more regular, and at length evidence of life was given by crying. Then, through the application of a sponge squeezed out of hot water alternately with one from cold water, and applied to the throat, increased facilities for breathing were given. It was evident, however, that, under the most favourable circumstances, the crowing spasmodic inspiration would continue. The lividity of the skin also was still present to such an extent as to indicate very defective aëration of the blood. At the end of two hours, I ceased using the sponges. I then placed it in warm cotton-wool, and gave it a few drops of brandy, with warm water, which was swallowed readily. Dr. Foulis, surgeon to the Throat Dispensary, who was sent for, now came in, and the child remained under his constant observation until it died. His statement of the case is, that the baby suffered from a continual impediment to the inspiration, in the form of a crowing long-drawn effort, ending usually with an abruptness which seemed to point to some obstacle in the glottis. Occasionally, there occurred a sort of collapse, with cyanosis and cessation of the breathing, which lasted for a minute at most, and was rallied from slowly under the use of alternate applications of hot and cold sponges to the chest. The inhalation of minute quantities of ether was tried, but, though it seemed to relieve the spasm, yet it did so rather by producing a sort of stupor than by any real benefit to the breathing. The only treatment which seemed of real use was holding the lower jaw forward by means of the fingers placed behind the angles, and so pushing it forwards. This effectually relieved the breathing for the time, and restored the colour of the lips and face to the natural rosy tint; the crowing inspiration returning immediately on the relaxation of the forward pressure. Later on, however, the dyspnoic attacks became more frequent, and the child died nineteen hours after the birth. Milk and a very little brandy were administered every two hours or so, in small quantities, and the swallowing did not seem to be much impaired except during the last hours of life.

That same evening we examined the body. We found a degree of venous congestion in the skin and organs generally. The thymus gland was, if anything, undersized. One third part only of the lung was expanded; the other two-thirds of the lung-tissue were non-crepitant, purple in colour, and almost solid to the feel. The heart and other thoracic and abdominal organs were not diseased. The brain was not examined. The larynx and trachea seemed small. The epiglottis was folded closely together. The diameter of the trachea was $5\frac{1}{2}$ millimètres; the total length of the rima glottidis 5 millimètres, of which $3\frac{1}{2}$ millimètres was formed by the ligamentous part of the cord. The placenta, which was also examined, was found dotted over with a few minute fatty patches, which, however, did not extend deeply into the placental tissue, but were rather confined to the superficial layer; otherwise it was healthy, and of the average size.

On consulting all the works at command on the subject of the size of the larynx at birth, Dr. Foulis failed to obtain anywhere such measurements as would enable him to give a definite statement as to the possible deviation in this case; he therefore measured the larynx in other children of the same age as the one under notice, which had either been stillborn or had died just after birth. These gave the following results.

	Diam. trachea below isthmus.	Rima glottidis.	Ligamentous cords.
1. Subject of this paper (for comparison), full time.....	$5\frac{1}{2}$ mill.	5 mill.	$3\frac{1}{2}$ mill.
2. Female still-born child, full time	5 "	$6\frac{1}{2}$ "	4 "
3. Male still-born child, full time.....	5 "	8 "	5 "
4. Male child, lived two days, full time..	$4\frac{1}{4}$ "	$7\frac{1}{4}$ "	4 "
5. Male child, born three weeks before full time; lived one week, and then died of pneumonia	6 "	$7\frac{1}{2}$ "	$4\frac{1}{2}$ "

The trachea, therefore, in our case was not too small. The rima glottidis, on the other hand, was shorter than in any other of the cases, and this difference may have aggravated the difficulty in inspiration. My little patient, however, impressed Dr. Foulis rather with the idea of a spasm or closure of the cords, such as he had observed at the Throat Dispensary in several adult cases. In these the cords went apart a little way at the commencement of inspiration, and during the latter part of the inspiratory act they closed together again, instead of going further apart as in normal cases; and the peculiar breathing of the child under notice seemed to him to be produced in a like manner.

The peculiar features of this case do not end here. I mentioned that the first two children born on the shores of the Mediterranean lived at least two years, and, from the absence of any laryngeal peculiarity, would appear to have escaped the infirmity. I do not think, however, that the mere fact of being born in this country accounts for the presence of the defect; neither was I able to discover the slightest trace of a constitutional syphilitic taint affecting parent or child; and, after careful inquiry, I was satisfied that this was not the exciting cause of the defect. I have since learned that the offspring of several of the

members of the lady's family were similarly affected at birth, and that the children so affected lived only a few hours. Others of the children who escaped the crowing at birth displayed a disposition to throat-affections; and when attacked by disease in this region, although mild in type, they readily succumbed under it. With such a history before me, am I entitled to assume that the peculiarity is in any respect hereditary? In my opinion, the facts of the case distinctly point in that direction. This leads further to the consideration of the treatment proper to be adopted in future should a case of the same sort occur in the family. We gave a fair trial to the ordinary means of obviating spasm, the age of the child rendering this a matter of difficulty; and our efforts having failed, the question of tracheotomy presented itself as the only remedy, although a desperate one, which might give a prospect of complete relief from the crowing, and, by enabling complete expansion of the lungs to take place, give also a hope of healthy respiration. It affords me pleasure to add, that the parents have consented, should another child be born to them similarly affected, to the adoption of this procedure, rather than to leave the child, as in the present case, to die by the slow process of suffocation.

The determination of the size of the larynx at birth is a point of some interest, which may be considered as not hitherto settled by actual measurements. The number of cases which my friend Dr. Foulis has been able to examine is only sufficient to give an approximate estimate. Irrespective of the case under consideration, the measurements given are very suggestive, and a step towards exact knowledge of the size of this important organ at birth has been thus secured. The case itself is in many respects unique, and I have brought it before you to elicit information as to how similar cases, if any, which may have been observed by others, have been treated, and also to ascertain if any plan can be devised less formidable than tracheotomy for the relief of a newborn child having this defect in its inspiratory efforts.

THE ESSENTIALS OF CLINICAL TEACHING.

(Being Extracts from an Address delivered at the Annual Meeting of the South of Ireland Branch.)

By H. MACNAUGHTON JONES, M.D.,

Assistant-Surgeon to the Cork South Infirmary and County Hospital;
President of the Branch; etc.

.....THERE is no test which more unerringly proves the standard which the profession has attained to, and is maintaining, in any city, than the clinical teaching, its character and excellence, as manifested either through original research or through careful complement of clinical records and therapeutical facts. I will ask you, in any remarks I make on this important subject, to dismiss all local consideration from your minds. Let us imagine that in some city in which no medical school had previously existed, and where no hospitals were working, a medical school was opened and clinical teaching established: let us further suppose that, having the future success of such school and hospitals at heart, we were anxious to secure the best and most efficient clinical instruction—What are the qualities in the teacher, the teaching, and those taught, which we would be most desirous all of them should possess? I do not ask you necessarily to agree with me in my ideas of what good clinical teaching is, or the attributes of mind and character essential in a cultivated teacher, or the mode in which that instruction should be received by the students. I give you candidly my views on the subject, as one connected with student life from the moment I entered the profession, and intimately mingling with students for the past eighteen years. You and I can agree to differ, if indeed I touch on any point on which a difference can arise.

Let us, in the first place, with advantage dwell briefly on a few of the essential ingredients which combine to form a good clinical teacher. In the words of Dr. Stokes, "a good teacher must be gifted with that strange power, partly physical, partly moral, which in itself gives to its possessor command over the minds of men. In the next place, the teacher must be thoroughly in earnest; for this gives to every word he utters a power of forcing its way that cannot be resisted." He must, as Dr. Stokes says, quoting Dr. Arnold, give them "living water". "Facts, views, and arguments" must have a vitality and freshness about them which ensures attention, and which "is only attainable when the teacher is himself an original investigator". To possess the power of imparting knowledge to minds variously endowed, and of different degrees of capacity, is a gift not of second importance to the art of acquiring it. How many of the ablest of men are sadly deficient teachers! In the clinical teacher this power is doubly difficult to acquire. A large proportion of his knowledge is acquired from his own experience and observation. But that experience and

observation should be supported on a firm basis of pathological and physiological knowledge, otherwise the routine observer rapidly degenerates into the empiricist and quack. The grand element of success in clinical teaching is truth. No clinical teaching can be sound which is not strictly truthful. There should be no exaltation of self at the expense of others; no ridiculing of the views and opinions of other teachers with the same object; no suppression of the unsuccessful or unforeseen results which have followed the application of either therapeutical or operative measures. A candid confession of instances of personal errors of judgment, and the causes which led to these, is more valuable and instructive to a student than the recapitulation and boasts of any questionable successes. There is no more inexcusable fault in a clinical teacher than the cultivation of the habit of exaggeration; young students fail to discriminate when a man is speaking the truth or palpably deceiving them. These early impressions are not readily effaced. Clinical teaching, to be perfect, must be thorough as well as accurate. In medicine, the closest habits of observation should be enforced, with such new aids in the elucidation of disease as we now possess in the ophthalmoscope, cardiograph, the sphygmograph, and the laryngoscope. No clinical education can be considered complete which is not based on a thorough acquaintance with the use of these adjuncts to a correct diagnosis. . . . If the medical clinique is to be worth attending, it must be enriched by constant, often hourly, thermometric observations on the part of the students, accompanying faithful records of the rapidity and character of the pulse; the force and frequency of respirations; the state of the secretions.

Hear what the late Dr. Graves, that type of a clinical teacher, had to say of the results in after-life which accrue from deficient clinical teaching.

"This charge of inexperience is not necessarily confined to the beginner; it applies equally to many an old practitioner, whose errors have grown and have increased in strength during a long succession of years, because, from a defect in his original education from the absence of a properly directed clinical instruction, he commenced practice without having previously acquired the power or the habit of accurate observation; because he had not in his youth been taught to reason justly upon the facts presented to his view; because not having learned in the beginning to think accurately, he contracted a loose and careless mode of examining the progress of disease and the effects of remedies; and, consequently, the lapse of time has had no other effect upon his errors than that of rendering them more inveterate. Such a man has generally an overweening confidence in his own judgment; he never detects or is conscious of his own mistakes; and, instead of improvement, years bring only an increased attachment to his opinions, a deeper blindness in examining the results of his practice; and do not such persons abound in every branch of the profession? Are there not general practitioners; are there not physicians; are there not surgeons; are there not apothecaries who answer to this description, and who, nevertheless, are cheerful in their demeanour, and enjoy a good repute among their clients? Believe me, the quacks who cover our walls with their advertisements vend not annually to the community more poison than is distributed according to the prescriptions of your routine and licensed practitioners."

If this be the case in medicine, what shall we say of surgery? What a host of qualities are required in combination before the surgical teacher is formed! How varied must be his knowledge, how wide his experience! If this be the age of "preventive medicine", it is our proud boast that it is also an age of "preventive surgery"; preventive in the sense that the great object of the modern surgeon is to conserve and preserve parts essential to life and happiness; to prevent disease from making such inroads as to necessitate operative interference; or if operative measures are called for, that such should be limited so far as they may be consistent with the safety of the sufferer, and undertaken under all the safeguards and securities with which modern surgical science has surrounded the operator's knife. Taking for granted, then, that our surgical instructor is a thoroughly "preventive surgeon", let us ask ourselves what are the other qualities which make him a thorough and truthful clinical teacher.

First, and most essential, he must be a good anatomist. By this I mean that he must possess a thoroughly sound knowledge of the relation and action of muscles, the course and distribution of arteries and nerves, and of regional anatomy. Without this knowledge, I defy any man to be a surgical teacher. He may bungle or rashly slash through operations, yet he is only after all a higher grade of the ordinary butcher, licensed, however, to carry out his manipulative feats on human beings instead of on the lower animals. The Vivisection Act, logically, should have embraced the *genus homo*. It is, however, rather in his capacity as a teacher that his anatomical knowledge is essential. If it be true that the really efficient surgeon and operator must be a

good anatomist, it is doubly true that the man who essays to instruct students in surgery must also be one. A correct anatomical exposition of every surgical case in his clinique should be the aim of every hospital surgeon. All that applies to the physician in regard to special organs, applies with even greater force to the surgeon. Not alone has he to pronounce a diagnosis and prognosis on some affection of the organs, of the senses, or other part, but on his manipulative dexterity by the aid of these diagnostic instruments, the recovery of a sense or the life of a patient may depend. If he cannot satisfactorily use and understand such means of diagnosis and treatment himself, it is difficult to comprehend how he is to enlighten students on the uses and advantages which accrue from their employment.

Not only must the clinical teaching in a hospital be truthful and thorough, but it must likewise be *earnest*. Clinical teaching which is not punctual and regular is, as a rule, incomplete and inefficient. To be an earnest teacher, a man must be a painstaking and punctual hard-worker. If he wish his students to learn detail, he must not scorn to practise details himself; he must cultivate in his classes a sense of the importance of "little things". "All successful surgery is made up of an aggregate of 'little things'." Time bestowed in the clinical theatre, time occupied in the hospital ward, time spent in applications of dressings, time taken up in the observation of experiments, is as requisite, whether in physician or surgeon, as a knowledge of either branch of our profession.

I now desire to say a few words on the assistance which hospital authorities are bound to give to hospital teachers to enable them to carry out the education of students who attend for instruction. It appears to be frequently forgotten that one main object of a hospital is to train those who are to have the control of life and limb, at some future time, given to them. A hospital should partake of the nature of a scientific school as much as of a charitable institution. It utterly fails in its mission if it be not both. It is the fact of a hospital containing in itself all the elements of a scientific establishment, with every aid which advanced medical art combines to bear on the treatment of disease, that makes the sufferer really better off in it than he could possibly be in his own house. The necessities of the clinical teacher and the accuracy of his observations, are the patient's safeguard. Every surrounding, whether hygienic or surgical, should have been previously arranged, so that the moment the patient is admitted inside the threshold of the institution, until he recovers or dies, he shall receive all the benefits which modern medical or surgical science can secure. But this perfection in the treatment of disease is principally attained in well organised hospitals, through the attention of students, and the possession of appliances which the necessities of clinical teaching demand. Therefore, in providing for the wants and the just claims of students who attend our hospitals, those who have the control of, and who administer in them, really must consult both the interest of the institution and also the welfare of every patient who is admitted.

What, then, are the most vital points about which no doubt should exist in the minds of hospital authorities? I will merely allude to two; they are: sufficient clinical teaching and sufficient material in the hospital. If there be, in any great and arduous work, an advantage in a fair division of labour, and an avoidance of crowding too much responsibility and attention to detail on a very few heads, that work which, of all others, most benefits by a proportionate equalisation of both time and trouble is clinical teaching and supervision. It is an injustice, alike to patient, student, and medical man, to ask the latter to undertake more than he can thoroughly and conscientiously discharge. He cannot, especially if he be a man of large practice outside, give the time and thought to his hospital work which "thorough" and "earnest" clinical teaching demands, if that work be excessive. But, in several other respects, a fair division of clinical ward work in a hospital has its advantages. It necessitates a healthy competition amongst the staff in the treatment of, and attention to, disease. It has the same effect on the character and tone of the clinical teaching. The man whose habits are lazy or indolent, or whose position places him beyond the necessity for hard work, is stimulated to exertion by the efforts of a successful colleague. Patients and students benefit by the application of the stimulus. Again, and more important still for the public to consider, from a selfish point of view, if from no other, it secures a greater distribution of knowledge and experience.

As to the material of a hospital, it might appear here unnecessary to say anything on this subject; yet I cannot but feel that it is necessary to make one or two remarks on a matter which vitally affects the clinical teaching. It is impossible to teach without proper and sufficient material. It is equally impossible to give to patients the benefits which accrue from modern inventions and discoveries, if the quality as well as the quantity of the material be not good. Surgery now is not the surgery of twenty years ago; nor, for that matter, of ten or five

years since. The fact that we cannot keep an edition of any standard work on surgery for more than a few years proves this. Antiseptic surgery itself has a history of but a few years, ophthalmic surgery is completely revolutionised; the laryngoscope is of recent date; the most recent discovery in the treatment of spinal disease is hardly one year old; gynaecological surgery is, comparatively speaking, a new science. You may recollect my advocacy of the general substitution of ether for chloroform in this city hardly a year past: these and a thousand other "innovations" are easily recalled to mind when we are reflecting on the progress of a modern surgery.

[After a few remarks on the necessity of a proper supply of appliances in hospitals, and a reference to the assistance which good nurses afforded to the clinical teacher, Dr. Jones addressed the students present, giving them advice as to their conduct in the hospital ward and the operating theatre.]

CASE OF SUDDEN DEATH OCCURRING DURING THE INHALATION OF ETHER.

By GEORGE MAY LOWE, M.D., Lincoln.

THE patient was a healthy looking moderately stout lady aged 48, and standing about 5 ft. 4 in. in height. She was a thoroughly amiable and cheerful person; but subject occasionally to fits of depression, on account of the fact that she had a tumour affecting her left breast, which she had dreaded for many years would turn out to be cancerous. Her mother died from cancer in various parts of her body, ultimately affecting the scalp, and had been operated on by the late Sir B. Brodie. One of her sisters has undergone two operations for the removal of tumours in the breast at the hands of Professor Wood of King's College Hospital, and another sister died suddenly from "the bursting of a blood-vessel in the lungs" whilst running upstairs.

The tumour itself was hard, elongated in shape, extending across the upper part of the left breast from the left edge of the sternum to the outer margin of the pectoral muscle; it was movable, but somewhat firmly attached to the muscle below; the nipple was much retracted; there were no enlarged glands in the axilla, and the usual excruciating pain from the disease was only occasional, and not acute. An operation for the removal of the breast was arranged for three o'clock on Monday, November 5th. The patient was placed under the care of a trained nurse from our Lincoln institution, and was carefully attended to and dieted, with a view to the administration of the anæsthetic. She had been out the previous day attending the parish church and cathedral services; and, on the morning of the day of operation, she went about her ordinary duties by way of keeping her mind free from her natural dread of the approaching operation. She had always had the greatest horror of the event, and always expressed herself with regard to it in the gloomiest of terms, concealing the disease from professional eyes as long as possible; she only yielded to the necessity of its removal with passive reluctance.

Exactly at three o'clock, the patient came into the room in which the operation was to be performed. Dr. Mitchinson, senior physician to the Lincoln County Hospital, and Mr. Joseph Lowe, as well as myself and two trained nurses, were present; and an assistant was in an adjoining room with the necessary instruments, which were meanwhile kept from her sight. She was apparently calm and very cheerful. Dr. Mitchinson and Mr. Lowe both examined the chest with the stethoscope, and the former asked for, and administered to her, about half an ounce of brandy in a little water. She then lay down near a large bay-window on a camp-bed, with the head slightly raised, the body inclining to the right side, and dress open on the chest, the left arm being removed from the sleeve and simply covered with a light shawl. I knelt at her right side, taking her hand and keeping a finger on the pulse. She seemed quite composed and confident. Dr. Mitchinson then sprinkled about half an ounce of ether on the muslin of a crucial-shaped inhaler, and held it lightly over her nostrils. She clasped my hand tightly, and almost immediately called out my name in a half-unconscious manner, as though already partially under the influence of the anæsthetic. After two more inhalations, she turned turgid about the forehead and nose, the hands being pinched and white; there was no pulse at the wrist. I dragged forward the tongue, turned her on her side, and cold water was dashed on to her chest, having the immediate effect of obtaining several forcible inspirations. These were repeated with less and less power and at greater intervals as friction and stimuli were continued, and, at fifteen minutes past three, she was dead.

An examination of the body was made at nine o'clock on the morning of the 6th by Mr. T. Sympton and Mr. C. Brook, surgeons of the

Lincoln County Hospital, in the presence of Mr. T. M. Wilkinson and myself. The rigor mortis was well developed; the body was well nourished; there was a cancerous tumour affecting the left breast. There was some subarachnoid effusion, and the ventricles of the brain contained more fluid than usual; otherwise the brain presented no abnormal appearance. On opening the body, the section displayed a large deposit of fat beneath the skin, over one inch in thickness. There were about two drachms of clear fluid in the pericardium. The surface of the heart was covered with fat. The surface of the lungs was healthy, and they were slightly emphysematous. The valves of the heart were perfectly healthy; there were small patches of atheromatous deposit on the inner surface of the aorta. There was about an ounce of fluid blood in the right ventricle of the heart, but the left was firmly contracted and empty. The muscular coat of the right ventricle close to the valves was not more than one-twelfth of an inch in thickness, and covered with a layer of fat of twice that thickness. The base of the right lung contained a very considerable quantity of fluid blood; the base of the left lung was also in a similar state to a smaller extent. Studded throughout both lungs, but more particularly towards the base, were numerous small hard cancerous nodules. The whole of the upper surface of the liver was adherent to the diaphragm, and inseparable from it. There were a few small melanotic deposits on the upper surface, and at the lower surface there was evidence of old inflammatory mischief on its peritoneal covering. The kidneys were healthy; the stomach and bowels were healthy; the spleen was soft and pulpy; the ovaries were hard and cartilaginous, apparently studded with cancerous deposit. The trachea and œsophagus were carefully removed and examined, but nothing abnormal was discovered. There was nothing else noted.

The ether used was that known as the pure sulphuric ether, and was the same as had been used for a similar operation, though on an apparently much more delicate patient, the day before. The inhaler consisted of a bag of muslin covered with a leather case, having a valvular opening at the apex and another larger one at the lower edge.

THERAPEUTIC MEMORANDA.

USE OF SIALAGOGUES IN HYDROPHOBIA.

THE apparent increase in the prevalence of hydrophobia at the present time renders any suggestion as to even a possible remedy important. The following case will therefore, I think, be found not devoid of interest.

A lady, in defending her pet dog from the attack of a cat (rearing young ones), was bitten in the hand, through her glove, a portion of the glove being driven into the wound. This occurred on Saturday afternoon at four o'clock. At the time, except the immediate slight pain, nothing was thought of the occurrence. By evening, however, the pain increased, with throbbing, which extended up the arm to the shoulder. She had some sleep through the night, and even fancied it was better next morning, so that she set out, as usual, for morning service. On her way to church, she suddenly felt ill, and found herself forced to return home, calling on a medical friend on her way back, who, forming a very grave prognosis, and feeling surgical intervention now (twenty hours after receipt of injury) almost useless, applied lunar caustic to the wound and over the forearm, giving directions to take liberal diet, including alcohol. By evening, the pain and swelling had increased alarmingly, and at 8 P.M., twenty-eight hours after the bite, the first symptoms of trismus declared themselves, or, as the patient expressed it, she felt as if two iron cramps had seized her jaws. This lasted about an hour, when salivation set in, giving her immediate relief, so that she slept through the night. On waking, she found her bed literally soaked through with saliva. Shortly after, a return of the locked jaw took place, lasting now only about ten minutes, when, with a recurrence of the salivation, it relaxed. This alternating condition—short tetanic spasms with profuse salivation—lasted for three days, the flow of saliva being so great as to saturate a sheet in a few minutes, and necessitating the patient to sit up with her head over a basin. During all this time (of salivation) the appetite was ravenous, constituting almost an acute bulimia, six mutton-chops forming the flesh portion of a day's diet, with a bottle of claret and two bottles of ale; yet, withal, a sensation of starvation not to be appeased. On the fifth day all the symptoms gradually abated, and by the end of ten days the patient was out and felt as well as ever. Since this, although several years have elapsed, any scratch or wound, however slight, gives a "starchy feeling" in the jaws, which is instantaneously relieved by a glass of brandy and water, or any equivalent alcoholic stimulant. This