RESULTS OF THYROTOMY FOR THE REMOVAL OF GROWTHS FROM THE LARYNX.*

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[Continued from page 461 of last number.]

Secondly. The result of the operation, when considered in relation to respiration, is by no means encouraging, for fifteen out of the forty-eight cases operated on had to wear a tracheal tube afterwards. The following are the cases: Gurdon Buck (Nos. 3, 4, and 6); Rauchfuss (No. 5); Busch (No. 9); Debrout (No. 10); Gibb and Holthouse (No. 11); Köberlé (No. 16); Holmes (No. 25); Navratil (No. 31); Schrötter† (No. 33); Mackenzie and Wordsworth (No. 34); Davies-Colley (No. 43); Mackenzie and Thornton (No. 45); Semple and Thornton (No. 47). Further, there were four cases (Nos. 14, 19, 24, and 46) in which the dyspnoea became so severe that thyrotomy had to be performed afresh; and one (No. 28) in which slight persistent dyspnoea occurred after two years and a half. Excluding this last case, however, it will be seen that, out of the forty-eight cases, the operation was entirely useless, as far as respiration was concerned, in 19 cases—i.e., in 39.58 per cent.

In several of the cases in which the respiration was good after the operation, there had never been any previous disturbance of the respiratory function; the actual percentage of unfavourable results is, therefore, considerably greater than appears.

Thirdly. In regard to voice, the operation is still more unfavourable; for, on excluding the two rapidly fatal cases, and Langenbeck's case, § in which the voice was normal before the operation, out of the remaining forty-five, eighteen were completely aphonic; nine were dysphonic; in five the voice was modified; in three, though the condition of the voice is not stated, there is a strong probability of the existence of aphonia or dysphonia. In only ten cases was a previously defective voice perfectly restored by the operation. As the result of the operation, in relation to voice, then, it was destroyed or modified|| in 77.77 per cent., and in only 22.22 per cent. was it restored. ¶

In the following cases there was aphonia: Brauers (No. 1); Ehrmann (No. 2); Gurdon Buck (Nos. 3, 4, and 6); Rauchfuss (No. 5); Böckel (No. 8); Gibb and Holthouse (No. 11); Gouley (Nos. 14 and 17); Köberlé (No. 16); Holmes (No. 25); Mackenzie and Evans (No. 29); Navratil (No. 31); Mackenzie and Wordsworth (No. 34); Davies-Colley (No. 43); Mackenzie and Thornton (No. 45); Semple and Thornton (No. 47).

The following cases remained dysphonic: Busch (No. 9); Gilewski (No. 13); Long (No. 23); Balassa** (No. 24); Navratil (No. 30); Navratil†† (No. 32); Cohen (No. 35); Gurdon Buck (No. 37); and Davies-Colley (No. 46).

In the following five cases the voice was modified: Sands‡‡ (No.

* In the opening paragraph of this paper, published last week, the author state d concerning Mr. Arthur Durham's paper, which it criticises, "The greater part of the article consists of a translation of certain portions of Planchon's *Faits Cliniques de Laryngotomie*." Mr. Durham has forwarded to us a copy of Planchon's monograph. The only thing which we can find to explain Dr. Mackenzie's statement is, that a number of the cases quoted in Planchon are also quoted (with a proper double reference) by Mr. Durham—not in his paper, but in the appendix to it. Herein Mr. Durham acted loyally and justly; and Dr. Mackenzie's observation, which may easily be read to imply an opposite meaning, is, we think, unnecessary, and particularly unfortunate in its wording. [EDITOR BRIT. MED. JOUR.]

† In this case, the patient only lived seven days; and death was attributed to the use of the canula.

‡ In this case, the patient lived eleven days; and, owing to the impossibility of removing the growth, the canula had to be retained.

§ This case was operated on by Langenbeck (BRITISH MEDICAL JOURNAL, November 4th, 1871). There is no mention of the condition of the voice either before or after the operation. But as the vocal cords were normal in appearance (before the operation), and the growth was situated below them, it is probable that the vocal function was never disturbed. The patient was "cured," with the exception of a small fistulous opening, through which air passed when he coughed or otherwise exerted himself. This case is omitted in calculating the average in relation to vocalisation, and therefore the percentage is made on only forty-five cases.

|| In drawing up this percentage, I have included three cases (Nos. 19, 22, and 48), amongst those in which there was defective voice; there being strong presumptive evidence that the vocal function was impaired.

¶ Out of ninety-three cases treated by me *per vias naturales*, and contained in my essay already referred to, the voice was perfectly restored in seventy-five cases; in fifteen it was improved; and in three the result was negative—the patients discontinuing attendance before any result had been obtained.

** "The voice was sonorous." It may be remarked that sonorousness affords the essentially distinguishing feature of dysphonia from aphonia, the latter word implying absence of resonance, and the former impaired resonance.

†† "Vocal cords normal, but slow in their movements; there was an inflammatory swelling present at the anterior point of commissure. Tannin inhalations were ordered, and their continuance recommended until the inflammatory swelling referred to should disappear, and the voice recovered its clearness. The patient now departed hence."

‡‡ "Her voice never regained its normal tone, although it acquired a very considerable degree of resonance."

7); Lewin and Ulrich* (No. 12); Cutter† (No. 26); Durham‡ (No. 39); and Durham§ (No. 40).

In the following three cases the condition of the voice is not stated; but dysphonia, if not aphonia, probably resulted: Voss (Nos. 19 and 22); Davies-Colley (No. 48). In Langenbeck's case, as previously mentioned, the voice was never affected.

In only the following was a perfect voice regained; and in some of these, recurrence taking place, the recovery of voice was but of short duration: Balassa (Nos. 15, 18, 21, 27); Durham (No. 20); Mackenzie and Couper|| (No. 28); Krishaber (No. 36); Denucé (No. 38); Bryant (No. 41); Ogle and Lee (No. 44).

The most elaborate efforts have been made by operators to give favourable descriptions of the voice after the operation; and, if admitting it to be defective, they have attributed the dysphonia to some other cause than the operation.

Thus in one case, the patient is reported as speaking "in a very loud and distinct whisper". In another, the patient's voice is "clear, but sometimes hoarse and hard". Another patient enjoyed a "phonation coarse and clear"; but immediately after the operation, he had spoken "in a loud coarse whisper, resembling that of a sea-captain in a storm".

In Gilewski's case (No. 13), the hoarseness which came on was not considered to be due to the operation or recurrence of growth, but was attributed to catarrh. In Busch's case (No. 9), the voice was strong enough, but hoarse on account of slight swelling—not of the larynx, but —of the trachea! Concerning this patient, who was dysphonic, and wore a canula, with ascending and descending branches, the author remarks that the "general condition was very satisfactory". In Mr. Durham's second case (No. 39), it is stated that the parents were "quite satisfied with the condition of his voice"—a statement which conclusively shows that the voice was not normal. In Mr. Davies-Colley's case (No. 43), it is stated that the patient "was able to speak plainly enough in a somewhat husky, loud, whispering voice". This is certainly a favourable description of an aphonic patient.

The very frequent occurrence of aphonia or dysphonia after the operation is probably to be explained by injury of the thyroid or arytenoid cartilages, or of the vocal cords themselves. Although such accidental injury is acknowledged in one instance only, it most likely occurred in many others. That the aphonia often results from injury to the vocal cords, is clearly proved by an examination of a number of cases published by Planchon, ¶ in which the larynx was opened for the removal of foreign bodies.

In these cases there was no disease of the larynx which could account for the dysphonia; yet we find that, as the direct result of the operation, in three out of the eight cases that survived the voice was injured.

Fourthly. As regards recurrence, the operation does not present encouraging results. Excluding the rapidly fatal cases, and those of a malignant character, there remain 39 benign cases.** In fourteen of these recurrence is acknowledged to have taken place, and in one there was incomplete removal. In other words, recurrence or incomplete removal took place in 38.46 per cent of *benign cases*.

The following is a list of the benign cases in which there was recurrence or incomplete removal. Ehrmann (No. 2); Rauchfuss (No. 5); Böckel (No. 8); Gouley (No. 14); Balassa†† (No. 15); Voss (No. 19); Balassa (No. 21); Balassa (No. 24); Cutter (No. 26); Mackenzie and Couper‡‡ (No. 28); Navratil (No. 31); Cohen (No. 35); Davies-Colley (No. 43); Davies-Colley (No. 46); Semple and Thornton (No. 47).

Mr. Durham has objected to my treatment of Dr. Cohen's case. The facts are as follows. Thyrotomy was performed on a patient and a growth removed: to use the author's own words, "in a fortnight the

* "Though the patient spoke plainly, it was in a somewhat bass voice."

† "Phonation coarse and clear." In this case there was recurrence.

‡ "Parents were quite satisfied with the condition of his voice."

§ "Left the hospital between five and six months after the operation, speaking in a clear and distinct, though rather feeble, voice."

|| In this case the voice became hoarse two and a-half years after the operation, owing to recurrence of growth.

¶ The cases in which there was dysphonia, are those of Pelletin (*Planchon's Faits Cliniques de Laryngotomie*, p. 48), Marjolin (p. 48), and Blandin (p. 59). In two other cases, the condition of the voice is not actually stated; though, as these cases are reported as recoveries, I have considered that the voice was restored in each instance.

** The total number of cases is 48. Of these, 25 were benign, occurring in adults; 14 were benign, occurring in children; 7 were cancerous; and 2 were immediately fatal.

†† The growth in this case recurred in the linear cicatrix of the wound, and it is not distinctly stated whether it was internal or external. Mr. Durham thinks that "it was probably the latter". Had it been external, however, it is extremely unlikely that such a trivial circumstance would have been reported.

‡‡ In this case, recurrence did not take place till two years and a half after the operation.

growth began to spring up afresh". The patient did not undergo thyrotomy a second time, but went to Europe, and submitted to treatment by which he was cured. The treatment consisted in the use of iodide of potassium and mineral waters, the employment of inhalations, and the local application of caustic solutions. The condition of the voice *resulting from thyrotomy* was not stated in Dr. Cohen's report. I accordingly remarked as follows—"Condition of voice not stated." Mr. Durham, in criticising this statement, observes (*op. cit.*, p. 56) that "the condition of the voice is alluded to very plainly; and Mackenzie omits to state that the patient returned after a voyage to Europe with only minute traces of the various operations in his larynx". In other words, I omitted to mention that, whilst thyrotomy altogether failed, the patient was subsequently cured by internal remedies and local medications. If Mr. Durham think that this circumstance is favourable to the operation, he is right to proclaim it.

In my former thyrotomy table I conceded Ehrmann's case as a recovery, but a more close examination obliges me to call attention to the fact that recurrence took place. The patient, it will be remembered, always remained aphonic till her death, seven months after the operation, from typhus. At the necropsy, "some small granulations were found on the left vocal cord"; and there was "a granulation somewhat larger, and of vesicular appearance, at the point of junction of the two vocal cords (*op. cit.*, p. 12). Had this patient lived, it is highly probable that in a short time a second operation would have been required.

In Dr. Cutter's case (No. 27) it is not stated at what period recurrence took place. The operation was performed on the 26th September, 1867, and on the 8th October the phonation was "coarse and clear". On the 17th October there was "a slight oedematous protuberance on the left vocal cord". On the 23rd, the vocal cords had their "normal pearly sheen". Without any fresh date being given, the author adds, "At the present time there is an appearance of a return of the disease on the right vocal cord." Mr. Durham has misquoted the author by omitting the words "at the present time", and has prefaced the remark as follows: "About sixteen months after the operation—i.e., in February 1869—there is an appearance", etc. Now, in Dr. Cutter's report, there is no mention of sixteen months, nor of February 1869; but in that month this case was published in the *Boston Medical and Surgical Journal*. There is no evidence as to when Dr. Cutter's paper was sent to the journal, nor as to the length of time it was kept before publication. In a note to my original thyrotomy table, I remarked on this case as follows: "Improvement in voice is reported; but as the growth recurred in less than a month, persistent aphonia would probably more correctly describe the condition." I have fixed the recurrence at or immediately after the last date given by the author. Mr. Durham has arbitrarily placed the recurrence at the date when the journal was published.

Mr. Durham, who deprecates any comparison as to the relative merits of thyrotomy and operations conducted through the mouth, nevertheless claims a relative superiority for thyrotomy as regards recurrence. He remarks, that "in all cases in which the nature of the growth is suspicious, greater security against recurrence may be obtained by the more complete removal that may be assured after the larynx has been opened and its interior fully exposed to view".

It will be seen that this statement contains two propositions. The first is, that "greater security against recurrence may be obtained by more complete removal". This is a harmless platitude with which all will agree. The second is, that "more complete removal may be assured after the larynx has been opened". This is a *petitio principii*, and is not borne out by facts; for, whilst out of ninety-three benign cases treated by myself with the aid of the laryngoscope, recurrence or incomplete removal only occurred in 9.6 per cent.; out of thirty-nine benign cases treated by thyrotomy, there was recurrence or incomplete removal in 38.46 per cent.

Nearly all my cases were watched for a long period after treatment had finished, and therefore there was ample time for recurrence. On the other hand, many of the cases of thyrotomy were reported within a few weeks or days of the operation, so that no time elapsed for recurrence to take place.

The history of the operation, indeed, shows that it is very difficult to effect complete removal when the thyroid cartilage is divided—far more difficult, indeed, than when the operation is conducted through the mouth. The causes of this difficulty are the following.

1. Unlike laryngoscopic treatment, where removal may be effected at repeated sittings, the external surgical treatment must be completed at a single operation.

2. The greater or less hæmorrhage which takes place necessarily renders the growths indistinct, especially after they have been themselves cut into and more or less removed.

3. The size of the opening into the laryngeal cavity, when the alæ of the thyroid cartilage are held back, is actually smaller than the upper orifice of the larynx.

The mere fact of the larynx being more immediately within reach when it is opened from without does not compensate for the disadvantages above indicated. It is difficult to understand how, in the face of these well-known circumstances, Mr. Durham could call it "a very obvious fact" that, by thyrotomy, more complete removal may be effected. Dr. Cohen of Philadelphia, one of the most distinguished laryngoscopists whom America has produced, justly remarks (*Diseases of the Throat*; New York, 1872, p. 448), that "the mere opening of the larynx is a matter of little difficulty, but the extirpation of a tumour with extensive attachments is a matter of great labour and responsibility."

Before dismissing the subject of recurrence, it may be observed that many patients who remained aphonic, and had to wear a canula permanently, in all probability suffered from recurrence, although such recurrence has not been acknowledged. The actual percentage of recurrence is, therefore, doubtless much greater than it appears.

I have now, I venture to think, successfully controverted, by reliable evidence, the two propositions laid down by Mr. Durham: "First, that the dangers and difficulties attending it are neither so numerous nor so considerable as have been represented and commonly supposed; and secondly, that the success hitherto achieved has been so marked and so indisputable as to justify and encourage in any such case as may seem appropriate an earlier, bolder, and more ready resort to this method than has hitherto prevailed."

I shall proceed to call attention to the fact that in those cases in which Mr. Durham thinks the operation especially indicated—viz., in cases of cancer and in young children—the results are by no means satisfactory.

Out of seven malignant cases there is only one (No. 7) in which a cure was effected; and in that case it is very doubtful whether the laryngeal disease was cancerous. In all other cases the patients were not only no better than if simple tracheotomy had been performed, but in at least one of them (No. 47) the unfavourable condition was greatly aggravated, the operation having given rise to dysphagia, which probably shortened the patient's life.

In those cases in which benefit appears to have resulted, the benefit was entirely due to improved respiration—the result of tracheotomy and the use of a tracheal canula, not of thyrotomy.

In children, recurrence is met with in about the same percentage as in adults. Of the cases hitherto recorded of children at or under ten years of age, the growth has recurred in 35.71 per cent., whilst in adults recurrence has taken place at the rate of 36 per cent.

Out of twenty-cases of benign growth in adults, recurrence took place in nine cases (Nos. 2, 5, 8, 15, 21, 24, 26, 28, 35); whilst in fourteen children recurrence took place in five cases (Nos. 14, 19, 43, 46, 47). As Mr. Holmes's patient (No. 25), however, left the hospital aphonic, and was obliged to wear the canula, it is extremely probable that recurrence took place in this case, and it is more than likely that it has happened in two other cases (Nos. 22 and 48). Should this be so, the proportion of recurrence in children would be considerably greater than it is in adults.

From an examination of the results of thyrotomy in young children, it will be seen that unfavourable results are obtained in a class of cases in which, *à priori*, good might be expected. On the other hand, Bruns has operated successfully *per vias naturales* on a child not more than five years old; and I have effected a complete removal in the same way in the cases of children aged four, six, and eight years.

One child four years of age has already had his larynx cut open no less than three times; another little boy not four years old has had thyrotomy performed twice. This case (No. 19) is very imperfectly reported by Mr. Durham, and in the heading of it he has described it as "incomplete". He remarks, however, at the conclusion of the report, that of course in the absence of further information of precise character it must be considered "complete". This is, no doubt, a clerical error of Mr. Durham's, and the last word is meant to be "incomplete". Were I, however, to adopt his method of criticism, I should at once make a grave charge against his accuracy, and remark, in his own words, that "it is obvious that in some way or other a serious mistake has been made, or else that an important oversight has occurred."

When we consider the results of the operation, the question indeed arises, Was the operation always necessary? I am sorry that I cannot answer this question affirmatively. In one case there were three excrescences—"two larger than pins' heads, the other as large as a pea". In two other cases, according to the drawings of the author, the growth was in one instance about the size of a split pea; in the other, that of a tare. In a fourth case there was only "a small growth"; and in a fifth, "a minute lobal excrescence." Who can justify so serious an operation as thyrotomy for such trivial affections? In Mr. Durham's own

cases it is extremely doubtful whether the operations, though successful, were justifiable. In none of the cases was there any urgent symptom calling for operation. Each patient had worn a canula for nearly four years; and, had the children been allowed to continue in the same condition a year or two longer, Mr. Durham would most likely have been able to remove the growth through the mouth, and would thus have saved the patients the risks of serious operations.

In Dr. Ogle's case, the operation was very skilfully and successfully performed by Mr. Lee, who, in practising thyrotomy, left the upper half of the cartilage intact. The patient was five years old, but it does not appear that any attempt had been previously made to remove the growth through the mouth. In this case, also, there was no urgent dyspnoea. Mr. Durham observes that "no one would now-a-days consider it justifiable to open the larynx to facilitate the removal of any growth or growths that could be easily, safely, and completely removed through the mouth." Are we to understand that a surgeon, unskilled in the use of the laryngoscope, who could not "easily, safely, and completely remove a growth through the mouth", would be justified in cutting open the larynx?

I ask this question, because the operation has been more often recommended by those who are not known to have possessed any knowledge of the laryngoscope, than by those skilled in the use of that instrument, notwithstanding that the actual number of laryngeal polypi coming under the care of laryngoscopists must be a hundredfold greater than that of cases seen by ordinary surgeons. Mr. Durham is, indeed, the only skilled laryngoscopist who recommends the operation, except under the most limited conditions.

Not only have many surgeons, quite unpractised in the use of the laryngoscope, performed thyrotomy, but, as I have pointed out elsewhere (*Lancet*, December 2, 1871, page 797), in one instance a growth was removed by Professor Bruns, *per vias naturales*, after Professor Schinzinger had failed in his attempt to extirpate it by thyrotomy.

Mr. Durham remarks in connection with one case, where the patient left the hospital aphonic, and wearing a tracheal canula, "at any rate the operation did no harm." In another case, he alleges "that no harm resulted from this abortive attempt." It may be observed, however, that this is not the kind of result which is usually considered as favourable to an operation.

The following is a brief summary of the results of thyrotomy, reduced to percentages, and placed in a tabular form. The table shows very clearly the different conclusions at which Mr. Durham and I have arrived. It should be stated that my table of forty-eight cases includes Mr. Durham's thirty-seven cases.

	Per cent. on 37 cases.	Per cent. on 48 cases.
	DURHAM.	MACKENZIE.
Complete success*	51.35	14.58
Partial success	18.91	22.91
Temporary benefit	10.81	—
Negative	8.10	—
Incomplete	5.40	—
Death	5.40	8.33
Severe dyspnoea requiring use of canula	—	31.25
Severe dyspnoea requiring fresh operation	—	8.33

I have also ascertained the following other results, which are based on forty-five cases, in which, the voice being affected before the operation, the patient survived more than a few days.

Aphonia	40.0 per cent.
Dysphonia	20.0 "
Modified voice... ..	11.11 "
Not stated, but probably defective voice	6.66 "
Recurrence, or incomplete removal	38.46 "

(Percentage based on 39 benign cases).

As a result of my own experience, and from the investigations I have made into the subject, I venture to submit the following propositions.

First. That the operation ought never to be performed for loss of voice alone.

Secondly. That in cases of cancer the operation is useless, except where the growth is very small and distinctly circumscribed.

Thirdly. That the operation should be confined to those cases in which there is danger to life from suffocation or dysphagia, and then only be performed after an experienced laryngoscopist has pronounced it impossible to remove the growth *per vias naturales*.

* Complete success is understood by me to mean recovery of perfect voice and perfect respiration, and absence of recurrence of growth; partial success to mean recovery of one function with injury to another, or temporary recovery of both functions, but subsequent recurrence of the growth. It is difficult to guess what meaning Mr. Durham attaches to the terms he has adopted; or, if he employ them in the same sense as myself, it is still more difficult to guess how he has obtained the results from his thirty seven cases.

WHO SHALL BE THE MEDICAL OFFICER OF HEALTH?*

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President of the South Wales and Monmouthshire Branch of the British Medical Association.

THE discussions created by the provisions of the Public Health Act, 1872 (which made imperative the appointment of a medical officer of health in every district, rural, urban, or port), have brought prominently to the notice of the public, and of the medical profession, the inquiry as to who would be best fitted to fulfil the onerous duties of the office.

The public, through the boards of guardians and of health, have been severely exercised, and somewhat tormented, by the varying advice given them by the inspectors, authorised by the President of the Local Government Board to "negotiate" with them. In many districts they have been advised to dispense altogether with the assistance of district union medical officers, and to consign the supervision of the health of their localities to some one ubiquitous "Admirable Crichton;" in other districts the priceless aid which those district medical officers can give in the practical working of the Act has been justly appreciated, and many local authorities have wisely availed themselves of the knowledge which these gentlemen possess, and have engaged them to prepare preliminary reports upon the sanitary state of their districts.

The profession has also been severely tried by the consideration of various schemes for the division of the country into medical satrapies, in which the county-doctor with his thousand pounds a-year, would reign supreme; *except* that the laws as they at present stand would give him but a "secretary's warrant," for he would only have the right to report to his board. Happily, he would be powerless to cause his edicts to be obeyed; that duty would remain in the hands of the chief divisional inspector, who would in all matters carry out the orders of the central authority.

The profession has also been much exercised by the public action of its own members; who, having formed exaggerated notions of the labour to be done, have denied the competency of their brethren—men who possess the same diplomas as themselves—to perform the work; others again have gone so far as to say that gentlemen of our profession would be so unmindful of its honour, and so faithless as public servants, that they would wilfully neglect to carry out the functions they had undertaken, out of fear of pecuniary loss.

I, for my part, deny that medical men as a body have ever been found faithless in the execution of their public duties; and aver that no man has a right to cast a slur upon our honour by charges at once so groundless and so base.

I would, in answering the question with which I have headed this paper, ask you to consider it under the four following propositions.

1. The duties of a medical officer of health can be efficiently carried out by district union medical officers in rural districts, and by the medical officers of health in towns and ports.

The duties which the health-officer would have to perform have been plainly set out in the order of the Local Government Board under the date of the 12th November, 1872. These duties I would epitomise as follows. The health-officer shall inform himself of all influences injuriously affecting the public health in the district; this would be done by ascertaining the causes, origin, and distribution of all classes of diseases, and reporting to the sanitary board the ascertained sicknesses and mortality, classified according to diseases, ages, and localities. He shall further inquire, when necessary, into the wholesomeness or otherwise, of any meat, or any other article of food prepared for sale or intended for the food of man. It will be his duty to inquire into the existence of any offensive trade carried on near to human habitations, of any nuisance in or about, or any overcrowding of, any house; any or either of these being injurious or prejudicial to health; and lastly, to report, when necessary, upon any or all of these matters to the local authority.

These being the duties, what, in the opinion of a medical man, qualified by practical acquaintance with the details, should be the qualifications required for the faithful execution of the work? I have, for seven years, done the work in accordance with the spirit and the letter of the duties now set out by the Local Government Board; and I unhesitatingly and confidently affirm that district union medical officers could faithfully perform and thoroughly carry out the schedule of duties imposed by the orders of the Local Government Board.

2. In the second place, I would ask you to note that *every* district in England and Wales *must* appoint a medical officer of health to do the work as set forth by the orders of the central board.

* Read before the South Wales and Monmouthshire Branch.