commencement of their lectures, &c., to pass by in indolence or dissipation, placing a more complete reliance on the concluding term. I think the proposal of "A Constant Reader" very unjust to the public, as the more indolent and idle part of the students would continue to pass their various examinations with extreme difficulty, and after such examinations had taken place they would never think on them more; consequently, at the conclusion of the requisite course they would in general be found very ignorant of the subjects upon which they had been previously examined; whereas, by the present system of examination, they are obliged to retain the first as well as the last portion of their studies in order to receive the diploma for practice. In the present system, also, when the period for examination takes place, they are generally on the point of commencing practice on their own account; consequently the more intimate their knowledge of the profession the more beneficial they are to the public (for whose benefit they are educated), and the more honourable to the profession of which they form a part. With reference to the grinding system as at present practised previous to the final examination, I am at a loss to know in what way it can affect the College of Surgeons, the medical profession, or the public at large; provided students attend the requisite courses, it is a matter of no importance at what period of their education they attend them; the communication of "A Constant Reader" thus appears to me prejudicial to the interests of the public and derogatory to the medical profession.

Even you, Sir, acknowledge that although compulsory attendance on lectures, weekly examinations, &c., are enforced by the lecturers, likewise prizes for merit also by the lecturers, still they are of no avail to the idle student; therefore in what way various public examinations by the College of Surgeons, &c., can affect him, I am at a loss to conceive.

I consider one rigid examination at the conclusion of the requisite curriculum to be of more advantage both to the idle and the industrious student than the unnecessary expense, and still more unnecessary public examinations and loss of valuable time, which would be unavoidably incurred by the adoption of the proposal of "A Constant Reader."

Increased public examinations are in general accompanied by increased expenses, which at present are sufficiently heavy. Therefore I conclude that in proportion as the examinations and expenses were increased, the number of students would, as a matter of course, decrease, which decrease would undoubtedly affect the public in no inconsiderable degree. Even were the laws regulating the medical profession altered, the adoption of the communication of "A Constant Reader" would not be beneficial either to the public or the medical profession. I am yours most respectfully,

JUVENIS STUDENS.

Manchester, July 15, 1844.

. We have inserted the above letter, not because we think the reasoning of the writer remarkably lucid or powerful, but because we think that it very likely represents the feelings of many students who would, no doubt, rather undergo *one private* examination than several public ones. Most of the objections urged against the views which we have advocated in common with "A Constant Reader" have been already answered. If the final examination is made to bear on *all* the branches of medical education and is a severe one, it is evident that those students who forget the subjects on which they have been previously examined, or who do not revive faded recollections, will be refused. The expense of the education need not be increased. Instead of charging, for instance, 20*l.* for the one final examination, 4*l.* might be charged for each of the five, supposing five were the number. Lastly, we are fully prepared to admit that such measures would diminish the number of applicants into the medical profession, but we do not see that either the public or the profession would be much injured were the number of medical practitioners *very considerably diminished*.

EXAMINATIONS OF DRUGGISTS IN NORWAY.

To the Editor of THE LANCET.

SIR,—Having called your attention, some time ago, to the medical examinations of Denmark, I take the liberty of sending the following short statement of two examinations for chemists and druggists in Norway. Should you find it worthy a space in your valuable journal I feel confident of its being inserted, as it may bear upon the much-mooted subject of medical reform.

Examen pharmaceuticum of 1837, for chemists and druggists, or, as there styled, *apothecaries*. After proof of a good practical education the candidate, desiring to enter as one of the apothecaries, is subjected to the following examinations in—

1. *Natural History*. a. Zoology. b. Botany. c. Mineralogy.
2. *Physics*.
3. *Chemistry*.
4. *Pharmakognosia*.
5. *Reading of prescriptions*.
6. *Pharmacia specialis*.
7. *Commercial pharmacy*.
8. *Taxation, or prices of prescriptions*.
9. *Practical proofs in the analysis and composition of medicine*.

The apothecary (chemist and druggist) does not prescribe, nor does the medical man become the vendor of drugs. Your obedient servant,

A LOOKER-ON AND SUBSCRIBER.

July, 1844.

MEDICAL SOCIETIES.

STATISTICAL SOCIETY OF LONDON.

Monday, June 17, 1844.

Lieutenant-Colonel SYKES, V.P., in the Chair.

LECTURE ON VITAL STATISTICS, EMBRACING AN ACCOUNT OF A NEW INSTRUMENT FOR DETECTING THE PRESENCE OF DISEASE IN THE SYSTEM.

By JOHN HUTCHINSON, Esq., M.R.C.S.,

THE society's rooms were much crowded this evening, chiefly with members of the medical profession, to hear a lecture by Mr. HUTCHINSON, and to witness experiments, on living individuals, with his pneumatic apparatus, or, as the inventor terms it, the "spiro-meter," or "breath-meter."

In some preliminary observations, the author alluded to the various modes of ascertaining the presence of disease as pursued at the present day by pathologists, and dwelt particularly on the admeasurement and weight of the body, and of particular organs. He also alluded to deficiency and excess of secretion, as means of ascertaining the amount of organic disease.

Reasoning on these heads of diagnosis, Mr. Hutchinson, some years since, conceived the idea that the plan of admeasurement might be legitimately followed out by the practitioner, if he could by any means determine accurately the *volume* of air breathed out at one full expiration, together with the *power* exercised by the muscles of expiration and inspiration concerned in the effort.

To attain this object, he first invented two instruments (fully described at page 390 of THE LANCET). One of these machines was for the purpose of measuring the quantity of air in cubic inches which was expired at a full forced expiration, to which act he affixes the term *capacity*; the other machine had for its object the advancement of the actual and relative power of the muscles of inspiration and expiration.

To determine the capacity and power of the respiratory organs in a state of health, twelve hundred individuals, of various classes, were tested by means of these instruments; among the chief of which were sailors, soldiers, fire-brigade men, metropolitan and Thames police, paupers, mixed class, pugilists, giants, dwarfs, printers, draymen, and gentlemen.

In combination with these tests, each individual was measured round the chest, over the nipples; his height was taken; he was weighed; and his pulsations and respirations minuted. The time of examination of each individual did not exceed three minutes. His (Mr. Hutchinson's) first object was to try to discover whether any relationship existed between this "capacity" of the lungs, inspiratory and expiratory power, and any other external and physical sign; therefore he submitted the multitude to the experiments mentioned above. To his gratification he discovered that an intimate relationship did exist between this capacity and power and the height of the individual. He accordingly demonstrated to the society, by experiments, that so uniform was this relationship, that, if allowed to take the height of an individual, he could easily determine what the capacity of his lungs, his inspiratory and expiratory power, should be, provided he were healthy. As height could with ease be definitely determined, and was less changeable than other of the physical observations taken, we had, at all times, a simple method of determining the presence of disease, first in the chest, and secondly in the head and abdomen, or trunk.

The first grand and most important discovery to which Mr. H. wished especially to draw the attention of the members, was the capacity of the lungs in the healthy individual, which he found bore a strict relation to height. To impress this, he referred to the following diagram:—

The fourteen perpendicular lines are to indicate different heights, increasing inch by inch, from 5 feet to 6 feet +; the horizontal line, or curve, indicates the capacity of 1088 cases; the difference in capacity given by each height is signified by the elevation or depression of the horizontal curve, as it passes over the perpendicular lines.

The number of cases examined under each height, is given in the bottom row of figures an important point to be observed, as that stamps the value of the curve as it passes over the perpendicular line of height.

The row of figures above this show the number of cubic inches obtained from the mean of as many cases as are marked in the row of figures below.

Thus, under 5 feet 8 inches, 172 persons have blown,

and the mean of all these men will be seen to be 220 cubic inches as their capacity. 32 of these men were below 200 cubic inches, the rest above; so that Mr. H. expects every man of an ordinary weight, between 5 feet 7 inches and 5 feet 8 inches, if healthy, to breathe out of his lungs about 220 cubic inches of air, at 60°; but if he cannot throw out of his lungs more than 185 cubic inches, Mr. Hutchinson would then decidedly be of opinion that disease must be present; and again, if a 6 feet man, whose capacity is marked at 255 cubic inches, could only blow 220 cubic inches, the healthy standard for the 5 feet 8 inches man, he would, in like manner, suspect disease.

The only exception to this rule was, that the corpulent and fat individual stands remarkably low in capacity; this was a highly interesting matter to those who study animal chemistry, as it appears that a fat man is so, in consequence of having little space in his lungs for air.

So beautifully regular is the increase of capacity with the height, that the curve or continuous line in the above diagram will be seen to ascend with nearly perfect regularity.

Mr. Hutchinson now drew the attention to a table, singularly gratifying to him, demonstrating the above intimate relation between capacity and height. The former increasing in arithmetical progression with the latter, as will be seen below:—

Table of Relation of Capacity and Height.

Height.	Series derived from observation	Series in arithmetical progression.
	Cubic inches.	Cubic inches.
5 ft. 0 in. } 5 ft. 1 in.	175.0	174.
5 2 } 5 3	188.5	190.
5 4 } 5 5	206.0	206.
5 6 } 5 7	222.0	222.
5 8 } 5 9	237.5	238.
5 10 } 5 11	254.5	254.
6 0 }		

Mr. Hutchinson believed that no disease could be detected in the chest that would not be found attended by a change, not only of the capacity, but in all the divisions of respiration as given by physiologists. Hence how valuable an adjunct to our diagnosis was the method of measuring the capacity that carries so beautiful a law in its structure. To determine the first step in phthisis is truly a valuable point gained, and demands the full attention of the profession to examine and determine by an extended research.

Mr. Hutchinson now directed the members to the comparison of the diseased cases, which were principally phthisical, and the demarcation was such as to warrant his soliciting partial attention to the practical utility to be derived from his breath-meter, or spirometer, as a diagnostic instrument to the physician.

Diagram 1 also illustrates the difference of capacity caused by disease.

The continuous black line is the same as already noticed, marking the healthy cases; the lower and broken line is the course of the diseased cases. The difference is so remarkable that the diseased does not exceed half the healthy capacity. Thus, the diseased men of 5 feet 8 inches measured only 125 cubic inches; while the black line above marks the healthy cases as 220 cubic inches; and the men of 5 feet 9 inches measured only 113 cubic inches instead of 225 cubic inches. As these two lines are laid down by scale, the relative difference is in the exact relation as existed between the healthy and diseased lungs. Mr. Hutchinson does not consider that the variation of capacity depends upon the deposition of matter operating mechanically, but upon some other cause, diminishing the respiratory functions,—the aeration of the blood. Upon referring to another table Mr. Hutchinson pointed out the precise difference between the phthisical cases and the healthy cases.

Table of the Comparison of the Capacity of the Phthisical Cases in the Early and Advanced Stages with the Healthy Cases.

EARLY STAGE.		ADVANCED STAGE.	
Capacity of diseased.	Capacity if healthy.	Capacity of diseased.	Capacity if healthy.
113.....	220	59.....	135
105.....	173	89.....	224
128.....	220	108.....	254
100.....	193	72.....	135
100.....	204	80.....	229
136.....	229	75.....	254
115.....	173	34.5.....	246
130.....	204	18.....	183
120.....	229		
140.....	246		
110.....	220		
135.....	204		

By this table it will be seen, for example, that in the early stage of phthisis the first case had a capacity of 113 cubic inches, whereas, if healthy, it should have been about 220 cubic inches; and in the advanced stage, where a man blew 34½ cubic inches only, he should, if in health, have blown about 264 cubic inches. Will not such an instrument (remarked Mr. Hutchinson) assist the stethoscope? The capacity of cases with curvature of the spine is remarkably small, one being as low as 27 cubic inches. Randall, the giant, was the tallest person examined. He measured 6 feet 11½ inches in height; he breathed out 464 cubic inches. The smallest man was Robertson, the dwarf, beautifully proportioned, who is 3 feet 9 inches in height. His capacity was 80 cubic inches. And it was found that by reducing the giant to the size of the dwarf in height, breadth, and depth, the dwarf should have breathed 79.56 cubic inches, which is remarkably near the result obtained by direct experiment, being 80 cubic inches.

A series of elaborate tables, with every particular of the healthy and diseased cases, were handed round to the members, and the following one was suspended for general inspection.

By this table any comparison between the capacity of the different classes may be made.

Classes.	0 to 5 feet.	5 feet to 5 ft. 1 in.	5 ft. 1 in. to 5 ft. 2 in.	5 ft. 2 in. to 5 ft. 3 in.	5 ft. 3 in. to 5 ft. 4 in.	5 ft. 4 in. to 5 ft. 5 in.	5 ft. 5 in. to 5 ft. 6 in.	5 ft. 6 in. to 5 ft. 7 in.	5 ft. 7 in. to 5 ft. 8 in.	5 ft. 8 in. to 5 ft. 9 in.	5 ft. 9 in. to 5 ft. 10 in.	5 ft. 10 in. to 5 ft. 11 in.	5 ft. 11 in. to 6 feet.	6 feet to 6 feet +
Seamen	151	206	192	219	218	213	217	226	229	239	258	273	270	246
Fire-brigade	5	1	7	1	10	9	15	14	15	11	18	12	6	2
Metropolitan police	158	166	162	180	187	206	228	234	231	236	248	260	249	261
Thames police	151	185	162	181	174	191	192	210	228	237	248	260	262	251
Paupers	80	3	5	10	21	20	19	20	17	9	5	3	3	11
Mixed class	1	1	5	5	17	16	16	20	22	28	26	23	23	14
Grenadier guards	152	1	3	165	196	188	208	227	228	238	246	261	269	258
Compositors	152	1	3	165	196	188	208	227	228	238	246	261	269	258
Pressmen	152	1	3	165	196	188	208	227	228	238	246	261	269	258
Draymen	152	1	3	165	196	188	208	227	228	238	246	261	269	258
Gentlemen	145	1	1	161	156	177	192	204	223	235	245	261	269	258
Pugilists, &c.	202	1	1	218	218	211	217	241	208	208	236	254	248	262
Horse guards	135	14	6	184	193	208	204	224	220	229	246	254	255	275
Total mean	135	177	173	184	193	208	204	224	220	229	246	254	255	260

THE MEAN CAPACITY IN ONE THOUSAND AND EIGHTY-EIGHT CASES CONSIDERED AS HEALTHY.

The relation between the size of the chest and the capacity bears so feeble a relation, that this connected observation is no guide to the operator. Here the lecturer referred to a table calculated for that object, showing that eleven men, of 5 feet 8 inches, whose chests measured 35 inches in circumference, had a capacity of

235 cubic inches, whilst that of ten men, of the same height, whose chests measured 38 inches, was only 226 cubic inches. Fifteen men of 5 feet 9 inches had a capacity of 233 cubic inches; while the capacity of eleven men of the same height, but whose chests measured 3 inches *larger*, was only 232 cubic inches, and the mean of the men of 30½ inches chest, 204 cubic inches. The capacity of a man of 40½ (10 inches larger!) was only 147 cubic inches (a capacity of 57 inches less); hence breadth of the chest is no guide to the capacity of the lungs.

Mr. Hutchinson stated that he felt himself quite at a loss to account for this apparent anomaly. He found most generally that the narrow, thin, and tall men have the greatest capacity; this staggering fact first led him to combine height with his observation; then, and not until then, all that had appeared chaos and confusion became order and regularity, and hence resulted the beautiful law already given. No other physical sign could be so steady a guide as that of height. This never varies in disease, nor at any time but in the extremity of age; but weight and breadth vary at all periods of life, therefore no guide can here be looked for in them. Mr. Hutchinson stated that this omission of height being connected with the experiments on respiration, was the sole cause of the great apparent discrepancy between different observers upon the physical experiments in respiration.

(To be continued.)

MR. PROTHEROE SMITH'S SPECULUM UTERI.

To the Editor of THE LANCET.

SIR,—In reply to an anonymous letter which appeared in THE LANCET of last week, I beg to remark, that whilst I am desirous not to detract from the merits of Mr. Coxeter's instrument, which I had never seen or heard of until my attention was called to it by your correspondent, I am fully confirmed in my statement by the best authorities in London, Edinburgh, Paris, &c., that the speculum uteri I had the honour to exhibit at the Royal Medical and Chirurgical Society, is both novel in design, as also in accomplishing the desideratum, which had never heretofore been attained, of investigating uterine disease *simultaneously*, both by touch and sight, and for which purpose Mr. Coxeter's instrument is neither adapted or intended. As the original paper, from which brief abstracts were published by THE LANCET and "Medical Gazette," together with drawings of my speculum, is now in the possession of the Royal Medical and Chirurgical Society, I do not feel myself at liberty, at this time, to enter into a more particular account of its construction and use until I know the decision of the council of that society as to its publication in the next volume of their "Transactions." I am, Sir, your obedient servant,

PROTHEROE SMITH.

John-street, Bedford-row, July 22, 1844.

MEDICAL PROTECTION ASSEMBLY.

EXETER-HALL, JULY 22, 1844.

At a numerous and extraordinary meeting of the committee, Mr. CARPUE in the chair, the following resolutions were unanimously adopted:—

That this committee has viewed with horror and indignation the foul insinuations which have been levelled against Mr. WAKLEY in the Commons House of Parliament.

That this committee has seen with delight and admiration the bold, open, and dignified manner in which the insinuation was met and answered by Mr. WAKLEY, and the committee considers that the thanks of the whole medical profession are due to Sir R. PEEL, and the members of the House of Commons, for the noble and generous protection which they afforded to Mr. WAKLEY on that occasion.

That this committee acknowledges, with feelings of cordial satisfaction, the high-minded conduct of the

whole of the political press towards Mr. WAKLEY on this occasion, writers of every party having nobly stepped forward to the rescue of a man whose public services and private worth might justly have shielded him from the calumnies of even interested slanderers.

That after what has transpired, no attempt to revive the calumny against Mr. WAKLEY can ever be made except by persons whose conduct and unworthy motives must subject them to the severest condemnation of all honourable minds.

That the committee gladly avail themselves of this opportunity to acknowledge, with gratitude, the many obligations which Mr. WAKLEY has conferred upon the members of the medical profession since the establishment of THE LANCET, the first periodical of the kind that appeared in this country, and which he has conducted with ability, independence, and an enduring devotion to the cause of medical reform, for nearly a quarter of a century. We beg also to refer, with pleasure, to the many abuses which that publication has been instrumental in removing from the endowed and chartered medical institutions of this country; to the great good that has resulted to the public, and more especially to the poorer classes of society, by the salutary changes he has caused to be introduced into the public hospitals of the empire; and to the great advancement in the interests and prospects of the profession generally, due to the conduct and indefatigable exertions of that gentleman.

J. CONSTANTINE CARPUE, Chairman.

H. HODSON RUGG, Hon. Sec.

Before the meeting separated, a resolution was unanimously adopted, thanking Mr. H. H. RUGG for the handsome manner in which he had accepted the office of honorary secretary to the committee.

CHARTER OF THE COLLEGE OF SURGEONS.

THE following petition has been sent to the House of Commons by Mr. GEORGE JAMES GUTHRIE:—

The petition of George James Guthrie, of Berkeley-street, Berkeley-square, a Councillor, and late President of the Royal College of Surgeons of London,

Humbly sheweth,

That although your petitioner in his collective capacity, has been compelled to accept the grant of a new charter to the said college, a copy of which was lately laid on the table of your honourable house, he considers several of the provisions of the said charter to be illiberal, exclusive, and unjust.

That, independently of its placing a bar on the poor man, preventing, in many cases, his obtaining by his own exertions such places of honour as there may be in the profession of surgery, it offers unnecessary advantages to the richer student in the attainment of these offices, who may not possess half his ability, his perseverance, or his knowledge, it presses with peculiar severity on the officers of the public service, nearly the whole of whom are deprived by it of those privileges they hitherto enjoyed in common with their surgical brethren of equal standing in civil life; whilst they will also be deprived in future of the hope of succeeding to these offices of honour or profit, whatever may be their ability, or the pre-eminence they may have acquired in the service of their country, from their talents or their labours.

Your petitioner has hitherto believed that a gentleman employed in the service of his Sovereign did not forfeit those rights which he had previously acquired as a citizen and a subject; in virtue of which right your petitioner has twice held the office of president of the college, but which he could not have done if this charter had been formerly in existence; that, as the friend of many of the seniors, the teacher of many of the junior officers of the medical departments of the navy, the army, and the East India company, they have called upon him to use his best endeavours to preserve to them the rights and privileges they have hitherto enjoyed.

Your petitioner humbly approaches your honourable house, in compliance with such call, on behalf of the whole of these officers.

Your petitioner believes there are few members of your honourable house who, in the persons of their fathers, their