

invariably have it shaved immediately, in order to permit of the appropriate local applications, and to allow the immediate discovery of matter, or sloughing, if either be present. The sacrifice of the hair is never a matter of importance, as it almost invariably falls off of itself after an attack of this sort.

I have been induced to forward you this case, as it is one instance among many of the cure of one disease by the super-vention of another. A case almost precisely similar is in my memory at the present moment, but as I have not the exact particulars, I am not able to give it in a satisfactory manner.

February, 1850.

AN INQUIRY INTO THE LAW WHICH GOVERNS THE MORTALITY OF THE POPULATION OF ENGLAND IN VARIOUS LOCALITIES OF TOWN AND COUNTRY,

FOUNDED UPON OFFICIAL RECORDS OF THE REGISTRAR-GENERAL.

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(In continuation of a similar paper, ending p. 301.)

THE mortality of the aggregate population of England having been discussed in the preceding pages, we come now to the consideration of the mortality in some of the 324 localities specified in the appendix to the "Ninth Annual Report of the Registrar-General." Apportionment is therein made of England—1st, into "divisions;" 2ndly, into counties; 3rdly, into districts. It is only to the "divisions," and to such of the districts as represent large towns, that the attention of the reader is called in the remarks which are to follow.

The "divisions" of England are eleven in number, and contain, upon an average, a population of one million and a half each. On comparing together the mortalities respectively exhibited, it is found that these divisions may, with advantage, be distributed into four classes, ranked according to their healthiness. The divisions which have most sea coast, and have their population most diffused, belong to the healthier classes; whilst the divisions which are inland, and have their population congregated in the largest masses, belong to the less healthy classes. In columns 1, 2, 3, & 4, of Tables IV. & V., are exhibited, for males and females respectively, according to age, the annual rates of mortality for each of the four classes of divisions. The healthiest class contains the four divisions numbered 2, 4, 5, & 11, and named by the Registrar-General, the South Eastern, Eastern, South Western, and Welsh Divisions, respectively. The class next in order of health contains the five divisions, numbered, 3, 6, 7, 9, & 10, which have been named the South Midland, West Midland, North Midland, York, and North Divisions, respectively. The third class contains one division only, which is numbered 8, and called the North West division, consisting of two counties, Cheshire and Lancashire. The fourth class, also, contains one division only, which is numbered 1, and comprises London and parts adjacent.

In Tables IV. & V., the rates of mortality exhibited for London and the North West Division have been copied from the Report of the Registrar-General. The rates for classes 1 & 2, comprehending four and five divisions, respectively, have been deduced from the published rates in the same Report, by adding together the rates given for the 4 & 5 divisions, at the different ages, and afterwards dividing the sums obtained by 4 & 5, respectively. On inspection of these tables, it will be seen, that the numbers, in columns 1 & 2, resemble one another in a considerable degree, but differ considerably from the two series in columns 3 & 4. The former two classes of divisions represent in their mortality populations consisting chiefly of persons living in villages and small towns; the latter two classes represent in their mortality populations consisting chiefly of persons living in large towns. The former two classes, consisting of nine "divisions," comprehend three-fourths of the population of England; consequently the other two classes comprehend one-fourth part only. The mortality of the population of these nine divisions, according to age and sex, does not differ in any striking degree from the mortality of the aggregate population of England, and does not require any particular remark. The mortality of the remaining two divisions represents the mortality of large towns, which is next to be considered.

In order to ascertain the law of mortality of the populations of the large towns of England, twenty-two of the largest (exclusive of London) have been taken, and divided into three classes, according to the mortality of females, at all ages. The

first, or most healthy class, comprehended twelve towns, in each of which the female population, at all ages, suffered a mortality not exceeding 2.31 per cent. per annum. In the second class, the mortality was one-sixth part greater; in the third class the mortality was one-half greater than in the first class. In the first class are contained, York, Bath, Plymouth, Norwich, Sunderland, &c.; in the second class are contained Bristol, Birmingham, Leicester, Nottingham, &c.; and in the third class are contained Liverpool and Manchester only. The mean annual rates of mortality for the three classes of large towns are exhibited in columns 7, 8, 9, of Tables IV. & V. The results for the 1st and 3rd classes alone require special remark.

On comparing the mortality at different ages of the female population of large towns of the healthiest class with the mortality of the total female population of England, as exhibited in column 5 of Table V., it will be seen that the difference in the respective mortalities at all ages in the aggregate is inconsiderable. At each of the decennial intervals of age above thirty-five years, there is no substantial difference between the mortality for females of healthy large towns and for females of the whole of England. There is also no difference in the respective mortalities at the interval of age from ten to fifteen years. It is only at ages under ten years, and between the ages of fifteen and thirty-five years, that any material difference exists in the rates of mortality. The difference in the former interval of age is in favour of the total population of females in England; the difference in the latter interval is in favour of the female population of large towns of the healthiest class. The difference under ten years of age resolves itself into the fact, that the period over which the constant of infancy presides is about half a year longer in such towns than it is in the general population,—involving a proportionate increase (about eighteen per cent.) in the mortality of children in such towns. The difference between the ages of fifteen and thirty-five years is of similar amount, but in an opposite direction, being in favour of the female town population.

The last-mentioned difference is deserving of particular attention, as in it consists the sole apparent exception to the applicability of the Carlisle or Village Table of Mortality, as a complete representation of the mortality of the total female population of England at every age of life. The mortality of females in large towns of the healthiest class is in complete agreement at every age of life with the theoretical table of mortality. But in the case of the total female population of England the agreement exists for every age under fifteen years and for every age above thirty-five years; whilst there is a discrepancy between the ages of fifteen and thirty-five years. In that interval of twenty years of age the reported mortality has been .92 per cent. instead of .78 per cent., given by theory and also by observation in large towns of the healthiest class.

It is not improbable that the above discrepancy is the consequence of defects in the return of ages of the living and dying, arising from the disposition of the mass of the population above twenty and under the age of fifty-five years to understate their ages. To account fully for this discrepancy such disposition must be stronger in the country than in the town population, and must cause a greater understatement of the ages of the dying than of the ages of the living.

In Table III., appended to the first part of this paper, (p. 301,) the female population of England, enumerated at the years 1821 and 1841, are compared with an ideal population such as would exist under the operation of the known law of mortality and the known rate at which the population increases. An inspection of columns 2, 3, & 4 of this table will show that there is good ground for believing that the numbers reported to be living between the ages of fifteen and thirty-five years have been considerably overstated at the expense of the numbers living above this interval of age. If, however, this defect be admitted, nothing of importance is gained unless it can at the same time be shown to be probable that the ages of the deaths are understated to a greater degree than the ages of the living.

To show that this is probably the case, it may be remarked, that the statements as to ages of the population are obtained chiefly from the labouring classes, (constituting the great majority of the population,) who have in general a very imperfect acquaintance with the arts of reading and writing, and whose knowledge as to their ages is mostly traditional. In the absence of exact knowledge of their ages, these classes are not much fettered in the exercise of their disposition to understate their ages. If any uncertainty, as of one, two, or more years, exists as to the age of a youthful individual, it may be assumed as highly probable that the whole amount of the uncertainty will be reckoned in diminution of his true age. It may also be regarded as probable, that friends will

exaggerate the youthfulness of an individual deceased in a greater degree than the individual did himself when living. At least, this would be the case if reports of ages by second parties are of the same nature, and follow the same laws, as reports of other occurrences passing from better informed to less informed parties. If the disposition to exaggerate the youthfulness of a person be equal in that person and in his nearest friend, the latter will exaggerate most, because he is less restrained, having less knowledge of the facts about which the allegation is made. Thus, the ages of the dying are more understated by the friends of the dying than they would have been understated before death by the parties themselves. In large towns, the disposition to understate is probably less than in the country, partly from the circumstance that the exaggeration would produce no effect, being communicated to strangers and indifferent parties—partly from the presumed superior intelligence of the population of large towns, which ought to operate in diminution of the weakness of expecting any advantage from an understatement of age—and partly from the circumstance, that in large towns the labouring population have more knowledge of the arts of reading and writing wherewith to correct misstatements of age.

In connexion with this subject may be noticed the apparent mortality of the total female population of England at ages above seventy-five and eighty years, which is in excess over the proportion indicated by the theoretical table of Village mortality, (see Tables I. & V.) If this excess had a real existence, it would follow that the proportion of females living at ages above eighty years ought to be less than the proportion indicated as surviving, according to the Village Table. The apparent fact, as obtained from actual enumeration, and exhibited in Table III., is, however, just the reverse, as the proportion represented as surviving eighty years of age exceeds the number deduced from the theoretical table. These contradictions of the applicability of the Village Table are in opposite directions, and nullify each other. They may, however, both be explained by a tendency to exaggerate the greatness of age of all persons above seventy-five or eighty years of age, and to exaggerate more the ages of the dying than the ages of the living. The defect of mind which operates in exaggerating the old age of old persons, especially when dying, is the same as that which exaggerates the youthfulness of youthful persons, especially when dying. The existence of such defect may be said to be proved in the case of old persons, whence the existence of a similar defect in the case of youthful persons may be inferred as highly probable.

In the third or least healthy class of large towns, (consisting of Liverpool and Manchester,) the mortality in the interval of age from fifteen to fifty-five years increases at a peculiar rate, which is considerably greater than the rate of increase at the same age in other parts of the population. According to the Village Table, the mortality between the ages of forty-five and fifty-five years is just three times as great as the mortality between ten and fifteen years of age. The same proportion holds good for the total female population of England, and for the female population of large towns of the first class in healthiness. In the third class of large towns, this proportion is increased to four and a quarter to one. At the ages intermediate from fifteen to fifty-five, the mortality increases one-half for every ten years' increase of age, instead of one-third part, which is the increase consequent on the operation of the usual constant of florescence. It is not, however, to be concluded, that a special constant regulates the mortality of the population of the largest and least healthy towns; for the same appearances would be presented by a combination of the two constants of florescence and senescence. To obtain the appearance of the rate of increase reported, it would be sufficient to assume that three-fourth parts of the population, between fifteen and fifty-five years, are under the regulation of the ordinary constant of florescence, whilst the remaining fourth part passes directly from the government of the infancy constant to the government of the constant of senescence, such fourth part representing the part of the population in rapid progress of decay. The rapid rate of increase alluded to, in the mortality under the age of fifty-five years, is applicable to the population of London, and to the thirty-three districts into which it is divided.* This peculiar rate of increase in the mortality between the ages of fifteen and fifty-five years ap-

pears to be dependent on the diminution of the usual length of the period of florescence, as it does not show itself, except in cases where the limit dividing florescence from senescence is under fifty years of age. In the more recent observations on the population of Sweden, there is a similar peculiarity, coupled with the retrocession of the above limit, as may be seen on inspection of the two last columns of Table I. (p. 301.)

One of the remarkable facts presented by the new observation is, that the mortality of females between the ages of ten and thirty-five years is less in London than in any other of the eleven registrar's divisions of England. This fact is not to be accounted for by the influx of settlers from the country, since the superiority is continuous, and commences at the interval of ten to fifteen years of age—a period at which there is little or no immigration from the country. To account, in some measure, for the fact, it may be stated, that the minimum mortality of females (occurring at the end of the period of infancy) is as low, if not lower, in London than in any other part of England, and that the length of the period over which the constant of infancy presides is greater in London than in any other places, excepting Liverpool and Manchester.

The tables in the Report of the Registrar-general contain the rates of mortality for the separate years of ages under five years. I have not thought it desirable to introduce any of these rates for such small intervals in the tables hereunto annexed. I would, however, observe that these rates for single years of age are in general agreement with the rates deducible from the theory of a constant decrease of mortality, at the rate of thirty-two and a half per cent. for each year of age, from birth (or a few weeks after) to the age of about nine years. In the total population there is a considerable excess of deaths in the first year of age over the number shown by the theory when the constant comes into operation immediately after birth. In the case of some of the principal large towns, however, (wherein the length of the period of infancy is greatest, as may be seen by the help of Table VII.) the facts and the theory are in accordance from the time of birth. For example, in Liverpool, for females under five years of age, the proportional deaths in each year, out of a total of 1000, are (after making a small correction for increase of population) 457, 267, 136, 82, 58, whilst the calculated numbers given by theory are, 450, 251, 148, 93, 58.

In the following summary is contained some of the more important of the foregoing statements. It has been shown that the mortality of the population of England, after decreasing for thirty-five years to the year 1815, has, since that time up to the end of the year 1848, been regularly increasing; that nearly the whole of this increase arises from the increase of the mortality of children under eight years of age, which increase has amounted to forty-four per cent. in twenty years; that the mortality at every age above twenty years has remained the same, with little or no variation, for the last thirty or forty years, and probably for a longer period; that the mortality of the total female population of England and the mortality of the female population of large towns of the healthiest class are closely represented at all ages of life by the well-known "Carlisle" Table, with which is identified the theoretical table of "Village" mortality; that the mortality of the total male population of England is nearly represented by another theoretical table, of which the mortality at every age above fifty-five years is exactly one-fifth part greater than the mortality expressed in the Village Table just mentioned; that the theoretical table for the total male population agrees very nearly with the mortality exhibited in the combined experience of the Equitable and Amicable Assurance Societies among all their members of more than five years' standing; that in these two theoretical tables, representing the mortality of each sex of the total population of England, the limits of the periods of infancy and florescence are at eight and a half and fifty-two years for males, whilst they are at eight and fifty-five years for females; that in the greater part of the population of England, with the exception of the population of large towns, the mortality of females exceeds that of males in the interval of age comprehended between eight and forty-five years; and that at other intervals of age the mortality of males is in excess over that of females in England, as in other countries.

Fleet-street, March, 1850.

* There has been published by the Registrar-General a statement of 18,166 deaths by cholera and diarrhoea, classed in decennial intervals of age, which occurred in London during fifty-five weeks ending 20th October, 1849. The rate of mortality exhibited will be seen to increase uniformly according to age at the rate of fifty per cent. for every advance of ten years between the ages of fifteen and eighty-five years. This

rate of increase is identical with the rate of increase above mentioned as occurring, from the aggregate of diseases in London, between the ages of fifteen and fifty-five years. Cholera differs from the aggregate of diseases in retaining the same rate of increase above as below the age of fifty-five years. The published rates of mortality per ten thousand for both sexes, at the seven consecutive decennial intervals of age, from the age of fifteen upwards, are 33, 53, 79, 107, 158, 226, & 326 respectively.

TABLE IV.

TABLE, showing, for each of eleven intervals of Age, the Mortality per cent. per annum, during the Seven Years 1838—44, of the MALE Population of ENGLAND, in Four Classes of Registrars' Divisions, and in Three Classes of Large Towns.

AGES.	REGISTRARS' DIVISIONS, numbered				ENGLAND. (Total.)	THEORETICAL TABLE: Limits at Ages 8½ and 52 Years.	LARGE TOWNS.			"MEAN" TABLE: Limits at Ages 8 and 55 Years.	SWEDEN, 20 Years. 1821—40.
	2, 4, 5 & 11.	3, 6, 7, 9 & 10.	8. (North West.)	1. (London.)			CLASS 1, 12 Towns.	CLASS 2, 8 Towns.	CLASS 3, Liverpool and Manchester.		
0—5	5.57	6.75	9.79	9.31	7.07	7.09	8.46	10.51	14.01	6.70	6.91
5—10	.85	.84	1.14	1.24	.93	1.00	1.14	1.24	1.58	.99	.79
10—15	.48	.50	.60	.48	.50	.57	.50	.57	.60	.65	.49
15—25	.81	.78	.93	.76	.80	.70	.86	.89	.96	.81	.63
25—35	.95	.91	1.04	1.07	.97	.94	1.08	1.12	1.28	1.08	1.09
35—45	1.07	1.13	1.42	1.79	1.25	1.26	1.43	1.62	2.07	1.45	1.62
45—55	1.48	1.60	2.12	2.73	1.78	1.73	2.06	2.42	3.20	1.95	2.43
55—65	2.65	2.95	3.71	4.81	3.14	3.33	3.55	4.26	5.27	3.33	4.02
65—75	5.83	6.45	7.92	9.18	6.61	6.99	7.06	8.47	10.39	6.99	8.17
75—85	13.22	14.41	16.26	18.47	14.39	14.31	15.58	16.99	20.24	14.31	17.96
85—95	28.92	29.81	31.07	32.00	29.65	28.17	...	...	...	28.17	34.57
All ages... ..	2.02	2.19	2.72	2.74	2.27	...	2.57	2.91	3.51	...	2.48
Population } in thousands }	2619	3226	1027	913	7785	...	256	283	202	...	1516

CLASS 1, of Divisions; 2, South East; 4, Eastern; 5, South West; and 11, Wales.
CLASS 2, of Divisions; 3, South Midland; 6, West Midland; 7, North Midland; 9, York; and 10, Northern.

TABLE V.

TABLE, showing, for FEMALES, what is shown, in the preceding Table, for the other Sex.

AGES.	REGISTRARS' DIVISIONS, numbered				ENGLAND. (Total.)	"VILLAGE" TABLE: Limits at Ages 8 and 55 Years.	LARGE TOWNS.			"CITY" TABLE: Limits at Ages 8 and 55 Years.	SWEDEN, 20 Years. 1821—40.
	2, 4, 5 & 11.	3, 6, 7, 9 & 10.	8. (North West.)	1. (London.)			CLASS 1, 12 Towns.	CLASS 2, 8 Towns.	CLASS 3, Liverpool and Manchester.		
0—5	4.75	5.68	8.46	8.03	6.04	5.54	7.21	8.99	12.46	8.47	5.94
5—10	.84	.83	1.09	1.14	.90	.82	1.06	1.21	1.51	1.24	.73
10—15	.54	.55	.61	.47	.55	.54	.53	.59	.64	.82	.46
15—25	.81	.88	.95	.62	.83	.67	.70	.84	.85	1.01	.55
25—35	.96	1.04	1.16	.92	1.01	.90	.89	1.05	1.23	1.35	.84
35—45	1.10	1.21	1.52	1.38	1.24	1.21	1.25	1.40	1.80	1.81	1.21
45—55	1.33	1.45	1.95	2.00	1.55	1.62	1.61	1.95	2.73	2.43	1.69
55—65	2.38	2.65	3.39	3.80	2.78	2.78	2.71	3.46	4.57	4.14	3.12
65—75	5.11	5.74	7.16	7.83	5.89	5.87	6.19	6.94	9.01	8.64	7.04
75—85	12.03	13.28	14.91	16.17	13.20	12.11	13.50	16.30	17.14	17.50	15.90
85—95	26.80	27.60	28.58	30.33	27.55	24.06	...	...	...	34.10	30.63
All ages... ..	1.90	2.07	2.51	2.31	2.10	...	2.15	2.53	3.13	...	2.20
Population } in thousands }	2727	3307	1072	1038	8144	...	311	308	214	...	1622

LARGE TOWNS: CLASS 1, containing twelve—viz., Cheltenham, Bath, Clifton, Exeter, Devonport, Plymouth, Brighton, Maidstone, Norwich, York, Sunderland, and Carlisle.
LARGE TOWNS: CLASS 2, containing eight—viz., Bristol, Birmingham, Leicester, Nottingham, Stockport, Sheffield, Hull, and Newcastle.

TABLE VI.

TABLE, showing the Combined Experience of the Equitable and Amicable Assurance Societies, among all their Members of more than Five Years' standing; with which is compared the Theoretical Table, which represents nearly the Mortality of the Total Male Population of England. (In the latter table, the limit, dividing the period of florescence from the period of senescence, is at the age of fifty-two years. The numbers are those dying in five years, out of a hundred alive at the beginning of the five years.)

Between ages.....	30—35	35—40	40—45	45—50	50—55	55—60	60—65	65—70	70—75	75—80	80—85	85—90
Observed facts ...	4.91	5.73	6.44	7.49	9.85	13.08	18.93	25.50	35.47	46.98	58.98	71.93
Theoretical table	4.93	5.69	6.57	7.57	9.10	12.87	18.30	25.66	35.28	47.18	60.80	74.69

TABLE VII.

TABLE, showing the Variations in the Mortality under the age of Ten Years, consequent on every Change of a Quarter of a Year in the Length of the Period over which the Constant of Infancy presides, the Minimum Mortality between the Ages of Ten and Fifteen Years being assumed to be fixed at one-half per cent. per annum.

Age in years when limit of infancy is attained.....	7½	7¾	8	8¼	8½	8¾	9	9¼	9½	9¾	10
Mortality per cent. { 0—5	4.16	4.60	5.10	5.65	6.26	6.94	7.70	8.55	9.49	10.54	11.73
per annum be- { 5—10	.66	.70	.75	.81	.88	.96	1.05	1.15	1.26	1.38	1.53
tween ages { 10—15	.50	.50	.50	.50	.50	.50	.50	.50	.50	.50	.50

ON HYDROGEN GAS.

By W. F. STEVENSON, Esq., F.R.S., Sidmouth.

As, since the writings of Liebig, the knowledge of animal chemistry has been considered a necessary part of medical education, and forms the subject of public lectures, it is very important that it should be placed upon a solid basis; or, in other words, that it should be correctly ascertained what are, and what are not, elementary matters, as an error on this point will necessarily endanger the whole superstructure. Since Lavoisier's time, hydrogen has been held to be an element, as he made it one of the constituents of water.

Now, I think it will not be difficult to satisfy your readers that hydrogen is a compound, and that water has never been decomposed.

Lavoisier in 1783, when he communicated his theory to the French Academy of Science, stated, in his "Memoir," that when oxygen and hydrogen gases were inclosed in certain proportions in a glass vessel and ignited by a spark, an explosion followed, when an inflammable matter, accompanied by heat and light, *escaped* from the vessel, and that upon opening the latter the gases were found to have disappeared, and to have left water in their place; and that upon weighing the water it was found to correspond with the weight of the previous gases. He therefore concluded by affirming, that water was constituted of the two gases, *minus* the inflammable matter which had escaped. As in this statement of his theory, he thought, no doubt, that the admitted escape of any matter might create some doubt in the minds of the Academy, he proceeded to give another experiment, whereby he professed to decompose this water, and thereby reconstruct the constituent gases; and this he did, by inclosing the water in a glass vessel, and passing through it repeated charges of the *electric fluid*, when the water was ultimately found to have disappeared, and to have left in its place the gases in question. This the Academy considered as conclusive, and accordingly adopted the theory, which has been ever since the doctrine of scientific men of all countries.

Now, this last process, and which is essential to the maintenance of the theory, is evidently and necessarily a deception. We have seen that in the first process, when the water is formed, an inflammable matter escapes from the vessel, and which makes Lavoisier say that the water is composed of the gases *minus* this matter. Now, it is manifest and indisputable that this escaped matter belonged to one or both of the gases, as the vessel in which they were inclosed contained no other matter. How, then, is it possible that the water can reproduce these gases without the addition of this inflammable substance? By what conceivable process can the *major* be elicited from the *minor*? It may seem most strange that this *physical impossibility* never occurred to these scientific men; but so it is. "Humanum est errare." But the "philosophers" will say, "Don't talk about the impossibility, but examine these gases thus produced; ignite them by a spark, and you will find the same explosion, the same escape of a combustible matter, accompanied by heat and light, and that the same deposit of water follows as before."

Why, then, is it not self-evident that there is a fallacy lurking in the experiment? Of this there can be no doubt. Then what is it? This: that hydrogen is not an element, but a compound of electric matter and water, and which you formed when you passed the charges of electric matter through the water, and which latter, at the same time, liberated the oxygen which it had absorbed in the first experiment.

This combination of the electric matter and water, and thus forming the hydrogen, is a necessary conclusion; for how,

otherwise, could hydrogen be produced from water deprived of the phlogistic matter which had escaped?

What, then, is, in fact, the first experiment of Lavoisier, when he produces an explosion by firing the gases, but this?—that instead of the oxygen and hydrogen uniting, as he states, the hydrogen gas is decomposed, when the electric matter flies off, and leaves the water behind; and as the latter immediately absorbs the oxygen, (which chemists know it will do with avidity,) the water is found to equal in weight the previous gases, the electric matter not being a ponderable substance.

When the experiment is made upon a small scale, the electric matter can be communicated to the water by a heated piece of metallic wire, when bubbles of hydrogen will be generated. This last experiment so misled the Royal Society, not many months ago, that it was pronounced, *ex cathedra*, that water would produce hydrogen by heat alone.

It may be safely taken, I think, as a general rule, that when any theory involves vast improbability it will be found to be a delusion. Now what could be more improbable than that a fluid occupying such a large portion of our globe, and of such universal necessity, should be a compound of gaseous substances, requiring for its formation such enormous quantities of them, that 500,000 grain measures of hydrogen are required (as Mr. Cavendish informs us) to make 135 grains of water; and again, that a fluid, so largely constituted of the most inflammable of matters should be the most powerful agent in extinguishing combustion.

I will only beg to trespass further on your patience by observing that Dr. Priestley demonstrated the absorption of the oxygen by the water formed upon Lavoisier's theory, and that from invariably finding it very acid, he refused to become a convert to it: and that, with regard to hydrogen, Mr. Cavendish, (its discoverer,) Dr. Priestley, and the late Mr. James Watt, all declared their opinion that it was composed of a very little water, and much phlogistic or inflammable matter, as will be seen on reference to their papers, among the printed *Transactions* of the Royal Society.

York Hotel, Sidmouth, February, 1850.

ON THE USE OF GUTTA-PERCHA SPLINTS IN CLUB-FOOT.

By GEORGE WILSON, Esq., M.R.C.S.E., Leeds.

SOME time ago, I read in a circular, issued by the Gutta-Percha Company, an account, by Professor Lyon, of Glasgow, of his method of treating *club-foot* by the application of gutta-percha bandages, after the division of the tendons requiring it in the ordinary manner. His plan, if I remember it correctly, is to envelope the foot and leg in soft linen, and over that to apply a spiral bandage of softened gutta percha, which, being allowed to cool and become hard, effectually retains the parts in the desired position. I have not tried it, but should fear that the removal of the gutta percha, by cutting it away, as the professor directs, would be found inconvenient and difficult. As I have for some time been in the habit of using gutta percha as a support after the division of the tendons, in cases of this deformity, and my method is free from the disadvantage alluded to, I venture to describe it, for the benefit of those who, like myself, prefer a light and simple dressing to the heavy fetters which have hitherto been in general use. I may premise that I think it best to perform the operation at an early period of infancy, as it is then easily done, and the parts are more readily moulded to the natural position than afterwards. From two to three, or four months after birth, is the time I select, and I do not apply the