SCIENTIFIC INTELLIGENCE.

Remarks on the Epizootic Epidemic. Translated from the French
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[Continued from No. XLVI. p. 77.]

ROYAL ACADEMY OF SCIENCES.—*Sitting of the 18th of Feb. 1839.*

Milk of Cows affected with Cocote.—M. Chevreul commenced, in the name of the Commission, to which M. Turpin had been joined, the reading of a report on a note presented by M. Donne, on the subject of the alteration which the milk of cows attacked by the cocote presents. This report comprises the *exposé* of the note in question, the researches proper for the Commission of the Academy, the determination of the effects of this milk upon the health, and the indication of duties to be undertaken in this department in case of an epidemic.* It may be remembered, that, according to M. Donne, in the beginning of the disease amongst the cows, when there were only some pustules on the dugs, the milk, observed by the microscope, did not present any change: the second day, the characters of the colostrum of women are discovered in it, to wit, acidity, the presence of four sorts of globules, butyraceous, agglomerated, muriform, and mucous, and lastly, the property of becoming viscid by its mixture with ammonia.

These effects became more and more prominent in proportion to the progress of the malady; and on the tenth day, when the dug was attacked by the engorgement which the dairies designate "*cru*," the milk obtained was mingled with pus, greenish, foetid, offering both the odour of the acids of butter, and of putrid animal matters. The neighbouring dugs might, moreover, furnish a milk of good quality, if the disease had not extended to them. The Commission has desired to verify these results; it procured ten samples of the milk of affected cows, five coming from the farm at Grignon,

* If I may be allowed to say so, it is especially for the sake of this sketching out of the duties and scope of that important application of medicine, medical police, connected with the immediate subject of interest, which is my excuse for obtruding a copiousness of extract, and in a few points a trifling repetition of matter, on the pages of this Journal; feeling certain that these subjects, in which our continental brethren and their governments have taken the lead, must meet with fuller attention from our practitioners and constituted authorities; the pressing of which upon the medical public should need neither apology nor recommendation.—T.R.

and the other draughts, obtained in the presence of the Commission in the slaughter-house of Montmartre. Although the quantities of milk were insufficient to make suitable analytic researches, the Commission has recognized the existence of four kinds of globules, and the inspissation by means of ammonia.

As to the acidity, it was not general; many samples presented an alkaline reaction; in three cases the different teats gave different milks. The reporter here takes notice of a curious observation due to M. Robiquet. When the milk becomes viscid with ammonia, the addition of acetic acid, instead of causing therein a precipitate, only occasions a slight trouble. The same observer has also recognized that the milk filtered is no longer inspissable by the alkali, which proves that the matter which gives it this property is only in suspension.

M. Lassaigne has made, upon the milk of the cows of Alfort, observations analogous to those of the Commission; he has besides recognized that a cow sick, but not with "cocote," yielded a troubled milk which coagulated spontaneously: he attributes this property to the presence of albumen. "En résumé," the milk of cows attacked with "cocote," would have for characters deficiency of homogeneity, and of liquidity, the presence of globules of different kinds, and the inspissation by means of ammonia. But it most imports us to establish, that this milk cannot have any injurious action on the economy; a proposition confirmed moreover by chemical and microscopic analysis, since it presents the constitution of the *colostrum*, and that the special matters found in some rare specimens, do not appear to be any thing else but fibrine or albumen, substances, as we know not only innoxious, but endowed with even nutritive qualities in a high degree.

The second part of the report of M. Chevreul has relation to the researches that it would be suitable to undertake in the cases of epizootic epidemic, or contagious disease, in order to render available the light furnished by chemical analysis. These researches should bear upon the organic matters and upon external agents, such as the air, water, &c. As to what refers to organic matters, we comprehend without difficulty that it is necessary to enlist as aids the data furnished by medicine, in order to determine both the symptoms, the reunion of which constitutes the disease, which it is needful to study in the morbid products it gives rise to, and the lesions of tissues which accompany these symptoms: hence also, the necessity of exact analysis of the fluids or of the tissues considered in a sound state, in order to make use of them as points of comparison; unfortunately, in the actual state of science, these analyses are completely wanting. Still more also, the proportion of the immediate principles of the blood, milk, &c. is not reduced to formula sufficiently precise in order to our executing of them; and these principles themselves do not always present characters sufficiently positive to render it possible to discriminate them from each other: thus caseum, fibrine, concrete albumen, submitted to the action of chemical agents, offer properties almost identical. What must be the result then, if to the causes of error we join fur-

ther those which are inherent in the paucity of the proportion of the heterogenous principle, engendered in a humour or a tissue by disease, and in its transient existence, which may prevent the verification of the inductions furnished by a first examination.

The analyses then offer an excessive difficulty: they will be without doubt rendered more accessible to the efforts of chemists by the progress of science. Thus before the labours, so remarkable, of M. Chevreul himself upon fatty bodies, it would have been impossible to characterize the fats contained in the blood or bile, whilst at the present day the results obtained on this subject are most satisfactory.*

The microscopic researches are not of less importance. The animal fluids in spite of an apparent homogeneity, are often constituted by globules, which swim in a liquid transparent or opaque; such are the blood, milk, pus, &c. However, we should not lose sight of the fact in this case, that identity of form does not prove that of nature; it suffices even that this form be simple in order that it may apply itself to substances very different. Identity of chemical characters can alone throw light upon the true nature of bodies that we may be studying.

If we make the application of the principles which have just been set forth to milk, we may see that the normal analysis of this liquid remains yet to be accomplished; that in butter, for instance, the proportion of fatty acids is far from being fixed in a precise manner; that caseum would need to be studied in a more complete manner, comparatively to fibrine and to coagulated albumen, in order to establish the alterations which it is susceptible of undergoing under the influence of diseases. The most simple reactions of milk form still a subject of discrepancy among observers, this liquid being acid according to some, alkaline according to others. The Commission, desirous of having, upon this point, some positive data, has prosecuted at Alport some experiments, whence it results that milk directed upon the reacting paper, on its exit from the teat, is habitually, but not always, alkaline. We may recall on this occasion what M. Lassaigne has observed in cows, the milk of which offered, after some days' interval, opposite reactions on vegetable colours.

The presence of pus in the blood, or in the milk, is it more easy to establish? Every chemist will reply in the negative; for it is not sufficient to ascertain therein the presence of globules of a particular form, or to shew that the liquid is inspissated by ammonia, the globules of mucus and of pus having the same characters, and the colostrum, which has nothing morbid in it, becoming also viscous by the addition of alkaline, as M. Donné has himself shewn: here then it is necessary to return to the study of immediate principles.

* This eulogy on himself by M. Chevreul, in this report, is, to say the least, rather remarkable, and very *French*.

The researches which it would be desirable to undertake upon external agents, give place to considerations analogous to those we have just alluded to. Up to the present no result has been arrived at; it is not because one has not recognized in the air principles foreign to its ordinary constitution. We have been enabled by gathering dew condensed on the sides of a vessel filled with ice, therein to demonstrate the presence of organic substances; an hydrogenated element in the air has been equally put out of doubt as to its existence; but it might be necessary to prove that these principles were endowed with noxious properties, and this demonstration is so much the more urgent, inasmuch as, on the one part, our efforts of industry and a host of other acts, natural or artificial, diffuse into the air elements of organic origin, and that, on the other hand, the presence of a new immediate principle in a focus of disease may be, not the cause, but rather a symptom, of the prevailing affection. In opposition to these considerations, we cannot deny the existence of a deleterious agent, in relying upon what one has not proved it to be: how many times have not metals been mistaken which were hid in small portions in alloys? It would be requisite then, by the aid of mechanical means, as compression or cooling, to seek to condense the miasmata contained in the air. We should also endeavour to separate them from the solid or liquid matters where they escape, or even to determine the formation of them; since we should study them by the ordinary chemical processes. The examination of waters destined for domestic uses, gives rise to considerations of a like nature, and so much the more important, because certain arts have for effect, the vitiation of the waters they employ, by introducing therein poisonous matters, such as the salts of arsenic. We may conceive then the danger which might result from the mixture of these waters thus altered, with those which we intend to serve as drink.

Extract from the Report made to the Academy of Sciences upon the Milk of Cows affected with the Cocote, followed by general Considerations relative to the Search for active Matters in the Animal Economy, which may be found in morbid Products, in the Atmosphere, and in the Waters.—Milk has been, in these latter times, the object of numerous researches, which have thrown light upon some points of its chemical history. Some of these labours have been undertaken on the occasion of the epizootic, which, under the name of *cocote*, has prevailed latterly among the cows in the suburbs of Paris; and all have received, from this circumstance, a fresh degree of interest, which renders it a duty incumbent on us to present the *resumé* to our readers.

We do not think that we can do better, in order to fulfil our object, than by giving an extract of the report made upon this subject to the Academy of Sciences, by M. Chevreul, on behalf of the chemical section. This report had more particularly for its object the labours of M. Donné; but the learned critic, extending the scope of the question, has attached to it considerations of the high-

est importance, upon the applications of chemistry to the study of active matters in the animal economy which may be found in the morbid products, the atmosphere, and the waters. He has established the general principles which should direct chemists in researches of this kind. This second part, which its extent prevents us from giving at length, is in some sort a complement to the treatise of organic analysis, published by the author. In examining, in the first place, the labours of M. Donn anterior to the appearance of the *cocote*, M. Chevreul remarks:

“ M. Donn acknowledges, with Leuwenhock, and all those who since this observer have submitted milk to the microscope, that this liquid is composed of two distinct parts: first, water holding in solution different bodies; second, globules which, in suspension in this water, give to it the milky aspect. But M. Donn only admits of the fatty or butyraceous globules, whilst Leuwenhock also admits therein globules of another nature. M. Donn founds his opinion on the following experiments.

“ 1st. The milk, when filtered, leaves upon the paper butyraceous globule soluble in ether, and the filtered watery liquid is transparent.

“ 2nd. When we treat milk, upon the object glass of the microscope, by ether, we perceive the globules dissolve in this latter.

“ M. Donn only admits in milk, in a normal state, butyraceous spherical globules of a variable diameter, 1.500 to 1.100 of a millimeter, and even beyond this. To their chemical character, of being soluble in ether, it is necessary to add that of not being soluble in potass, except after having been saponified.

“ M. Donn, agreeing with M. Dujardin, and in opposition to M. Raspail and M. Turpin, does not recognize any appearance of organic structure in these globules; he does not consider them then as formed by a membrane or cellular tissue enclosing butyraceous matter, but rather as small spheroids resulting from butyraceous particles united by the force of cohesion.

“ The milk of woman, which shews itself immediately after delivery, is very distinct from normal milk, that is to say, from that of a good nurse, to date from the second month after confinement, on which account it has been distinguished from this latter by the designation of colostrum, and microscopic examination fully justifies this distinction. In fact normal milk only presents, on examination, isolated globules, moving themselves about in the bosom of a clear liquid by the least agitation; whilst M. Donn has observed, in the colostrum, as many as four sorts of globular matters.

“ 1st. Isolated butyraceous globules, like those of normal milk.

“ 2nd. Small butyraceous globules, bound together by a viscid matter.

“ 3rd. Muriform globules, that is to say globular agglomerations, having the form of mulberry fruit.

"4th. Mucous globules, similar to those of the mucus of the mouth, nostrils, &c.

"In short, M. Donné has assured himself, that ammonia mixed with milk does not change the consistence of it, whilst its mixture with the colostrum yields a viscid liquid, which can even assume a jelly form. The intensity of the phenomenon has appeared to him to correspond to the quantity of non-butyrateous globules. We shall return again, further on, to this observation.

"He has observed that the colostrum possessed an alkaline reaction upon the red paper of tournsol, as well as normal woman's milk, in which already M. Payen had recognized this property. According to M. Donné the colostrum passes gradually to the state of normal milk in the mammary organs.

"Although there are differences between the colostrum and the normal milk of the goat and ass, yet these are far from being so pronounced as the differences we have just stated between the colostrum and the normal milk of woman. And it is a notable fact, that the colostrum of the ass, which contained agglomerated globules and mucous globules, did not undergo any change in its liquidity, when ammonia was added to it.

"M. Donné has found in the milk of a nurse, whose right breast was engorged, agglomerated globules, mucous globules as in the colostrum; and he has ascertained that, as in this latter, it assumed a jelly form by the addition of ammonia.

"In fine he has recognized in woman's milk the existence of pus globules, which distinguish themselves from butyrateous globules, by their insolubility in ether, and their instantaneous solubility in the alkalies. The viscosity which this milk assumed by its mixture with these latter bodies, was not at all surprising, since Grasmeyer has given this property as one of the distinctive characteristics of pus.

"The figures of the globules of normal milk, of the agglomerated globules, of the muriform globules, of the mucous and of the purulent globules, which M. Donné has added to his pamphlet, compared with the globules observed by the microscope in specimens of milk, will be a means of recognizing whether these are in a normal state; and still more, according to him, thus if these samples are produced from a similar kind of animal, we shall be able to judge of their nutritive quality, by the proportion of the normal globules, by reason of that which chemical analysis seems to indicate, viz. that in the different specimens of milk from the same species of animal, the immediate principles, such as caseum, sugar of milk, are proportional to the butyrateous globules. Lastly many observations have induced M. Donné to think, that there is a relation between the health of the offspring and the globular matter which the microscope discovers in milk, so that the milk of a nurse, which presents in the second month after delivery, globules strange to the constitution of normal milk, compromises the health of the infant to which it is given."

Examination of the Note of M. Donné, on the Milk of Cows attacked by the Cocote.—This note not having been read or printed in the minutes of the sittings of the Academy, we shall present an extract of it.

Observations.—On the first day of the disorder, the milk does not differ from normal milk, when we examine it with the microscope; but on the following day we perceive in it agglomerated butyraceous globules; and the third day, M. Donné has recognized in it the four sorts of globules of the colostrum of woman, as well as the property of becoming viscid by ammonia. In short it has appeared to him that the milk, by changing itself, lost more and more of its alkalinity tested by red tournsol paper; at least this is what he has observed in the same cow's milk.

The milk of another cow has presented to him, at the end of seven days' disease, a strong proportion of agglomerated globules, of muriform globules, and of mucous globules. This milk, strongly alkaline became, by its mixture with ammonia, viscous and kneady. On the tenth day, one of the dugs was engorged, and seized with the affection which the dairies call "*cru*," the milk that was drawn from it was greenish, excessively fetid; and we made the remark that the sulphurated odour which it exhaled participated of that of the acids of butter, and of that of acids developed by the putrefaction of azotized matters. M. Donné recognized in this milk the presence of purulent globules; but remarkable as a fact, the milk extracted from the other teats that the "*cru*" had not affected, was white and without bad odour; however it was altered, for it contained some lumps: the microscope therein detected, not only globules of colostrum, but also purulent globules; ammonia thickened it into a jelly; lastly it reddened tournsol paper.

Consequences.—M. Donné concludes from these observations:

1st. That by means of the microscope, it is easy to distinguish the milk of cows seized with "*cocote*" from normal milk, since the first contains globules very different from the isolated spherical butyraceous globules, which characterize the second.

2nd. That there is the greatest analogy between the globules of colostrum, and the globules of the milk of cows attacked with the "*cocote*."

3rd. That the milks extracted from the different teats of the same cow seized with "*cocote*" may be very different, if the glands which secrete the milk are in one of the dugs (*trayons**) under the influence of a local affection.

The microscopic examination of two specimens of milk, presented to the Academy by M. Donné in support of his note, repeated by many members of the Commission, and particularly by

* *Trayon* is used for the mammary gland, and the term *pis* for the true teat or nipple; they are not always strictly used by our authors, Rayer, Robiquet, Donné, and Chevreul. *Trayon* in the present sentence strictly means a subdivision of the gland having a teat proper.—TR.

M. Turpin, have convinced us that there were extreme differences between these specimens and normal milk ; and that besides they differed from it by the property of inspissating and even gelatinizing with ammonia, conformably to the observations of the author of the note.

Researches of the Commission and of other Persons relative to the nature of the Milk of Cows attacked with the "Cocote."—From these researches we shall extract the following facts.

M. Robiquet has examined several specimens of milk coming from different diseased cows : were destitute of fetid odour, alkaline to tournsol paper, and assumed viscosity with ammonia ; observations conformable to those which the Commission has reported higher up. But M. Robiquet has remarked further :

1st. That acetic acid which, as every body knows, coagulates normal milk and precipitates the caseum thereof, only produces in the morbid milk, a troubling hardly perceptible. This fact induces M. Robiquet to think that this milk had undergone an alteration, which might spring from the influence of the alkaline salts of the serum. 2nd. That the matter which gives to the morbid milk, property of becoming viscid by ammonia, is in suspension and not in solution ; for when this milk is well filtered it has lost this property, and if it retained in solution albumen like the specimens examined by M. Robiquet, which proceeded from the same cow, this albumen would coagulate by heat. This opinion is conformable to what M. Donné has advanced, relatively to the connexion between the property of inspissating with ammonia, and the abundance of the globules in the diseased milk, that is to say, the abundance of bodies which are not in solution.

M. Lassaigne has been enabled to multiply to a great extent his experiments, and observations on the sick cows of the herd at Alfort, in order to convince himself of the difficulty of characterizing, by means of chemical properties and reactions, the milk of these cows, for the reason that they may differ much one with another. He admits, however, as a character the viscosity that the morbid milk acquires by ammonia.

We give "*en resume*" what M. Lassaigne thinks of the influence that the "cocote" has exerted over the cows of the Alfort herd, relatively to the secretion and the nature of the milk : the secretion of the milk has been diminished, the milk was less buttery, more aqueous ; it has appeared more alkaline when the epizootic had most intensity, than on the decline of the malady ; it contained butyraceous matter, caseum, and sugar of milk, like normal milk.

Lastly, M. Lassaigne has examined a very remarkable milk coming from a cow seized with another disorder than the "cocote ;" this milk, very alkaline, issued troubled from the teat of the animal, and soon reduced itself into albuminous serum and into a solid matter, which appeared to M. Lassaigne formed of coagulated albumen and of fibrine.

To conclude, the characters we have given in order to distinguish normal milk from that of cows affected with cocote are as follows :

1st. Normal milk is perfectly liquid, and if it has not been recently drawn, it suffices to agitate it in order to make it as uniform and homogeneous aspect, since the butyaceous globules are then uniformly distributed in the serum.

2nd. Normal milk is perfectly mobile in its parts, as a fluid would be, deprived of viscosity.

3rd. When we inspect it in the microscope, it only presents spherical globules of a beautiful transparence, as is the watery liquid in the bosom of which these globules move with rapidity by the slightest impulse.

4th. Normal milk, far from inspissating by ammonia, would appear to take on more mobility and to lose its opacity.

5th. Exposed to the fire it does not coagulate as does albumen, and by boiling it does not exhale the decided sulphurous odour which this latter exhales.

6th. The odour of normal milk is very light.

7th. It is white, sometimes tinged bluish or yellowish.

8th. We shall speak further on of its action upon coloured reacting papers.

After what precedes, it is evident that when studying under the preceding relations a given natural milk, we shall arrive at the realizing of differences in the properties that we have just recognized, as characters of normal milk; we shall conclude from it that the first has undergone the influence of a cause foreign to the normal state.

1st. *Deficiency of homogeneity.* It cannot be sufficiently impressed, that certain milk presents, on its exit from the teat, an abundant solid matter, composed, according to M. Lassaigne, of albumen coagulated and of fibrine. But this milk is rare, and cannot be considered as an essential product of the "cocote," since the cow which has presented it during the epizootic, gave it on the 21st February, a date when for a month past there had been no cocote. However we do not say that cows affected with this malady may not present a flocculent or fibrinous solid matter, since three samples of milk originating from these cows have offered it to our examination.

2nd. *Deficiency of mobility or of fluidity.* It is very well perceived when we press a drop of milk between two plates of glass, in order to submit it afterwards to the microscope; it flows with difficulty, and does not extend itself in the manner of an homogeneous liquid.

3rd. *Presence of globules distinct from the globules of normal milk.* The agglutinated globules, the muriform globules, the mucous globules, and the globules of pus perfectly distinguish the milk wherein they are found from ordinary milk.

4th. *Inspissation by ammonia.* This character, witnessed by M. Donné, has been re-observed in all the milks arising from cows decidedly affected with cocote, examined by the Commission, M. Robiquet in particular, and by M. Lassaigne.

5th. *Coagulation by heat.* The coagulation by heat, indicated as a character of the milk of cows attacked with the cocote, is altogether fallacious, for we have not observed it in the milks which contained solid fibrinous matter, which wanted fluidity, which contained globules foreign to normal milk; in short, which inspissated considerably with ammonia. We have ascertained besides, that a morbid milk, not coagulable by heat, did not give this property to normal milk to which it was added.

6th. *Fetidity.* This character, easy to verify, is not essential to the milk of cows affected with cocote, since the greater number of specimens which we have examined were inodorous, or almost inodorous.

7th. *Colour.* A greenish yellow colour, a reddish colour, announce a milk altered or mingled with blood. A free yellow colour, may belong to a normal serum; in this case, it does not produce any coloured deposit in the milk, left to itself, as this takes place in that which owes its colour to blood globules.

8th. *Alkalinity.* This characteristic is decidedly bad for the distinction of morbid from normal milk, since we have alkalinity verified, according to M. M. Gay Lussac, Darcet, Payen, and Donné, in several of milk of cows, goats, and sheep in the normal state, on the 21st of February in the School of Alfort.*

* In another part of the report, the learned reporter expresses himself thus: "Nothing is more suited to demonstrate how vague is our actual knowledge of normal milk, than the difficulty itself that we have experienced when it became a question to define, in this report, its action upon coloured reagents. Macquer (*Dict. de Chimie*) says that the normal milk of a frugivorous animal is neuter. Bouillon Lagrange (*Ann. de Chimie*, t. 50, p. 273) states that milk, recently drawn, reddens tournesol paper. M. Thenard (*Ann. de Chimie*, t. 59, p. 280) accords to it the same property on its exit out of the mammary glands; Thompson and Berzelius partake of his opinion. In a journey in 1826, that M. M. Gay Lussac and Darcet made in Belgium, they recognized alkalinity on the issuing out of the milk from the teat, in forty cows.

M. Payen affirms the alkalinity of many specimens of woman's milk, and the neutrality of the milk of the goat. M. Lassaigne having examined the milk of a Swiss cow, twenty-two days before she was laid in the straw, found the milk, or the liquid which represented it, alkaline; but eleven days after this experiment the milk was acid, and this property persisted in the milk after delivery or calving. In fine, quite recently, M. Peligot and M. Lassaigne have considered acidity as a property of normal milk.

We have considered that this difference of opinion upon a fact easy to verify, was a powerful motive for adding some new observations to those we have just brought forward. In consequence, a member of the Commission was despatched to the Veterinary School at Alfort, where M. Lassaigne has had the politeness to put him in a position to ascertain the following facts:

The milk belonging to three English cows, of which one had calved eight and the others six months ago, directed on its exit from the teat upon tournesol paper, caused it to pass to blue. It was then alkaline. The milk of two goats which had been laid in the straw ten months before the experiment, was alkaline.

Lastly, two Merino sheep of pure blood, taken in a flock of forty dams, of which one had lambed two months, and the other three months before the experiment, yielded milk likewise alkaline.

Thus, we have seven specimens of milk taken from seven individuals belonging

9th. *Non precipitation of the milk in flocculi by acetic acid.* We mention this character, observed by M. Robiquet in many specimens of morbid milk. The Commission regrets not having subjected all the samples of milk which it has examined to this kind of test.

Definitively, if we seek the characters of milks proceeding from cows affected with the cocote properly so called, they have presented properties different from those of normal milk, we find them in a visible deficiency of homogeneity, in a deficiency of mobility or of liquidity, in inspissation by ammonia, that is to say, in three properties dependent upon one or many matters contained in the morbid milk, in a solid state, and finally in the presence of globules which are not met with in normal milk.

If we recall now, on the one part, that the flocculent or fibrinous matter that we have found in the milk of cows affected with cocote, was far from being there in as great a proportion as that of matters mentioned by M. Lassaigne, under the names of coagulated albumen and fibrine, in the milk of a cow seized with an affection very different from the cocote, and on the other hand that the globules of the milk of cows attacked by the cocote, are found in the colostrum and in different morbid milks, it is evident that we cannot characterize the cocote by a specific chemical constitution.—A. B. *Journal de Pharmacie.*

PROCEEDINGS OF THE PATHOLOGICAL SOCIETY.

(CONTINUED.)

Twenty-first Meeting, April 27, 1839.

MR. CARMICHAEL in the Chair.

1. *Gastritis; Hydrocele; Ossification of the Tunica Vaginalis.*—

Mr. Carmichael exhibited the recent parts in this case; the stomach was distended with air, and reached down to the umbilicus; the

to three different kinds of animals which are alkaline; does it follow that milk always possesses this property in the normal state? we should be tempted to draw this absolute conclusion from our experiments, and from those analogous ones made before, which we have cited; but if we consider that chemists, known for their exactitude, state that they have themselves verified the neutrality and the acidity of milk on its leaving the breast; that M. Lassaigne has upon the same animal, subjected to a constant regimen of alimentation, found at different epochs alkalinity at first, and then acidity of the milk, the Commission does not think it incumbent on it to decide the question: it will confine itself to remarking, "that the habitual state of normal milk appears to be a slight alkalinity, and that it remains for experimenters to determine if there are circumstances where the milk may become acid without its being possible to recognize in the animal which has produced it the first symptom of disease."

It is understood that we only speak of milk at the moment of its escape from the mamme of an animal judged to be in good health; for we know that a disease or a sudden affection has rendered the milk acid.

mucous membrane throughout its whole extent was soft and vascular, and covered with a thick tenacious mucus; the liver was enlarged and of the colour of a nutmeg. Mr. Carmichael also exhibited a remarkable specimen of hydrocele, taken from the same individual, the tunica vaginalis was completely converted into bone, and contained a dark-coloured fluid, thick and grumous; the hydrocele was about as large as a hen's egg, and lay altogether in front of the testis, which was sound in structure, and of natural size. The patient from whom the specimens were taken, was a man about fifty, remarkable for his obesity, and of rather intemperate habits; ten days before his death he was seized with severe vomiting of a bilious matter; he had also marked symptoms of hepatic disease, the vomiting became incessant, and all means failed to allay the irritability of the stomach. (*Museum, Richmond Hospital.*)

2. *Syphilis in the New-born Infant.*—Dr. Churchill presented a drawing of an infant born with syphilis; the skin was covered with a copper-coloured eruption; the mother of the child had contracted the disease from her husband; she had gonorrhœa and inflammation of the fauces; she stated, that she felt the motions of the child a few days before delivery; it was a breech presentation, but the labour was short and easy. Dr. Churchill had no opportunity of examining the internal organs of the child.

3. *Horny Excrescences removed from the Face.*—Mr. Carmichael exhibited two very remarkable specimens of horny tissue, which grew from the upper lip of an individual of about sixty years of age; they had been growing for six years, and had attained a very large size; they were successfully removed by Mr. Pierce, by whom they were presented to the Society.

4. *Bronchocele.*—Professor Harrison exhibited a fine specimen of this disease, taken from the body of a female of very nervous temperament, and who had suffered from painful menstruation for many years; whenever the menstrual flux was deficient there was a remarkable increase in the size of the bronchocele; but when the former was restored, the latter decreased. The tumour was as large as a melon, and presented a cellular structure, the cells being filled with matters of various density and consistence; some being firm and solid, others filled with a brown fluid; the vessels supplying the gland were very large and numerous. Professor Harrison also exhibited a polypus, occupying the os uteri, and taken from the same individual. The bronchocele made its first appearance when the patient was eight years old, and continued to enlarge till she was eighteen, when it ceased to grow. Professor Harrison mentioned, that each of the patient's sisters had bronchocele, while the male portion of the family were free from it. (*Museum, Trinity College.*)

5. *Hydrocele of the Neck.*—Mr. Smith presented two preparations illustrative of this disease; in one, the tumour, as large as an orange, lay above the thyroid gland in front of the larynx; it contained a clear serous fluid; the cyst was of considerable thickness; its interior smooth and polished. In the other case, the tumour oc-

cupied the whole of the front and left side of the neck; the fluid which it contained was turbid, and the lining membrane of the sac thick and flocculent. Mr. Smith detailed the history of this case, as published by Dr. O'Beirne, in the Dublin Journal of Medical Science, vol. vi., p. 10; the patient died of erysipelas, about two years, after the appearance of Dr. O'Beirne's excellent essay upon Hydrocele of the Neck. (*Museum, Richmond Hospital.*)

6. *Pulsating Bronchocele.*—Mr. Smith also exhibited a drawing of a large bronchocele, which was preceded and accompanied by violent palpitation and general arterial excitement; there was an aneurismal thrill and bruit de soufflet in the tumour. A remarkable prominence of the eye-balls, generally present in this form of bronchocele, was admirably depicted in the drawing. Mr. Smith also drew the attention of the meeting to several specimens of hypertrophy of the thyroid gland, with dilated and tortuous arteries, and connected with hypertrophy of the heart. (*Museum, Richmond Hospital.*)

7. *Osteosarcoma of the Jaw.*—Mr. Cusack said he had an apology to make for bringing forward a specimen, which did not belong to that department of pathological anatomy, which the society was formed to illustrate; but he was anxious to exhibit it, as shewing the mode in which osteosarcoma commences. It was a morbid specimen, taken from an ox, and if examined carefully, the members would observe in it small deposits of a peculiar kind of structure, which Mr. Cusack regarded as the embryo of the osteosarcoma. These appeared to have been deposited at various points, eating away the bone by degrees, and converting the whole into a softened structure. A comparison with a human jaw-bone in which the same disease was present, shewed a very remarkable similarity. The deposition always commences in small points, and where the disease has existed for some time, so as to form a mass. The new deposits will be found separate and detached. In other situations the bone is wholly absorbed, and in its place there is a congeries of cells filled with soft matter, resembling that of true cancer. Each point at which the disease commences is a vascular point, around which the bony tissue is absorbed, leaving a cell in which the soft matter is deposited. The absorption of bone goes on in this way increasing, until at length the disease makes its way to the surface; the external layer of bone gives way, and the fungous mass becomes exposed to view.

8. *Cancer of the Penis.*—Mr. Cusack exhibited the recently removed parts in a case of this disease in which he had operated, and remarked on the difficulty which sometimes attends the diagnosis between cancerous and venereal diseases of the penis. He knew of cases in which the penis had been removed, the surgeon mistaking venereal warts or vegetations for cancer.

9. *Cirrhosis of the Liver, with Chronic Gastritis, and Perforation of the Stomach.*—Dr. J. Crampton exhibited the recent viscera in this case. The liver was greatly enlarged, and pressed on all the adjacent viscera, depressing the kidney and pushing the diaphragm upwards. The right lung was much reduced in volume, solidified, and presenting a few scattered tubercles in the upper portion. The anterior

portion of the stomach presented a remarkable softening of the mucous membrane, and a perforation existed, but no escape of the contents of the stomach had taken place, from the base being closed by the surface of the liver, to which it was adherent.

10. *Caries of the Hip Joint in the Infant.*—Mr. Ferrall said, he was about to exhibit a specimen of caries of the hip joint in an infant only four months old. In this case the disease was of six weeks' standing, and had commenced in the form of a large fluctuating tumour over the hip. The limb was kept flexed on the pelvis, and the child seemed to feel great torture whenever it was moved; it was also remarkable, that the tumour became greatly distended during a fit of crying. About three days after Mr. Ferrall had seen the child, the mother brought it to him again, and shewed another large fluctuating tumour on the back of the neck. He then lost sight of the child for some time, and on making inquiry, found that it had died. The account given by the mother was, that it had enjoyed good health until it had been vaccinated, when it began to decline, and about a fortnight afterwards the tumour of the hip joint appeared. On opening the joint, it was found to consist of a large sac filled with thin, purulent matter. This sac projected through the hole into the pelvis, a fact which accounted for the enlargement of the tumour, during a fit of crying. The head of the femur was completely destroyed; there was nothing left of the orbicular ligament, and the carious end of the femur rested on the edge of the acetabulum. There was no disease of the spine, nor could any tubercles be discovered in the lungs. The tumour of the neck was also filled with pus, which had made its way as far as the anterior mediastinum. The most remarkable points connected with the history of this case, were the occurrence of the hip joint disease at such an early period of life, and the absence of tubercles of the lung, or any of the other phenomena of the scrofulous diathesis. Another curious point was, the impulse communicated to the tumour of the hip, when the child cried, and which was afterwards explained by the projection of the sac into the pelvis. Mr. Ferrall said, that it might be necessary to state, that in this case the true pustule did not form on the arm after vaccination; but instead of it a large boil, which suppurated unhealthily. This would seem to countenance the supposition, that some infection of the blood had occurred, that the matter of the vaccine sore was absorbed, and that this was the origin of the purulent deposits in the hip joint and neck. On the other hand, there were grounds for suspecting, that the formation of matter in the hip joint was merely a coincidence, and that disease might have been going on there for some time before vaccination. Mr. Ferrall said, he was inclined to think, that the affection of the hip joint was an original disease, and that it had no connexion with the results of vaccination. Some time after the occurrence of this case, another child was brought to Mr. Ferrall, with caries of the spine, unaccompanied by any trace of scrofula in the system, nor could any sign of the scrofulous diathesis be discovered in either of the child's parents, except that the mother had also laboured under a similar affection of the spine. (*Museum, St. Vincent's Hospital.*)

Twenty-second Meeting, May 4, 1839.

Professor HARRISON in the Chair.

1. *Compound depressed Fracture of the Cranium, Hernia Cerebri.*—Mr. Lynch exhibited the recent parts, and a drawing of the appearances in this case; the right parietal bone was fractured and depressed; the fracture traversed the sagittal suture, and extended into the orbit; the dura mater was in a state of slough, and covered with purulent matter. The cerebral substance corresponding to where the bone had been depressed, was softened, and mixed with coagulated blood.

The patient, a female, aged 30, was admitted into Jervis-street Hospital, February 26th, 1839, with a large wound of the scalp, and in a state of insensibility. Ten days after the receipt of the injury, she was seized with paralysis of the left arm and leg; a week after which she was trephined. The operation was followed by paroxysms of shivering, constant pain in the head, and occasional delirium, and after the lapse of six days a fungus sprung up from the opening; it consisted of cerebral matter mixed with blood; twenty-one days after the operation an elastic, puffy tumour of the scalp appeared on the other side of the mesial line, two inches from the fungus. The shiverings and delirium continued, and the pulse became feeble and rapid. She died on the 30th of April, sixty-three days from the date of her admission, and forty-six after the operation.

2. *Diffused Aneurism of the Subclavian Artery.*—Mr. Cusack exhibited a specimen of this disease: the lesser pectoral muscle was expanded over a large mass of coagulated blood, which filled the axilla, extended along the clavicle towards the sternum, and diffused itself among the muscles and cellular tissue of the arm and side; the artery was pushed forwards by it so as to render it impossible to pass a needle round it without entering the sac. The sac had burst into the axilla; the pericardium was found to adhere to the base of the heart, and the *arteria innominata* and left carotid presented numerous small aneurismal dilatations.

Seven weeks previous to death, the patient first complained of pain in the arm, and became sensible of the existence of a pulsating tumour in the axilla. When Mr. Cusack saw him, the pulse at the wrist was almost imperceptible; the aneurismal sac had given way, and he was suffering the most intense pain.

The usual operation for securing the subclavian artery in its third stage was attempted, but upon endeavouring to pass the needle round the vessel, the aneurismal tumour was penetrated; an alarming gush of blood took place, which was arrested by plugging the wound with sponge. The man survived the operation for ten days; his death was then occasioned by a fresh effusion of blood into the axilla.

3. *Diffuse Inflammation occurring after Delivery.*—Dr. Evory Kennedy exhibited the recent parts in this case. The interior of the uterus was highly vascular and covered with purulent matter, particularly about the cervix, and where the placenta had been at-

tached on the external surface, purulent deposits were seen in the uterine veins. The superficial veins of the thighs were filled with lymph, and small abscesses existed in the cellular tissue. The subject of the case was a woman, aged 32, who had been admitted into the Lying-in Hospital about ten days previous to her death; nothing remarkable occurred until the fourth day after delivery, when a patch of diffused inflammation was discovered on the posterior surface of the thigh. The patient stated that she had been labouring under this affection for a few days before admission. She died on the seventh day after delivery.

4. *Injury of the Head occurring during Labour.*—Dr. Kennedy also exhibited a preparation, shewing a remarkable depression of the parietal bones, produced during labour by a contracted state of the antero-posterior diameter of the pelvis. (*Museum, Lying-in Hospital.*)

5. *Atrophy of the Uterus.*—Dr. Kennedy also exhibited a remarkable specimen of the atrophy of the muscular structure of the uterus, the organ of which was quite disaphanous; it likewise contained a polypus of considerable size: the preparation was taken from the body of a woman aged 45, who had borne several children.

6. *Caries of the Bones of the Pelvis.*—Mr. Adams brought forward a specimen of caries of the ilium, accompanied with extensive abscesses in the neighbouring parts. Having made a few observations upon the treatment, Mr. Adams next drew attention to a remarkable conformation of the liver, found in the same subject, a female æt. 64. This organ was deeply indented by the margin of the ribs, the chest was narrow below and broad above, and the apex of the lungs was elevated above the clavicle; these alterations were owing to tight lacing. Mr. Adams also shewed a specimen of atrophy of the eyeballs extending to the nerve of the same side, and optic tract of the opposite side. (*Museum, Richmond Hospital.*)

7. *Fungus of the Bladder.*—Mr. Ferrall exhibited a preparation of a large fungus which filled the cavity of the bladder, and projected into the vagina through a large opening in the inferior fundus of the organ: the fungus had also completely blocked up the opening of the ureters; these tubes were dilated to five or six times their natural size, and the kidneys were pale and atrophied. The subject of the case was a woman, æt. 40, who had been admitted into St. Vincent's Hospital, for a supposed attack of uterine hæmorrhage; she suffered from pains in the loins and pelvis, had frequent desire to pass water, and the urine was turbid and tinged with blood: the pain in passing water was increased while expelling the last drops, and some time before death she was unable to void urine at all. The chief interest connected with the case was its resemblance in some symptoms to a case of calculus, and in others to uterine disease, and the explanation of both groups of symptoms afforded by the presence of the fungus in the bladder. (*Museum, St. Vincent's Hospital.*)

8. *Inflammation of the Uterus.*—Dr. Churchill exhibited a specimen of inflammation of the uterus, particularly marked towards the cervix of the organ; there were likewise distinct traces of phle-

bitis in the uterine veins; the disease was produced by the tedious and difficult passage of the child's head; the labour was attended with great suffering, and followed by alarming hæmorrhage.

Twenty-third Meeting, May 11, 1839.

Mr. FERRALL in the Chair.

1. *Ulceration of the Throat extending to the Lingual Artery; Death by Hæmorrhage.*—Dr. Duncan presented the recent parts in this case. The patient, a young man, had been under treatment at the Adelaide Hospital, for ulcerated sore throat, for some time, when he was suddenly attacked with hæmorrhage from the throat, which returned twice in the course of a fortnight. He had left the hospital, but was readmitted, and on the following day the bleeding returned with greater violence, and he was much exhausted. The ulceration was found to have attacked the right lingual artery, which presented a perforation capable of admitting a large sized probe. The os hyoides was found to be carious. Dr. Duncan alluded to cases of the same kind which occurred under the care of the late Dr. McDowell, in one of which the external carotid had been tied with perfect success.

2. *Softening of the Anterior Column of the Spinal Cord in its Cervical Portion.*—Dr. Power begged to draw the attention of the Society to a well marked and recent specimen of acute softening of the anterior column of the spinal cord. The patient, a woman, aged 50, was suddenly attacked with paralysis of motion in the upper and lower extremities. The bladder and rectum were unaffected; a slight power of motion remained in the limbs. There was no loss of sensation; no fever, headach, or disturbance of intellect. *Sensation in the paralyzed portions was perfect.* Soon afterwards she was attacked with dyspnœa, and her *breathing became diaphragmatic*: ultimately the diaphragm became paralyzed, and death took place with great dyspnœa. The spinal column was opened on the following day, and the cervical portion of the medulla spinalis was found softened to a great degree. (*Museum, Richmond Hospital.*)

3. *Secondary Fistulæ of the Pleura in Cases of Empyema and Pneumo-Thorax.*—Dr. Stokes exhibited a drawing illustrative of this pathological condition, which had, he believed, been first described by Dr. Houghton in his article on Pneumo-thorax, in the Cyclopædia of Practical Medicine. In the case then under consideration, the pleura presented the following appearances. The original fistula from within outwards, communicating with the cavity in the lung was evident. But in addition to this opening, were several others, which had formed from without inwards; these presented oval patches, shewing perforation of the serous membrane and subjacent structures, at the base of which were several circular openings, communicating with minute bronchial tubes, but not with any distinct tuberculous abscess. This condition seemed to require a very considerable duration of disease for its production; and Dr. Stokes was of opinion that these secondary fistulæ would account for some of

the peculiarities in the physical signs of chronic empyema and pneumothorax. (*Museum, Park-street.*)

4. *Fungous Disease of the Bladder, with Cancerous Ulceration of the Vagina.*—Mr. Ferrall laid on the table the preparations in this case. The patient had been admitted into St. Vincent's Hospital, labouring under the effects of repeated hæmorrhages from the vagina, which had produced all the usual phenomena of anemia. On examination Mr. Ferrall found that the ulceration was confined to the vagina; she frequently complained of pains in the region of the bladder, with frequent desire to pass urine. She died from exhaustion, and on dissection it was found that the vagina was the seat of external cancerous ulceration. The uterus was healthy, with the exception of the os tincæ, to which the ulceration had extended; continuous, however, with the cancerous mass, was a large fungoid or medullary tumour, which penetrated the roof of the vagina, and entered the bladder, forming in the cavity a large fungous mass.

Mr. Ferrall exhibited drawings of the case, and remarked that the disease simulated the corroding ulcer of the uterus and vagina, which is said to be distinguishable from cancer, from its being accompanied with a moveable state of the uterus. In this case, however, the uterus was quite moveable, although the ulceration was decidedly cancerous. With the view of shewing the difficulty of distinguishing fungus of the bladder under some circumstances, Mr. Ferrall begged leave to exhibit preparations and drawings of another case. A young woman was admitted into hospital with symptoms of chronic inflammation, or as it has been termed, catarrh of the bladder. After some time the urine became purulent, and on examination it was found that there was a tumour in the hypogastrium which gradually advanced towards the surface, with a tuberculated feel, some parts being hard and unyielding, others soft and elastic. The occurrence of this tumour, the presence of albumen in the urine, and the frequent desire to pass water, induced several persons to look upon it as fungoid disease of the bladder. Two circumstances, however, seemed to throw a doubt on this diagnosis. In the first place the urine was not permanently albuminous; sometimes the albumen was absent for three or four days together, sometimes it was present, and with it there was generally an admixture of pus. In the next place there was a feeling of fluctuation in the tumour, so evident, that Mr. Ferrall could not be persuaded but that there was matter underneath. An incision was made over it, and about twenty ounces of fetid pus were discharged. The patient subsequently fell into a state of great exhaustion, and died four months afterwards with symptoms of phthisis. On examination after death, a large abscess was found in the pelvis, extending in various directions, but not communicating with any of the viscera, except the bladder, into which it had formed a small opening. The intermitting occurrence of albuminous urine was explained by the fact, that from the small size and peculiar form of the opening, it was very liable to become occasionally obstructed, so as to interrupt the passage of the contents of the abscess into the bladder, and in this way to render the occurrence of albuminous urine an intermittent phenomenon. The

case was interesting, as shewing how an abscess in the pelvic region communicating with the bladder, may simulate fungoid disease of that organ. (*Museum, St. Vincent's Hospital.*)

5. *Medullary Tumour of the Pancreas, communicating with the Stomach; Death by repeated Hæmorrhages into the Digestive Tube.*—Dr. Corrigan said, the preparation he was about to exhibit was interesting as a contribution to abdominal pathology. He would first give a short history of the case, and then shew the preparation. A gentleman, who had been previously in good health, with the exception of some slight feeling of uneasiness in the abdomen, while walking along the streets, about a month since, felt suddenly weak and faint, with an inclination to discharge his bowels. He was brought home in a car, and on arriving there, passed a quantity of pure blood from his bowels. He recovered from this, and returned to his usual avocations; but after some time was again attacked with a sensation of faintness and a discharge of blood per anum. These discharges became gradually more frequent, and occurred at shorter intervals. About five days before his death he was visited by Dr. Corrigan, who found him quite pale and blanched, with a quick and weak pulse. But he had what Doctor Corrigan looked upon as a very unfavourable sign, namely, a persistent bruit de soufflet in the heart and larger arteries. The discharge from the bowels, when seen by Dr. Corrigan, was not the same as it had been at first, but rather resembled the evacuations seen in cases of melæna. Dr. Corrigan saw him for the last time, about three o'clock, P. M., on the day of his death. During his visit the patient observed, that he thought he felt the blood coming. He was advised to be extremely cautious, and keep himself perfectly quiet. He disobeyed this injunction, and attempted to sit up during the course of the afternoon. He had not been many minutes in the erect posture, when he leant back on his pillow and expired. Half an hour before his death he took some beef tea, with relish, and had taken it several times during the course of the day; in fact, the appetite was quite good, and there was no interruption whatever of the digestive function, nor was there any symptom of serious or organic disease of the stomach. Dr. Corrigan said that it would be necessary to state, that on one or two occasions, when this gentleman felt the weakness coming on he had some sickness of stomach, and threw up a few mouthfuls of blood. His case was regarded by some as one of melæna; but there was this difference, he had not suffered any previous illness, or derangement of the digestive system; and the evacuations, though bloody, and even dark, were not fetid. Again, neither the discharges, nor the calls to them, were preceded or accompanied by those colicky pains, so frequently observed in cases of melæna. Finally, the discharges came on each time with a sense of faintness, as if from internal hæmorrhage, and the blood, which was then passed, was pure, and unlike that observed in melæna. These circumstances appeared to be sufficient to distinguish the case. On opening the abdomen the intestines were found to contain a large quantity of blood, and the mucous membrane was deeply tinged with the colouring matter. The stomach appeared enormously distended, and filled the whole epigastrium. On slitting

it up, its cavity was found to be filled with a mould of the organ, consisting of a large mass of coagulated blood, which weighed more than two pounds. The interior of the stomach was healthy, except in the vicinity of the cardiac orifice, where a mass, apparently composed of coagulated fibrine, and distinct from the clot, already described, projected into its cavity. On tracing this further, it was found that a portion of the mucous membrane in this situation had been removed by the process of absorption, and that this projection corresponded with the surface of a large medullary tumour of the pancreas. From the surface of this, blood appeared to have been thrown out into a kind of cyst, formed by adhesions between the anterior surface of the pancreas and the posterior wall of the stomach, and became accumulated so as to press on the stomach, and produce absorption of its coats. In this way it was that the blood made its way into the stomach during each attack of hæmorrhage. The case was interesting, as affording a very remarkable specimen of a rare disease, and from the resemblance it bore to melæna. It was also a very singular fact, that the digestive function did not appear in any way impaired, and that the desire for food had continued up to the period of death. (*Museum, Digges-street.*)

6. *Caries of the Cervical Vertebrae*.—Mr. Smith begged leave to present two specimens of spinal disease, occurring under peculiar circumstances. The first case was that of a young man, remarkable for his bodily vigour. He was a fine healthy-looking soldier, of temperate habits. Some time ago he was attacked with fever, having been previously in perfect health; the fever was severe and protracted, and during its latter stages the cerebral symptoms were very prominent. After some weeks he became convalescent, but regained his strength very slowly, and began to perceive that he was gradually losing the power of his upper extremities, and that on two or three occasions he had some difficulty in passing water. In the course of about three weeks he became perfectly paralysed in both arms, and had paralysis of the bladder. It was remarkable, that from the commencement of his convalescence he had never complained of any symptom of spinal disease; his case went on in the usual way, and he died about a month after the first appearance of the paralysis in the arms. Mr. Smith made an examination of the body, assisted by Mr. O'Brien of the 7th Fusiliers. On opening the vertebral canal extensive marks of disease were found in the cervical region; the third and fourth cervical vertebrae were almost wholly destroyed, and the matter had made its way into the spinal canal, extending upwards as far as the base of the skull. It had also escaped in front of the spinal column, and had got into the posterior mediastinum. The pia mater was extremely vascular. On opening the chest both lungs were found to be filled with tubercles. The case was an extremely curious one in many respects. Previous to his illness this young man had been one of the healthiest men in the regiment, and never had any symptom whatever of pulmonary disease; in fact, with the exception of slight cough and dyspnoea, which were first observed three weeks before the fatal termination, he had no symptom of it up to the period of his death; and yet on dissection the lungs were found to be filled with

tubercles. He had no paralysis of the lower extremities. (*Museum, Richmond Hospital.*)

7. *Caries of the Dorsal Vertebrae*.—The second preparation exhibited by Mr. Smith, was also very remarkable; he had, in fact, never seen any thing like it. It was the case of a man, aged 21, who attributed his disease to an injury of the back, received while lifting a heavy sack of corn. He was admitted into hospital about eight months afterwards, for an attack of pleuritis. At the time of his admission he had some degree of tenderness and pain in the spine, and there was a projection of the vertebral column opposite to the seventh and eight dorsal vertebrae. He was treated successfully for the pleuritis, and left the hospital quite recovered. Eight months afterwards he was again admitted with symptoms of spinal disease. He was now labouring under confirmed hectic with cough, foetid breath, and copious purulent expectoration. He had a large tumour on the back lying between the base of the scapula and the spinous processes of the vertebrae, which had appeared suddenly ten days before admission. He stated that its extension was very rapid, and that it had attained its full size in two hours after its first appearance. Two days afterwards he had profuse purulent expectoration, and he observed, that immediately after this, the tumour of the back subsided in a very remarkable manner. Shortly afterwards an incision was made into the dorsal tumour, which gave exit to a large quantity of foetid pus mixed with air. It was also found that during the act of inspiration the tumour became enlarged, and bubbles of air escaped from its orifice; air also insinuated itself into the cellular tissue of the back, so as to render the parts about the abscess quite emphysematous. The patient then got paralysis of the bladder, and loss of motion and sensation in the lower extremities. He was then attacked with profuse diarrhoea and sloughing of the integuments over the sacrum, under which he sank rapidly. On examination after death, the bodies of the seventh and eighth dorsal vertebrae were found to be carious, the ulceration extending through the bone so as to lay open the spinal canal. An abscess was formed round the carious bones which communicated posteriorly with the abscess on the back, and anteriorly by a very circuitous route, with an abscess of the lungs which opened into the bronchial tubes. (*Museum, Richmond Hospital.*)

8. Dr. E. Kennedy wished to exhibit a very curious drawing, and regretted he could not shew the preparation from which it had been taken. The disease was one which might come under the denomination of phlebitic gangrene, and was almost unique, at least Dr. Kennedy had never seen any thing resembling it. It was characterized by extreme intensity and rapidity, death having occurred in about seventeen or eighteen hours from the commencement of the disease. The patient was attacked with symptoms of febrile excitement on the fifth day after confinement, and on the following day complained of acute pain in the calf of the leg, accompanied by some slight discoloration of the skin. The disease went on with extraordinary rapidity, the pain and discoloration ran up the limb, the pulse rose to 140, being at the same time weak and thready, and evident marks of prostration

began to appear. The disease extended up the limb, accompanied by discoloration and excruciating pain of the thigh; and in the course of seventeen or eighteen hours from the commencement of the disease the woman was dead. On examination the veins of the limb were found to be extensively inflamed and coated with lymph; and the muscles and cellular membrane of the calf in a state of disorganization, scarcely a trace remaining of the original appearance of the gastrocnemius and solæus. The uterine and iliac veins were also inflamed. Dr. Kennedy observed that the same state of parts was present in a case to which he had referred at a former meeting, and which had been illustrated by exhibiting the uterus of the patient. He thought that these cases were entitled to the denomination of phlebitic gangrene. (*Museum, Lying-in Hospital.*)

Twenty-fourth Meeting, May 18, 1839.

Dr. JOHN CRAMPTON in the Chair.

1. *Aneurism of the Abdominal Aorta; Infiltration of the cellular Membrane surrounding the Kidney with Blood.*—Dr. Green laid on the table the recently removed parts in this case. The patient had been for three years subject to attacks of pain in the epigastric region, which were occasionally so violent that he had to throw himself on his belly, and press his stomach strongly against the floor, for two or three hours at a time, in order to obtain relief; he never had spinal pains, cramps, or coldness of the feet; on admission into hospital a pulsating tumour was discovered in the epigastric region and extending to the left side. The pulsations as compared with those of the heart were very violent, the pulsations of the tumour were not accompanied by any bruit de soufflet.

The aneurism was of a moderate size, and presented an opening close to the coeliac axis, and it was remarkable that after death the tumefaction of the epigastrium had completely subsided, a fact which could not be explained by the amount of the effused blood, which was very small. Dr. Green considered that this indicated the existence of a contractile power in the sac itself; the sac had contracted adhesions with the ascending colon, the left kidney, and spleen; it was filled with concentric layers of fibrine, and was evidently of long standing. (*Museum, Richmond Hospital.*)

2. *Tuberculous Tumours of the Uterus.*—Dr. E. Kennedy laid on the table a preparation, with a drawing and cast, illustrative of this form of disease which has as yet not been properly distinguished. The patient, advanced in life, presented a tumour projecting beyond the orifice of the vagina, bearing some resemblance to polypus; but the fact of the mucous membrane of the vagina being discoverable over its whole surface, except in one spot, led Dr. Kennedy to doubt this opinion. It was then a question whether it might not be an inverted uterus; and a small orifice on the surface looked like the opening of a fallopian tube. The finger, however, could be passed up beyond the tumour. The patient, who had been labouring under peritonitis, on admission, died soon afterwards. The uterus was found displaced, and the round and broad

ligaments stretched considerably. The uterus was found to contain a number of tubercular growths extending upwards towards the brim of the pelvis, and downwards into the vagina, distending the mucous membrane of the uterus, and resembling at first sight polypous growths. One of the tumours sprung from the outer surface of the uterus, the others grew from the anterior of the organ. Dr. Kennedy observed that many cases which had been described as polypus of the uterus, were really examples of this disease. (*Museum, Lying-in Hospital.*)

3. *Great Enlargement of the Placenta.*—Dr. Kennedy next exhibited a placenta of extraordinary size. It was a single placenta; and the patient had not had twins. She had a contracted pelvis, and had been delivered by the crotchet at her first confinement; in the second she was delivered without instruments, but the edge of the placenta presented. The placenta occupied more than half the surface of the uterus, and was as large as that in a case of triplets which had been recently in hospital. (*Museum, Lying-in Hospital.*)

4. *Hypertrophy of the Liver in the Fœtus.*—*Hernia of the Lobe of Spigel at the Umbilicus.*—Dr. Kennedy also presented the recent parts in this case. The liver was of vast size, and exhibited tubercular excrescences. The membranes of the cord formed the sac of the hernia. (*Museum, Lying-in Hospital.*)

5. *Pleuritis terminating in Empyema.*—*Operation.*—Dr. Corrigan laid on the table a cast and preparations of the parts in two cases of empyema.

The patient had been admitted in January for an attack of acute pleuritis and placed under the care of his colleague, Dr. Hunt. The urgent symptoms were relieved, but his convalescence was slow and imperfect, and he left the hospital with symptoms of matter collecting in the left side of the chest, namely, absence of resonance and of the respiratory murmur, and dulness on percussion. In the month of March the symptoms of empyema became more decided; the heart was pulsating at the right side of the sternum, and there was moderate clearness on percussion over the upper part of the left side as far as the fourth rib, but below this the chest was perfectly dull. Combined with this dulness there was another symptom worthy of notice. While the side from the fourth rib downwards was quite dull on percussion from the point of union between the cartilaginous and bony portions of the ribs, between the latter and the sternum it was quite clear on percussion, and became absolutely tympanitic as percussion was made lower down. Towards the convexity of the ribs, the chest again became clear on percussion; so that passing from right to left there was first extreme clearness of sound from the sternum to a line drawn a little beyond the point of union of the bony and cartilaginous portions of the ribs, then dulness as far as the convexity of the ribs, and then clearness again. Another point which had been ascertained during life was, that the fluid was fixed in its situation, and could not move about freely in the chest. On making percussion in the erect posture, and then repeating the same operation after

the patient's hips had been elevated and his head and shoulders depressed, so as to reverse the perpendicular bearing of the chest, it was found that the line of dulness did not vary. On examination after death the lung was found to be compressed, but still in some degree permeable. Above, it had contracted adhesions to the costal pleura; these extended also along the convexity of the lung, which was attached to the ribs and diaphragm in the situation where the clear sound was perceptible below the axillary region. The occurrence of the tympanitic sound, over that portion extending in a line from the mamma to the sternum, was also explained. This phenomenon had been produced by the presence of the stomach in that situation, and a tympanitic state of that organ. Dr. Corrigan had taken a cast of the chest and abdomen with the parts *in situ*, from which it appeared that the larger curvature of the stomach had pressed the diaphragm upwards, and encroached so considerably on the cavity of the chest, as to be on a level with the left mamma. This tympanitic state of the stomach occurs occasionally in chronic cases, and tends to throw some degree of doubt on the results of an exploration of the chest; but in this case there was another cause in operation. The heart, which lay in the right side of the chest, during the latter stages of the disease, after the operation, moved a little towards its natural situation, and approached the left side as the matter was discharged; but from the extreme firmness and density of the sac, as well as the unyielding nature of the mediastinum, it could not regain its normal position in the chest. The consequence of this was, that as the lung was not able to move down to fill up the vacant space, the abdominal organs were pushed upwards, and the stomach ascended as high as the left mamma, giving rise to the remarkable clearness of sound already described. There was another point in the case deserving of notice. The man had all the constitutional symptoms of empyema; and in addition to these, symptoms of phthisis were discovered. He had emaciation, night sweats, hectic, with dulness on percussion over the right side, and gargouillement. The man in fact had all the signs and symptoms of phthisis with the exception of cavernous respiration. The case would at first sight appear to be one extremely unfavourable for operation; but the absence of cavernous respiration determined Dr. Corrigan to have recourse to paracentesis; and he was justified in this opinion by the results of the *post mortem* examination. There was no trace of tubercular deposition in the lung, and the purulent liquor which filled the bronchial tubes was merely a secretion from the mucous membrane. Another point to which Dr. Corrigan wished to refer, was the size of the opening. This was purposely made small to allow the matter to trickle out slowly. In this way the chance of irritation from the entrance of air was obviated, as well as the occurrence of another kind of accident, which had happened in a case witnessed by Dr. Corrigan, and from which he wished to warn all future operators. The preparation before him, which represented the lung in a carnified state, and surrounded by a mass of coagu-

lated lymph, was taken from the body of a man who had died shortly after the operation had been performed; in this case a large opening had been made, and the matter evacuated at once. Two or three hours afterwards, the patient became anxious, tossed about restlessly in bed, and said his chest was filling again. He then became quite faint, exhibited all the symptoms of a person sinking from hæmorrhage, and died in the course of a few minutes. On opening the chest the affected side was found to be quite free from purulent matter, but the whole cavity of the pleura was filled with blood, partly coagulated, partly fluid. When all the matter had been drawn off, and the opening closed, the case might have gone on very well if the lung had been able to expand and fill the cavity; but being incapable of doing this, in consequence of its carnified state, and the adhesions it had contracted, a vacuum was formed in the chest which acted on the lung in the manner of a cupping-glass, and caused the vessels of the lung and pleura to pour out blood until the man died of hæmorrhage. It might be supposed that some vessel of importance had been wounded in performing the operation, but this was not the fact, the hæmorrhage had been produced by the cavity of the sac acting on the lung like a cupping-glass. In the case before the Society, Dr. Corrigan had caused a small opening to be made; this allowed the matter to trickle away slowly, and obviated any risk of hæmorrhage. (*Museum, Digges-street.*)

6. *Aneurism of the Aorta with Bruit de Soufflet; Aneurism of the Aorta without Bruit de Soufflet.*—Dr. Corrigan said that he exhibited these specimens together, because they agreed in their pathological characters with one single but most important exception. Both were examples of aneurisms of the ascending aorta; one of them had been taken from the body of a woman named Hamilton, the other from the body of a man named Dunn. They agreed in their size, situation, pathology, and even in their diagnostic signs, with this exception, that in the case of Dunn the *bruit de soufflet* was never absent, while in that of Hamilton it was never present. In the case of Dunn the aneurism involved the mouth of the aorta; in the case of Hamilton it did not, there being a portion of the vessel, about an inch and a half from its mouth, perfectly free from disease. In Dunn's case too the heart was very large; in Hamilton's it was below the natural size. In Hamilton's case the valves and the commencement of the aorta being sound, and the action of the heart weak, there was no vibratory motion communicated to the parietes to give rise to *bruit de soufflet*; but in Dunn's case there was a flaccid state of the heart, with disease of the aortic valves. Dr. Corrigan thought that, as a general rule, *bruit de soufflet* would be found in all cases where the aortic valves were diseased, and that it would be absent where they were sound. (*Museum, Digges-street.*)

7. *Inflammation of the Knee Joint.*—Mr. Adams presented a specimen illustrating the effects of inflammatory action on the structures of the knee joint. The subject was a young man from the country, aged 19, who had neglected the disease until it was beyond

the reach of surgical skill. He had been a patient at the Richmond Hospital for the last three months. Some time after his admission it became evident that suppuration had taken place to a very great extent, and Mr. Adams proposed amputation, but he would not submit: but was anxious to have the abscesses opened; and this was done with temporary relief: but about six days afterwards violent inflammation came on, and assumed so threatening a character that the man was obliged to submit to amputation. On opening the joint the ravages of disease were very striking—pieces of loose cartilage, shreds of lymph, and false membrane, fistulous openings communicating with abscesses on the outside of the joint, and extensive stripping of the bones, which were covered with a kind of pulaceous lymph, were observed. Mr. Adams said that it was one of those cases in which, according to Sir B. Brodie, the disease originated in the cartilage; and there was at first scarcely any pain, but when the cartilage begins to ulcerate, the patient's agony is very great even on the slightest motion. The results of the case also tended to increase his fear of opening abscesses in the vicinity of diseased joints.

8. *Atrophy of the Neck of the Thigh Bone.*—Mr. Adams said, that much as the subject had been investigated, he thought the structure of the neck of the thigh bone had escaped observation. Very few seem to understand it properly; and no one has made a vertical section of the bone for the purpose of showing the importance of the bony arch between the head and shaft, and the strength which it confers on the bone in this situation. Mr. Adams had made this section in the young and healthy bone, and also in the old and altered bone, with the view of showing the great difference in the structure and appearance of the bony arch. Mr. Adams thought that it was the absorption of this arch which gave rise to the great liability to fracture of the neck of the thigh bone from trifling causes in persons advanced in life. He was aware that this had been denied, but whoever would examine preparations of impacted fracture, would find this structure greatly diminished. In these cases the bony arch is greatly reduced in thickness and strength. Mr. Adams exhibited specimens in illustration of this. A few days previously, a woman died in the House of Industry who had been bed-ridden for fifteen years; and Mr. Adams was anxious to examine the joint, thinking it would be a good opportunity of ascertaining whether this bony arch became atrophied from want of use. A section of the bone was exhibited to the meeting, which showed very considerable absorption of the arch. The interior of the bone was filled with yellow matter, and the compact tissue of the arch nearly gone. Another point connected with this case was, that in this woman the neck of the thigh bone, instead of being horizontal as in other cases, was raised upwards, and was not so horizontal as it would have been in a person who had used the limb in walking. Persons of high standing in the Profession had asserted, that the absorption of the arch had nothing to do with

fracture of the neck of the thigh bone; and it was this that had led Mr. Adams to make these observations. (*Museum, Richmond Hospital.*)

Twenty-fifth Meeting, May 25, 1839.

Professor GRAVES in the Chair.

1. *Dislocation of the Femur upon the Pubis.*—Mr. Smith exhibited a cast of a luxation of the head of the femur forwards and inwards upon the horizontal ramus of the pubis; the head of the bone formed a distinct prominence close to Poupert's ligament; the cervix rested upon the brim of the pubis; the femoral artery ran tortuously in front of the head of the bone, and the veins of the leg were varicose; the muscles of the glutæal region were atrophied. The injury had been inflicted sixteen years ago; its nature was recognized at the time, but the efforts to reduce the luxation proved fruitless. The limb was one inch shorter than the other; the individual could neither flex nor abduct it, and extension was very limited. The joint was now occasionally painful, and affected by changes in the weather. (*Museum, Richmond Hospital.*)

2. *Chronic Disease of the Bladder.*—Mr. Ferrall exhibited a drawing of the recent appearances in this case. The bladder was thickened in a remarkable manner; all its tissues were hypertrophied, and its cavity much smaller than natural; the uterus was also thickened, but without any appearance of cancerous deposit; the os tincæ was studded with a number of vesicular eminences, similar to those described by Dr. Montgomery; the walls of the rectum were similarly affected. The patient, a female, æt. 60, had been admitted into St. Vincent's Hospital, labouring under disease of the heart and anasarca. She had also constant desire to void urine, tenesmus, difficulty in passing fæces, and laboured under symptoms of uterine irritation. (*Museum, St. Vincent's Hospital.*)

3. *Tubercular Ulceration of the Bladder.*—Mr. Ferrall also laid before the Society a remarkable specimen of ulceration of the bladder. The ulceration had attacked almost the whole of the mucous membrane of the organ, and extended for some distance into the urethra. There was a large abscess between the rectum and bladder, but it had not formed a communication with either of these cavities. The kidneys presented the usual marks of tubercular disease; and the cortical substance appeared to be altogether destroyed. The patient was a boy aged fourteen, who was admitted at St. Vincent's Hospital, labouring under an extreme degree of urinary irritation, so as to be obliged to pass water every half hour. He had also the usual symptoms of phthisis, as cough, night sweats, emaciation, and purulent expectoration. In addition to pain in the bladder, sometimes of a very acute character, and constant desire to pass water, the prepuce was elongated; he passed occasionally a quantity of blood, and stated, that sometimes the stream of urine became suddenly stopped, and that the expulsion of the last drops was accompanied by an increase of pain. His symptoms, in fact, were so like those of

stone in the bladder, that Mr. Ferrall sounded him, and had him subsequently sounded by Mr. Wilmot, but without discovering any foreign body in the bladder. Mr. Ferrall being anxious to test the accuracy of the lad's statements, questioned him very closely, and discovered that he had made false representations as to the nature of his symptoms. He found, that although he suffered extreme pain in passing water, the pains ceased when the last drops were expelled. With respect to the other symptom, namely, that the stream of water would sometimes stop suddenly, he found that it was a mere voluntary effort, and not the effect of spasm or obstruction. The urine, which was at first acid, became afterwards alkaline and purulent, and then began to exhibit distinct traces of albumen. Incontinence of urine now came on, and it was necessary to place a vessel in the patient's bed, to receive the water, which flowed off at all hours of the day and night. A short time before death the patient was attacked with profuse diarrhoea, which lasted about a week; during its prevalence a remarkable change took place in the symptoms connected with the bladder. While the purging continued the symptoms of urinary irritation disappeared in a great measure; the pain and desire to pass water, as well as the purulent and bloody discharges, were greatly diminished; but when the diarrhoea was checked, all the symptoms connected with the bladder returned with increased intensity.

Mr. Ferrall observed, that the points most deserving of attention, as connected with the case, were the strong resemblance which the symptoms bore in the first instance to stone in the bladder, then the concurrence of albumen with pus in the urine; and lastly, the alternation of the symptoms of urinary disease with diarrhoea. The extension of the tubercular ulceration into the urethra was also remarkable; and Mr. Ferrall observed, that he did not know any case of the kind on record. (*Museum, St. Vincent's Hospital.*)

4. *Malformation of the Heart.*—Dr. Law exhibited the heart of a boy æt. four, shewing an open foramen ovale, the only openings into the left auricle were that of the foramen ovale and the openings of the pulmonary veins; it did not communicate with the left ventricle; the ventricular septum was deficient above, so that the aorta and pulmonary artery conducted into a common ventricle. During life the child was constantly blue, and extremely sensible to cold; he laboured under frequent attacks of dyspnoea, with violent action of the heart and pulsation in the jugular veins: he died with symptoms of cerebral congestion.

5. *Tubercle of the Testis.*—Mr. Cusack said, that for some time back he had been making observations on a certain form of disease of the testicle, with which, perhaps, many of the members were familiar. It was formerly looked upon as one of the forms or stages of the venereal disease, and may be regarded as a remote effect of the disease, or of the abuse of mercury. It consists in an enlargement of the testicle, more or less chronic in its nature, and sometimes accompanied by an effusion of fluid into the tunica vaginalis. It is most commonly observed in persons who have had affections of the bones, ozæna, and sloughing ulcers of the throat; but Mr. Cusack has frequently met

with it in persons who have merely had primary symptoms for which mercury had been employed, and who presented no traces of disease, except an enlargement of the testicle, with an effusion of fluid into the tunica vaginalis. The specimen exhibited by Mr. Cusack was taken from the body of a person, who died of tubercular disease. Mr. Cusack, however, was not led to conclude from this, that the state of disease, which the testicle exhibited, was to be attributable to the affection of which the patient died, namely, the general development of tubercle in the substance of the lungs. The reason assigned by Mr. Cusack was this: on examining the testicles, one of them presented the ordinary healthy appearance; the tubuli seminiferi were quite distinct, and there was no filling up of the tissue between them. The other testicle appeared to be divided into two portions; the upper presented the appearance of a uniform structure, and seemed to be, as it were, separated from the lower, in which the tubuli were still distinct. On further examination, a small tubercle was found in the more healthy part, and the question was, whether the development of tubercle in this situation, was referrible to the general disease, or to some previous disease, through which the testicle had passed. Mr. Cusack was inclined to adopt the latter opinion. In the first place there was adhesion between the two serous surfaces of the tunica vaginalis, and this was a proof of the existence of inflammation. In most of the cases which had come under Mr. Cusack's notice, these adhesions existed, and were the result of previous inflammation of the testicle, extending to the sac. From this, Mr. Cusack was led to think, that the presence of tubercle in the testis, was to be referred not to any tubercular affection of the system, but to the disease through which the testicle had previously passed. In the next place, the whitish appearance of the testicle, when a section was made through it, was the remains of that peculiar condition, which the organ assumes after acute inflammation. There is an almost complete obliteration of the tubuli seminiferi; the effused lymph consolidates the whole into one mass, and then nature endeavours to restore the natural state of the parts afterwards. Mr. Cusack said he would also submit for inspection a testicle, taken from the body of a person, who had not exhibited any symptom of venereal, or of tubercular disease, for he had examined his body carefully. In this instance the testicle presented the same appearance as in the former instance. Mr. Cusack exhibited another testicle which had been removed from the body of a patient, who died with tubercular disease of the lung. It was the only specimen of the kind he was in possession of, but he had twenty-five or thirty of the other description, in which the disease of the testicle did not coexist with a scrofulous taint in the constitution. The last specimen exhibited by him was one taken from a person who had passed through all the stages of a confirmed lues, and had died quite worn out. He had, in addition to loss of the bones of the nose and caries of the tibia, disease of the larynx and epiglottis, and furnished a remarkable specimen of what has been termed, syphilitic cachexy. Mr. Cusack concluded by observing, that he was inclined to look upon the affection of the

testicle of which he had exhibited specimens, not as common scrofulous tubercle, but referrible to the previous state of inflammation, through which the organ itself has passed. (*Museum, Park-street.*)

6. *Cavity on the Surface of the Lungs.*—Dr. Stokes exhibited a preparation of a large tubercular excavation close to the surface of the lung; its parietes were remarkably thin; it was covered in front merely by the pleura. The patient, from whom the preparation was taken, was admitted into the Meath Hospital, labouring under phthisis, in a very advanced stage: he presented the usual signs of a cavity in the upper part of the right lung. In addition to these, there was a morbidly clear resonance of the anterior parts of the chest, from the third rib downwards, and whenever the patient inspired, there was a remarkable falling in of the third intercostal space, but on expiration it flapped out, and thus the motions of the intercostal space followed the inspiration and expiration. Dr. Stokes remarked, that this sign, as far as one case went, indicated the existence of a cavity of large size, with thin parietes, and lying close to the surface of the lung.

Dr. Stokes observed, that the specimen before him was one of very great interest, as illustrating the phenomena of pneumothorax. Among the various instances of pneumo-thorax from fistula of the lung, two sets of cases may be observed. In one class the side becomes greatly distended with air, and returns a very clear sound on percussion. In the other class, although there is some air in the cavity of the pleura, there is no tension of the side, nor is there the morbidly clear sound on percussion observed in the former class of cases. Dr. Stokes said, that on a former occasion he had stated that this phenomenon depended on the nature of the opening in the lung. There are, in fact, two distinct kinds of openings; in one class the opening is direct and permanently patent, the air can pass in and out of the cavity of the pleura, and there is consequently no accumulation or increased pressure. In the other the opening is valvular, and the transit of air much more difficult. It can enter the cavity of the pleura only when the chest is greatly expanded, and from the nature of the opening it can scarcely get exit, so that during the act of expiration the chest is kept at its maximum of tension. This is of importance, not merely as a diagnostic sign, but also with reference to prognosis; for Dr. Stokes had found that cases with valvular opening were always very rapid in their course, and terminated fatally in a short time, while in cases with a direct opening, the progress of the disease was slow, and the patient lived a long time. Dr. Stokes knew one gentleman who had lived eighteen months after the phenomena of pneumo-thorax had appeared, and even enjoyed tolerably good health, except towards the latter stage of the disease. The reason of this is, that when the patient recovers from the shock given to the system by the occurrence of pneumothorax and fistula of the lung, if the opening be direct, the air can pass in and out of the cavity of the pleura with facility, there is no increased pressure on the lung, and the patient can breathe with comparative ease. Again, in many instances where there is tubercular

deposition going on in the lung, the occurrence of a new disease seems to suspend for some time the development of tubercle. But in cases where the opening is valvular, the patient's distress is greatly increased by the tension of the chest; the air not being able to find exit, distends the chest, and presses upon the lung, while at the same time the quantity of liquid effusion in the cavity of the pleura increases, and adds to the patient's sufferings. The mediastinum is compressed, the liver pushed downwards, the heart dislocated, and the patient ultimately dies of asphyxia. In the case Dr. Stokes detailed, the patient came into hospital with symptoms of laryngeal phthisis, and with the usual signs of tubercle in the upper part of the right lung. He continued in this state for some time without any remarkable change, until one night when he was suddenly seized with difficulty of breathing, and died in four days afterwards, the phenomena of pneumo-thorax being constant from the occurrence of dyspnoea up to the period of death. In this case the tension of the chest was extreme, and the patient's sufferings very great, although the amount of liquid effusion was but small. On examination after death, the opening in the lung was found to be valvular. A fold of membrane lay over the opening so as to form a complete valve, and close it in such a manner that air once effused into the cavity of the pleura could never escape. Dr. Stokes observed, that it would be easy to conceive, that when this valve closed the opening into the lung during expiration, while it permitted fresh portions to enter during inspiration, there must be a very tense state of that side of the chest, and that the pressure on the parietes of the chest and lung must be increased by that of the liquid effusion. Hence it occurred, that on puncturing the chest after death, the air rushed out with considerable force, while in cases of direct opening no such occurrence takes place.

7. *Intra Capsular Fracture of the Neck of the Femur, united by Bone.*—Mr. Adams exhibited a preparation of the head and neck of the femur, shewing a transverse intra-capsular fracture; the head of the bone was closely approximated to the posterior intertrochanteric line, while anteriorly, a well marked ridge of bony fragments constituting the upper extremity of the lower fragment of the cervix, shewed the seat of the displacement and of the union of the fragments; a section of the bone had been made, and one portion subjected to maceration and boiling, but without affecting the bony union; the head and shaft appeared to be mutually impacted into each other: by far the greater portion of the cervix was absorbed, the line of union was serrated and immoveable, and the cells of the head and substance of the shaft communicated freely in all places, except where the thin line of compact tissue here and there pointed out the seat of the welding together of the remaining portions of the head and neck of the femur. The patient was æt. 70: on the 1st of August, 1837, while walking across his ward, he fell on his right side, and was unable to rise; upon being carried to his bed, the limb was found everted, and half an inch shorter than the other; it was placed and preserved in a semiflexed position on pillows: five weeks after the accident he was able to put the heel of the

injured limb to the ground. Upon the 30th September he was visited by Mr. Smith, who, from the history and symptoms, gave his opinion, that the case was one of fracture of the neck of the femur, with impaction of the superior fragment into the cancellated tissue of the bone. The man survived the accident one year and nearly ten months; he spent the greater part of that time in bed, but was able, though unwilling, to walk; he died of bronchitis, May 25th, 1839. (*Museum, Richmond Hospital.*)

8. *Œdema of the Larynx.*—Mr. Adams also exhibited a specimen of œdema of the larynx, taken from the body of a man, who for twelve months previous to his death had suffered from œdema of the lower extremities; about a week since, the scrotum and penis became œdematous, the eyelids began to swell, and he got symptoms of effusion into the chest. The day before his death, he was attacked with swelling of his neck, which became quite cylindrical, and respiration was greatly impeded. On the following morning, while endeavouring to swallow his breakfast, he fell back suddenly and expired. The cause of sudden death was found to be seated in the larynx, the submucous tissue about the glottis was distended with a yellowish serous effusion. It afforded a good specimen of the serous effusion of Bayle. (*Museum, Richmond Hospital.*)

MEDICAL INTELLIGENCE.

Comparative View of the State of Pharmacy in Norway and the United States.—The materials from whence we have derived the facts stated in the following article, are chiefly, a Report on the Organization of Pharmacy in Norway, by M. Ch. Martin, D. M., addressed to the Minister of Public Instruction in France; and a paper published in the American Journal of Pharmacy, by Mr. W. Fisher, on the State of Pharmacy in the United States. These documents are principally interesting, in so far as they exhibit the working of two diametrically opposed systems of legislation; they are deserving of profound deliberation; but to derive from them their possible value, it is necessary to contemplate, in relation to them, the respective habits, prejudices, and institutions of both nations.

Every thing in regard to pharmacy in Norway is regulated by authority: the practice of medicine and that of pharmacy are completely separated in the large towns; but in the smaller villages, a class of general practitioners is permitted. However, to enable the pharmaciens to exist, by the sole practice of their art, no unlicensed person is permitted to vend medicines, under a penalty, for the first offence, of from a month to six weeks' imprisonment, and to pay the expenses of the process.

Notwithstanding, it was found necessary, according to the Report, "to avoid the consequences, equally fatal to the pharmacien, of finding it impossible to live honourably by the exercise of his

profession, and to the invalid of not being able to rely on the good qualities of the medicines furnished to him; the numbers of shops is limited in Norway, as it is in Denmark."

The principle is established, that there shall be but one pharmacy to 10,000 soul. There are consequently but thirty-five pharmacies in the kingdom; there are eight in the cities of Christiana, Drontheim, Bergen, and Christiansand; and the remainder in the small cities and villages. The privilege of a pharmacy, once accorded by the State, cannot be taken away on any pretext; it becomes the property of the incumbent. However, if he is proved guilty of fraud, of vending sophisticated drugs, or shews himself to be unworthy to exercise his profession, the privilege can be taken from him, by the judgment of a competent tribunal; but it is not therefore destroyed; it must be immediately afforded to some other pharmacien, who is found to reunite all the conditions of capacity required by the laws. Except in these rare exceptional cases, the incumbent transmits his privilege to one of his pupils, his son, or a stranger.

The value of a pharmacy is very great; it varies from 50,000 to 100,000 francs. If the incumbent has a son whom he destines to succeed him, he has the right, in case of death, to cause the pharmacy to be conducted provisionally by a proper person, who returns the establishment to the son, when the latter has acquired the necessary qualifications.

These privileges, according to the reporter, would give rise to intolerable abuses, if it was lawful for pharmaciens themselves to fix the price of their medicines; but it is sought by the establishment of a tariff to obtain the advantages which may result from this arrangement, avoiding its inconveniences. This tariff follows the oscillation of the price of drugs, and accords to pharmaciens a benefit of 128 $\frac{1}{2}$ per cent. The ordonnance which fixed this profit owes its origin to the epoch at which Norway again became united to Denmark.

To carry this tariff into execution, the different substances contained in a pharmacy have been divided into *simple drugs*, and *compound medicines*. The *simple drugs* have been divided into three categories.

1st. Exotic drugs, which are be found in the country, in sufficient quantities.

2nd. Products indigenous to Norway.

3rd. Exotic drugs, or substances which it is necessary specially to procure from Hamburg, London, or Amsterdam.

The tariff of the first category is fixed by the price current at Christiana, there being added to this first cost 128 $\frac{1}{2}$ per cent.;—thus what is bought for seven francs, is sold for sixteen francs.

The second category comprehends indigenous herbs, roots, and barks. The value at the time of collection is taken as the standard; and allowance is then made for loss during desiccation. Thus if a pound of fresh herbs cost four skellings, (a skelling is equivalent to a halfpenny,) and that in drying, five pounds were

The calculation of the price of compounding an ordinary prescription becomes, of course, much more complicated.

Aromatic Vinegar.	Quantities used.	Price per Ounce.	Price of Quantity used.
Sliced wormwood, .	0,023 oz.	2 skellings,	0,046 skellings.
Sweet scented grass,	0,023 „	2,5 „	0,058 „
Sage,	0,023 „	6 „	0,078 „
Peppermint,	0,023 „	6,5 „	0,090 „
Cinnamon,	0,006 „	8 „	0,048 „
Cloves,	0,003 „	10 „	0,030 „
Nutmegs,	0,003 „	40 „	0,120 „
Vinegar,	1,104 „	1,5 „	1,656 „
			2,126
For digesting, .			1,104
Price of an ounce of Aromatic Vinegar, . .			3,230 skellings.

The appearance of homœopathic medicine, by remarkably diminishing, during some years, the quantity of medicines required from pharmaciens, made it necessary to modify these regulations ; and accordingly, on the 13th. of September, 1830, there was added a further profit of $16\frac{2}{3}$ per cent. ; and thus, a medicine bought for 100 in Hamburgh, was sold in Norway for 355.

“Notwithstanding,” says the reporter, “the benefits which accrue, both to the public and the profession, from these regulations, they give rise, it must be acknowledged, to some grave abuses.” Smuggling, it appears, is very common, as well as the secret vending of medicines. The pharmaciens, too, are discontented, and prefer the Prussian tariff, which affords a high profit on cheap and common substances, but a small one on expensive drugs !” Further on, M. Martin states, “Without doubt, some abuses exist here, as well as elsewhere, but they are at a minimum, in comparison with those we see every day practised in France.”

The pharmaciens in Norway possess certain privileges, beside those already mentioned : they have the sole right of furnishing (with 20 per cent. abatement) medicines to the general practitioners of villages ; they also furnish the hospitals and dispensaries, at the tariff prices, without any abatement. When there are two pharmaciens in a city, each alternately furnishes medicines to the medical charities, during the year.

The pharmacies are regularly inspected ; the incumbent is subject to heavy fines for having inert or adulterated medicines, also for giving medicines without a physician's order. The fines are 500 francs for the first offence, and 1000 francs for the second : he is also prohibited from having secret medicines.

The regulations with respect to pharmaceutical education are admitted by the reporter to be very indifferent. A boy from school, without any initiatory examination, is permitted to enter a shop; after an undefined period, he is allowed to execute prescriptions, under the surveillance of an assistant; after a time, equally uncertain, he obtains what is called a "scherbrief" from the pharmacien, and, furnished with this, he undergoes an examination before the physician of the district, who gives him a certificate, declaring him capable of performing the functions of an assistant in a pharmacy. Afterwards, whenever he thinks fit, or has a prospect of obtaining a pharmacy, he goes to Christiana, and undergoes an examination before a jury. This latter appears to be a very proper examination, being partly written, partly verbal, and partly practical.—So much for pharmacy in Norway.

Our readers will now please turn their attention to the other side of the picture,—the state of pharmacy in the United States. Instead of laws without number, and interminable tariffs, there is only one law in Carolina and Georgia, and a parallel one in New York, controlling the practice of pharmacy. The first requires any person about to open a pharmacy, to undergo an examination before a council of censors, but the said council having never been appointed, the law is inoperative. The second, passed in 1832, and which came into force on the 1st of January, 1835, is to the effect, that no one is to open a pharmacy in the State of New York who has not obtained a diploma from some legally qualified college, or school of medicine. There is another provision, that any apothecary vending arsenic, prussic acid, &c., is to write thereon "Poison," in legible characters. Throughout the other States of the Union, the regulation of this Profession is left to the emulation of its members, and to the influence of public opinion, which in that country rules every thing. What are the results?

Every where through the States, the physician is ceasing to dispense his own medicines. In the country parts, the re-union of different branches of practice still continues, but in cities it is abandoned, and the division of labour is becoming more and more firmly established. The pharmacies, also, which were formerly confounded with general drug and commercial marts, are rapidly assuming a purer character; pharmacy, properly so called, is now separated from the sale of drugs. The promiscuous sale of colours, dyes, drugs, and the compounding of medicines, are now considered incompatible with the order, propriety, and safety, which is known to be necessary in these establishments for fixing public confidence, and acquiring reputation. These happy reforms have been produced solely by the voluntary and praiseworthy efforts of apothecaries themselves, jealous of ameliorating their condition, and of elevating their occupation in the public esteem to the rank of a liberal Profession.

Moreover, colleges of pharmacy have been established at Philadelphia, and New York, chairs of chemistry, materia medica, and botany, have been created. The College of Philadelphia possesses a complete chemical apparatus; a cabinet of specimens of materia

medica ; an excellent library of choice works on pharmacy, and the accessory sciences. It was instituted in 1820 by a voluntary association of the apothecaries of the city. The candidates for its license must have served an apprenticeship of four years, and obtain a certificate for moral character, assiduity, and intelligence. They must undergo an examination, write and defend a thesis, and produce evidence of having attended, at least, two courses of lectures on each of the subjects already mentioned. Their theses are in general, it is said, "honourable productions," shewing an intimate acquaintance with that most delicate and minute branch of chemical science—analysis. Now, when it is taken into consideration that the *forty* yearly candidates for this difficultly obtained diploma can have no other end in view, inasmuch as they need not absolutely acquire it, but the noble ambition of possessing a testimony of their talents and information, we must conclude with Mr. Fisher, that the United States will soon possess a corps of distinguished pharmaciens, animated by an honourable emulation.

The College of Philadelphia possesses a spacious and elegant building, where the members hold their meetings, and an amphitheatre for lectures. But we must not forget the "American Journal of Pharmacy," first instituted in 1829, under the name of the "Journal of the College of Pharmacy of Philadelphia." This Journal, whose eminence may be estimated from the fact of its being regularly exchanged for the French and German Journals, published on the same subjects, is under the direction of the College of Pharmacy of Philadelphia, but has impressed on it a national character by the appointment of corresponding collaborators, in the principal cities. It contains many excellent memoirs, which have been reprinted and translated in foreign lands.

This article would be incomplete, if we did not exhibit the *facility* !, with which restrictive laws can be put in force. We are fortunately enabled to do this, to a certain extent, by adding the following analysis of a communication made to the Society of Pharmacy in Paris, in the year 1837, by a committee appointed for the prosecution of delinquents.

It appears, that in the year 1832, thirty Parisian pharmaciens united for the purpose of prosecuting unlicensed drug-sellers. They obtained decrees at the Court Royal of Paris, and the Court Royal of Rouen, and these decrees were confirmed by the Chambers. However, violations of the law still continued ; and to use the words of the Report, "unfortunately since this period, and too frequently, they have been obliged to enforce against a great number the highest penalty, (imprisonment;) and now this penalty has ceased to be efficacious, and the tribunals, by the feebleness of the laws !!! are become powerless." The Report proceeds to state, that seventy-nine Parisian pharmaciens now form the association, (verily, the grievance must be a sore one,) sixteen delinquents were prosecuted, and twelve were condemned in January, 1837, and four in the February following, to imprisonment and heavy fines, varying from four thousand francs to twenty-five francs.

JOHN ALDRIDGE.