantage of it. Some do occasionally, and one or two regularly, occupy themselves in our dissecting-room; but the majority seem to differ from Sir Astley Cooper in his opinion, which was, that true surgical proficiency could only be obtained by frequently dissecting and operating on the dead body.

Before concluding, I cannot help alluding to the effect of the Anatomy Bill on the community at large. This has been most beneficial, for instead of the anxious watchings over the graves of friends, and the terror that every morning would reveal traces of those who had been employed in removing the bodies, they now rest assured that there is no risk of such a proceeding, and their feelings are unharassed by any anxiety. Those who have charge of these matters carry on their duties so quietly, that the citizens never hear of the anatomical school; and the supply of the school is intentionally kept a kind of mystery, which no one has any interest to inquire into, so long as it does not interfere with the private feelings of any member of the community.

Another thing to be noticed is the altered feelings with which the students are regarded by the citizens. In those days, the name of a medical student was always associated with everything that is bad; and, in not a few instances, the pursuits in which they had to engage were not calculated to elevate their sentiments; but now they are, with propriety, accounted among the peaceful and regular inhabitants of the city.

What a change, too, in the outward appearance of the newer churchyards! Compare the graveyard at St. David's, or beside the Cathedral, with their damp, airless vaults, and great menagerie-looking cages surrounding the tombstones, with the elegantly laid out and tastefully finished sepulchres of the Necropolis and Sighthill. What an amount of money must have been laid out in iron, to render these resting-places secure, grim, forbidding! How much more pleasing to the feelings of friends, when they go to indulge their natural grief, to see the tomb unfettered, even though it be only covered with the simple turf or flowers, or marked by the plainest stone! In this way, too, they can be better arranged, with spaces for flowers, shrubs, and trees, and

admit of considerable ornamented decoration, which has been taken advantage of to render the burying-places just mentioned, and many others, tasteful as gardens, as well as useful as places of interment.

Thus, whether we turn to its effects on the community, or the more remarkable change produced on our medical school, we have reason to be grateful for Mr. Warburton's Anatomy Act.



