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OF

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EDITED BY

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CANADA

MEDICAL JOURNAL.

VOL. I.

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ORIGINAL COMMUNICATIONS.

ART. XXVIII.—*Successful Removal of a Parotid Tumour.* By ROBERT L. MACDONNELL, M.D., Surgeon to St. Patrick's Hospital, Lecturer on Surgery, St. Lawrence School of Medicine, &c., &c.,

ABOUT the middle of June, 1851, my friend, Dr. Mount, requested me to examine a young man from the country. The patient's face and head were concealed from view, by a large piece of linen, which, on being removed, disclosed a frightful phagedenic looking ulcer, which had almost completely removed the left cheek, exposing the teeth of the upper and lower jaws, the side of the tongue, &c. From this ulcer exuded a foul fetid discharge, mixed with saliva and particles of half masticated food.

The edges of the ulcer were irregular and sloughy, but not indurated, and the parotid gland appeared to be implicated in the disease, for it was enlarged and prominent, and advanced down for nearly an inch below the level of the angle of the lower jaw. At this examination, the patient being in the street near my own house, I concluded that the ulceration had been caused by malignant disease, and advised that palliatives should be employed, and no attempt at eradication should be resorted to. Being at the time on my way to an urgent case, I paid no further attention to that now under consideration. Some time after, Dr. Mount mentioned to me as a very curious fact, that he had learned from a friend of the patient's, that the ulcerated aperture had become closed, and that the disease had been arrested without any application whatever being employed. The patient entered St. Patrick's Hospital under my care in the month of February, 1852, when the following particulars were ascertained, of which we had hitherto been ignorant:—The disease commenced about two years previous to our first examination, in the form of a small, hard tumour, situated in the region of the *socia paroti-*

dis gland. This tumour gradually increased, and soon attained the size of an egg, the parotid itself undergoing increased size, and becoming hard and painful subsequently. During the progress of this tumour, much pain was experienced in all the movements of the jaw, in the act of mastication and speaking, and laughing and yawning were excessively distressing. He also observed that symptoms indicating paralysis of the portio dura manifested themselves—the mouth was drawn to the opposite side, and in eating, portions of food used to lodge between the cheek and gums, &c. Not obtaining any relief from regular practitioners, he sought advice from an itinerant “cancer doctor,” who applied a plaster, which was allowed to remain on the tumour for forty days, and at the expiration of this period, the original tumour and the greater portion of the cheek sloughed away. It was soon after this event that he presented himself to Dr. M., who then brought him to my residence, but being at the time much hurried, the cursory examination already described was all that was made, and the patient returned home immediately. According to his statement, the ulcerated surface quickly granulated, the chasm in the cheek was rapidly filled up, and the parotid tumour remained stationary at first, but recently had commenced growing, and was extending downwards below the posterior digastric space, and backwards under the insertion of the sterno-mastoid muscle, and this extension of the disease was accompanied by severe neuralgic pains along the superior branches of the portio dura, and also along the course of the occipital and spinal-accessory nerves; he had also severe constant pain in the ear, and deep seated pain in the locality of the glenoid fissure, and adjacent parts. The tumour was hard, regular on its surface, not painful to the touch, moveable to a certain extent, particularly above, the integument covering it was healthy, not presenting any where a malignant aspect, and apparently, the communication between this tumour and the region around the former one, was quite cut off, in other words, it appeared as if it had been, from the commencement, a separate and distinct growth. The superficial portion of the tumour gave one the idea of the whole mass being about the size of a turkey’s egg, but its exact dimensions could not be determined accurately. The patient’s appearance was remarkably healthy, and all who saw him were surprized to see one who was to all appearance in rude health, the probable subject of malignant disease. As both the patient and his friends were extremely anxious to have the tumour removed, I acceded to their request, the more willingly, as the result of the cancer plaster proved a strong disposition in the system for repair, and the duration of the disease, as well as its being so little influenced by the irritation immediately around it, seemed to justify me in expecting a successful

issue from the operation, provided the tumour *could be removed*. Moreover, the cicatrix which followed the sloughing was firm and good, and exhibited no trace of degeneration, and there was no enlargement of any of the lymphatic glands in the neighbourhood. Accordingly, on the 13th March, I operated in the following manner:—The tumour was exposed by dissecting off the integument in three flaps, converging at a centre which corresponded to the most prominent part of the tumour. This being done, the difficulty of the operation commenced, and that consisted in detaching the superficial cervical fascia from the growth, for it had become condensed, hard and gristly, and bound down the growth so firmly, that at one time it appeared almost impossible to detach it from the mass, so as to enucleate, or dissect it out. Some idea may be formed of the resistance this apparently insignificant structure presented, when I state, that I was obliged to have recourse to a second scalpel, the first, (a new one by Weiss,) having been soon blunted. The more I cut, the deeper I got, but no nearer, as it seemed, to the isolation of the disease, when it occurred to me to use a director, and having shoved it under layer after layer of the fascia, they were in succession divided. As soon as I had succeeded in isolating the circumference of the tumour, its extraction from its deep seated relations next occupied attention, and in this stage the edge of the knife was kept close upon the tumour, and all suspicious structures carefully examined before being divided, and the handle of the scalpel was freely used. It was now found that the disease went down farther on the neck than was supposed, and that it also sent a process dipping into the substance of the sternomastoid muscles, where the spinal accessory nerve passes through that muscles (which it did in this instance much higher than usual) and proceeded in a posterior direction, until it impinged upon the cervical plexus, which nerves, together with the spinal accessory, were fully exposed in the progress of the dissection, and seen by all present when the tumour was removed. Some parts of the disease which dipped into the net-work of the plexus were carefully dissected out, and a portion of the sternomastoid was removed along with them. The mass being removed, the finger passed freely upwards under the zygoma, under the angle of the jaw, between the pterygoids and inferiorly to the cervical plexus, it could also be passed into the fossa corresponding to the glenoid cavity, at the bottom of which, the strong pulsation of the external carotid was very perceptible, and the styloid process and the muscles attached to it were likewise observed. No other structure was perceptible. A small degree of hæmorrhage from the surface took place at the beginning of the operation, and *only two*

*small vessels, branches of the anterior auricular, and occipital (?) required ligatures.**

On examination, the diseased mass presented the character of a fibrous tumour, in some points degenerating into scirrhus—this latter feature was not, however, strongly marked. It was much smaller than was supposed before the operation, for a great part of the size of the tumour was formed by the sterno-mastoid which overlapped one portion of it, and was intimately connected with another part.

The wound was filled with a pledget of wet lint, and the flaps brought loosely together. Five hours after, the wound was dressed; some oozing had taken place, and one more small twig required a ligature. The edges of the wound were now brought into contact by means of sutures, a space in the centre being but loosely united, that the discharge might freely escape. A compress and bandage served to obliterate the cavity, and were retained for three days, when the sutures were withdrawn, and union by the first intention was found to have taken place to a great extent.

It would be useless to detail the changes of treatment which the varying condition of the wound suggested, suffice it to say, that at the end of 16 days he was discharged at his own request, the wound being then perfectly healed, and he himself free from all his sufferings.

There are some points connected with this case not devoid of interest to the practical surgeon, to which allusion will now be made: and first I shall speak of the opinion so generally advanced by *anatomists*, that the parotid gland *cannot be extirpated*, and which is as strenuously denied by *surgeons*. Not only in this, but in many other particulars do we find that the skilful anatomist is not always the best guide to the operating surgeon; and that diseased anatomy frequently runs counter to normal anatomy, and the facility or difficulty with which an operation may be performed, cannot always be determined with exactness by our knowledge of the normal structure in which the disease has originated. Can a stronger proof of the truth of what I now advance be adduced, that the fact, that it was necessary to tie but three small vessels in the operation under consideration, when we reflect upon the numerous arteries that supply, and pass through the region, in which the mass lay.† It is needless then, to advance the *certainty of alarming*

* Had the carotid been tied previous to the operation as recommended by Mott and others, this immunity from hæmorrhage would, no doubt, have been attributed to this precautionary measure.

† The arteries that may be wounded are, in addition to the carotids, the transverse facial, the temporal, the auricular, the mastoid, the stylo-mastoid, the occipital, the internal maxillary, the inferior pharyngeal, the lingual, and the facial.—*Malgaigues Operative Surgery, page 368, Am. Ed.*

hæmorrhage, as an argument against such operations. But, it has been said, that in the instances of supposed removal of the parotid, it was only the *sociu parotidis* that was extirpated. This may be so in some cases, but in the example now before us, the mass extended into most of the recesses usually occupied by the parotid, and advanced into regions in which that gland is never found in its healthy condition, and as neither the parotid itself, nor any part of it, was noticed during, or after, the operation, we must infer, either that it had degenerated into a morbid mass, although a change to which the salivary glands are by no means prone, or that it had been partly absorbed by pressure, some parts of it, in the deeper regions between the external and internal carotid, around the masseter, and deep at the glenoid fissure still remaining. Such may have been the case, but I cannot consider it as similar to those in which a tumour has been *peeled off* the parotid, one of which has recently been published by an eminent surgeon, as a type of parotid tumours, but of which variety, most surgeons have seen examples.

This case also exemplifies the difficulty occasionally experienced in determining the size of cervical tumours, and the direction they take; for I need not say, that I did not suppose the disease took so irregular a course, or was connected with so many and such important parts, though I was prepared to abandon the operation at any stage of the proceeding, if impossible to complete it without subjecting the patient to too great a risk. In illustration of this difficulty, I may mention that my friend and former clinical clerk, Dr. McCallum, informs me that he recently saw Mr. Lawrence at St. Bartholomew's, obliged to abandon an operation, in a case of cervical tumour, after he had proceeded to a considerable extent, in consequence of the great and unsuspected attachments of the tumour.

On the other hand, the surgeon not unfrequently meets with tumours which appear to be deeply attached, and which, on the integuments being removed, admit of easy extirpation. On this subject, more extensive clinical observation is much needed.

ART. XXIX.—*Observations on the Sanatory Institutions of the Hebrews as bearing upon Modern Sanatory Regulations.* By the Rev. ABRAHAM DE SOLA, Lecturer on Hebrew Language and Literature in the University of McGill College, &c.

(Continued from page 141.)

THUS far Mr. Blaquiere. Further illustration is supplied by the profound Spencer, in his most valuable work, "*De Legibus Hebræorum Ritualibus et Earum Rationibus*," where he shows us how the heathen used

* Ed. Cantab. 1685. See also Shaw's *History and Philosophy of Judaism*. Part 1, ch. 1. See 6.

blood, and sometimes, even human blood, by way of lustration. They imagined that the blood of their sacrifices was the favourite food of their demons. For this reason they were at the greatest pains to preserve it for them in some vessel, or when this was not at hand, in some hole in the ground. And then, while they ate the flesh, and the demon, as they imagined, drank the blood, they hereby not only declared themselves his votaries, and professed to hold communion with him, but considered themselves as having become purified.

Moses Lowman, in his "Rational of the Ritual of the Hebrew worship," well remarks on Leviticus xix, 26, "Ye shall not eat anything with the blood" ought to be rendered *at or before* blood, and is an allusion to the idolatrous worship of demons by gathering blood together for them, as supposed their food, and coming themselves and eating part of it, whereby they were esteemed the demon's guests, and by this kind of communion with them, were supposed enabled to prophecy and foretell things to come—to have familiarity with these spirits, as to receive revelations and be inspired with the knowledge of secret things."

On an attentive and dispassionate * perusal of the 17th chapter of Le-

* We advisedly say "dispassionate," and assure our readers that here, as well as in every line we have yet written, we have earnestly sought to divest ourselves of all theological bias, being fully conscious that the character of our subject demanded this from us, and being quite mindful that our interpretation of the sacred volume would materially differ from that of many of our readers. And we do therefore humbly hope, that having sedulously endeavoured to avoid all of a dogmatic character in what we have hitherto advanced, we shall not be suspected of seeking covertly to propagate our peculiar views. We further hope, and indeed, are in the happy belief, that we are not living in a day when a believer in the divine inspiration and authority of the Holy Book—a descendant of those who, at the risk and expense of their lives, have preserved and transmitted this book to us—that we are not living in a day, when, because our interpretation of some portions of it may not be identical with that of the majority of our fellow-men, we therefore may not open this blessed volume, to direct their attention, not to a matter of a dogmatic theological, or controversial tendency, but to examine with them what light it throws on a scientific question, which, though it has but for a comparatively recent period engaged men's attention, is nevertheless of the last moment to them. Nor are we willing to believe that we cannot occupy common ground, and that we have not been warranted in seeking to defend the sacred page from the insidious attacks of the scoffing and ignorant unbeliever, as we have endeavoured to do by adducing testimony of the highest order to the truth of the Scriptural teaching of the vitality of the blood. And although we may be charged with dwelling too long on a topic, not indispensable to our main subject, yet do we trust that our reason for so doing will be our excuse. The idea with us has been, who shall say that there are not those to-day, and that there will not be those to-morrow, ready to deny the Scriptural teaching on this point? It is reasonable to suppose that there are to be found those, less qualified to give an opinion than the learned Blumenbach, ready to do so. These

viticus, already referred to, we think further strong support will be found for the opinion of Maimonides, that one of the reasons for the prohibition of blood was to put an end to idolatrous practices. The chapter commences with the command to both priests and people, that any making a meat sacrifice or “killing an ox, lamb, or goat, in or without the camp, and not bringing them unto the door of the tabernacle of the congregation, to offer an offering unto the Lord before the tabernacle of the

remarks we have considered as being called for, by some of the reviews of our humble endeavours, which have appeared in the public press. And although we are of opinion that, as a rule, it is neither necessary nor wise to notice such,—we speak with all due respect, and with friendly and grateful feeling for the flattering manner in which all have spoken of us—yet, as they may be the sentiments of some of our readers, we shall beg leave to take notice of some few. For the reasons already assigned in this note, more especially in that we have avoided all of a dogmatic character, we cannot agree with one writer, that any objection can attach to what we have advanced, because “it cannot be discussed in opposition to the writer’s views, without raising theological questions which have nothing to do with science proper.” We beg leave to repeat that we have avoided, and shall continue to avoid, all theology that is not common to Jew and Christian. If defence of a Scriptural assertion, bearing on a matter exclusively scientific, be likely to raise the theological questions to which this writer objects, then, we fear, that in opposition to his views, and at the risk of his future censure, we must persist in our past course. We cannot admit that the Scriptures, even if we do that theological questions, have nothing to do with science proper, for we believe that much valuable scientific information has originated from the Scriptures. On reference to what we have already written, we think we cannot be charged with obtruding our own views on the subject, we have merely, as a matter of information, shown our readers what has been advanced in sources, some attainable, some not generally attainable, to them. We of course feel incompetent to decide, as does our critic, whether we be a better pathologist or theologian. But we do feel ourself called upon to dissent entirely from his assertion, that “the human constitution must have changed very much in the course of the last few thousand years, if the rules of Leviticus are at all applicable now,” We must not anticipate our subject, but we would ask, under what general heads may the laws of Leviticus be comprised? We can but answer, under those of caution, abstinence, moderation, cleanliness, and purity, and therefore we can but add that the human constitution must have changed very much in the course of the last few thousand years, if the rules of Leviticus are not *quite* applicable now. We do not wish to speak disrespectfully, of or to underrate at all, the learned and accomplished Meade, but we do think that some further support and better illustrations of our critic’s assertion should have been given, and is called for, than that adduced by him; which is simply that “Meade (*Medica Sacra, Lepra Morbus*, p. 12) says that no trace is to be found in either Greek or Arabian authors, of leprosy in walls or garments; that the Hebrew doctors themselves admit that no such disease was known ‘in universe mundo,’ excepting ‘Sola Judea et solo populo Israelitico.’” We must remind the writer that others besides Meade have written on the leprosy; but admitting, to the fullest extent, the correctness of Meade’s assertion, does it follow because the disease has disappeared, that, therefore, the principles of treatment laid down in Leviticus are

Lord, blood shall be imputed unto that man, † he hath shed blood, † and that man shall be cut off from among his people. V. 5. To the end that the children of Israel may bring their sacrifices which they offer in the open field unto the Lord unto the door of the tabernacle of the congregation unto the priest, &c. V. 6. And the priest shall sprinkle the blood ‡ upon the altar of the Lord, &c. V. 7. That they may no

wrong and inapplicable now. We think the contrary to be the case, and that the disappearance of the disease, so to admit, speaks trumpet-tongued in favor of such principles of treatment. And if right and applicable then, why not now, when, as the writer himself admits, diseases are disappearing and *reappearing*? But further let us ask, whether the treatment prescribed in the case of contagious leprosy (for that the leprosy spoken of in Leviticus was contagious, there can be no doubt,) is not even now adopted in treating contagious diseases, and whether in small-pox, measles putrid fevers and the like, separation and cleanliness, which is mainly the treatment prescribed in Leviticus, is not now, after an experience of thousands of years, prescribed in such cases of contagion. We are fully prepared to admit with the writer that "the nature of disease is continually changing, old diseases wearing out, and new ones springing up;" but as we have seen, from the example he himself adduces an admission of this fact is not necessarily an admission that the principles of treatment which were efficient in preventing or removing diseases once, must be wrong or inapplicable now. In our introductory remarks, we observed that "the legislation of Moses, son of Amram, contains the wisest and most valuable principles, recommendations and enactments on the subject of health, which, though thousands of years have elapsed since their enunciation, do yet remain like 'all which proceedeth out of the mouth of the Eternal,' just as valuable, and just as wise, as when first revealed for the edification of the Hebrew people, and are therefore, now, as then, fully worthy our most attentive and reverent consideration." Now, although we cannot flatter ourself that we have already "made our case good," as another critic has been pleased to say we have, yet do we not withdraw one iota of our expressions just quoted, and in taking leave of our critic, which we do with all kindly consideration and respect, we cannot but think, that after due consideration of the very little he has advanced in support of his position, the hygienic laws of Leviticus are good, are wise, are valuable, and are quite applicable to the human constitution even now.

† According to Rashi, he shall be considered as a man-slayer, and be responsible for the life of the animal sacrificed contained in the blood which flowed in an improper place.

‡ This repetition Rashi thinks is intended to convey, that he who does not *sprinkle* the blood in the proper place, is included in the condemnation of the text.

‡ "The blood of the victim was received by the priest in a vessel for that purpose called מִזְבֵּחַ and was scattered at the foot, and on the sides of the altar. The blood of sin offerings was likewise placed upon the horns of the altar, and if they were offered for the whole people or for the high priest, it was sprinkled towards the veil of the Holy of Holies; and on the day of propitiation on the lid of the ark, and likewise on the floor before the ark. The blood was also placed on the horns of the altar of incense; a ceremony which was termed by the more ancient Jews כִּפּוּר *expiation*, but by those of later times נִסְחָה a *gift*. Lev. 4, 7. 8; 15, 16. Zech 9, 15; Num. 18, 17." *Jahn*.

more offer their sacrifices unto devils, after whom they have gone a whoring. * This shall be a statute for ever unto them throughout their generations." The intention of these words, we think, cannot be mistaken. It is evidently to secure the direction of divine worship to its proper object, and to put an end to idolatrous practices. In verses 8 and 9, the same directions and penalties are laid down with reference to burnt offerings or sacrifices. And then (v. 10) evidently and unquestionably, in the same connexion, follows the prohibition and penalty against eating blood; *all blood* is the expression used by the text, because, as Rashi aptly remarks, "the principle being laid down in verse 11, that it is the blood that maketh an atonement for the life (*nefesh*.) and as the Israelites might conclude that reference here was only made to the blood of animals consecrated for sacrifice, therefore the text explicitly states *all blood*." Next follows as we conceive another reason why blood should not be eaten, viz.; "for the life of the flesh is in the blood," V. 11. And I have given it you upon the altar to make atonement for your life, (*nefesh*.) for the blood maketh an atonement for the life, (*nefesh*.) † V. 12. Therefore have I said unto the children of Israel, no soul of you shall eat blood, neither shall any stranger that sojourneth among you ‡ eat blood, &c. In verse 13, the blood of beasts or fowl that may be eaten, is directed to be *poured on the ground* and to be *covered with dust*, another preventative of idolatrous practices. In verse 16, we are again told that blood is the life of the flesh, the blood of it is for the "*nefesh*" or life thereof, and that hence is the prohibition. Further support to the opinion of Maimonides may be deduced from the 19 chap. of Leviticus, 26th verse, "Ye shall not eat anything with the blood, neither shall ye use enchantments nor observe times." The connexion of the one prohibition with the latter having reference to idolatrous practices, we take to

* Aben Ezra well remarks, that all who seek and serve the devil-gods or idols may most fitly be said to be faithless to the true God to whom they are betrothed by covenant. Can any one suppose, he asks, that there can exist any other cause of good or evil, but the Holy One, blessed be He!

† On this passage Rashi remarks, "For all healthfulness of life depends on the blood, therefore, saith God, I have appointed that ye pour the blood on my altar, since by bringing me the life-blood of beasts, you show you have considered your own life has been forfeited by you, and you bring one life, which I have already permitted you to take, in place of another." We do not use the exact words of Rashi, but endeavour briefly to give his meaning.

‡ Since we find here the prohibition is extended to proselytes also, we may perhaps see an additional reason in favour of the opinion of Maimonides. The proselytes were forbidden it, as they were idolatry, since their example might prove contagious. Hence, as Aben Ezra remarks, the command to cover the blood in v. 13, also applies to them.

be very significant, especially as the following verse has evident reference to the same subject. In Duet. ch. xii, v. 16, the prohibition to eat blood is repeated, and the command to "pour it upon the ground like water;" and at verse 27, the blood of sacrifices is to be poured upon the altar of God. Again at chap. xv, v. 23. The incident in the first book of Samuel, ch. 14, v. 32-34, would tend to show that the people of Israel considered the majesty of heaven peculiarly outraged by the eating of blood there spoken of. King David appears clearly to point out the connexion between the prohibition of blood-eating and the idolatrous practices of the heathen. He says in the 16th Psalm, v. 4, their sorrows shall be multiplied that hasten after another god, *their drink offerings of blood* will I not offer, &c." We will not seek for further illustrations, but trust that sufficient have been adduced to show that the opinion entertained by Maimonides is not without scriptural warrant.

The third reason for the prohibition of blood, viz, because of its vitality, must have been anticipated by a perusal of the scripture passages already quoted. There is but one passage more, to which we would more fully refer here. It is Deut., ch. 12., v. 23, "Only be sure (Heb. Be strong) that thou eat not the blood, for the blood is the life (nefesh); and thou mayest not eat the life (nefesh) with the flesh.

* As involving a question of general interest, and bearing immediately on our subject, we would, briefly as possible, notice here some remarks made by a critic in a sister city on our observations on the Hebrew word *nefesh*. The writer says that we "endeavour to show that the Hebrew word "*nefesh*" signifies not so much the spirit, or seat of the volitions and affections, as life, mere animal life, and that the name is in a peculiar manner applied to that wonderful fluid, the blood, &c." Now, "with the utmost deference to the learned writer we beg to be permitted to state, that" after reading over our observations, we cannot find that we have written what he thinks we have. We gave no opinion as to what is *always* the meaning of "*nefesh*" but simply quoted from authorities of the very highest order, to show that we were quite warranted in translating it *life* in the *ninth chapter 4th verse of Genesis*. We did not think it at all necessary to enter too fully into the vast field of philological dissertation, especially, too, when it might lead us into the still vaster field of theological disputation. But as our attention has been called to the matter, we think it right to say that our opinion really is that נפש (nefesh) never means soul, as our critic seems to think, but that the word נשמה (neshama) does. And this conclusion we form from no theological leaning. That great Christian Hebrew scholar, Parkhurst who can by no means be accused of having or showing any great respect for Rabbinical or Jewish interpretation, bears us out in our conviction, that "there is no passage in which it hath undoubtedly this meaning, but in those which seem fairest for this interpretation, it means a breathing, or animal frame." See our quotation from him. There is nothing at all spiritual in the root which is נפש (nafash) to respire, take breath, without reference to the soul. A sufficient confutation of contrary opinion is contained in the very passage quoted in support by our critic. "The Lord God formed man of the dust of the ground, and breathed (וַיַּיְפַּח וַיִּפַּח) into his nostrils

Thou shalt not eat it, thou shalt pour it upon the earth as water. *Thou shalt not eat it*, that it may go well with thee and with thy children after thee, when thou shalt do that which is right in the sight of the Lord." The most emphatic form of expression, it will be perceived, is here used with reference to the prohibition; the reason of it again assigned, being because of its vitality.

The foregoing reasons assigned for the prohibition of blood-eating may be considered as the *moral*. But it has ever been traditionally held

a living soul, נשמת חיים (nishmat chayim) in regimen, literally, a soul of life, just as the law is elsewhere said to be a עץ חיים (a tree of life, gets chayim.) or living tree. Observe the word employed in this passage, which in common with most Jewish and Christian commentators, we understand as teaching the infusion by God in man, not only of his life, animal life, but his spiritual life, too, indicated by the word "neshamah." We particularly observe that "nefesh" is not here used, but "neshamah." The text concludes, "and Man became לנפש חיה (lenefesh chaya.) a living being; i. e., the dust shaped by the hand of Omnipotence, became by the divine agency, a man, a living being; a rational one, too, the text teaches us, since we find the just-shaped earthly mass receive a "neshamah" or soul. We presume none will venture to deny that "nefesh" does not very frequently signify in the Scriptures, a person, an individual. If there should be any, notwithstanding that every Hebrew lexicon of any character would prove their error, we will refer them to a dozen passages occurring in Leviticus alone, where it can mean nothing else, to wit, ch., 4, v., 2; 4, 27; 5, 2; 5, 4; 5, 15; 5, 17; 5, 21; 7, 27; 17, 12; 17, 15; 22, 6; 22, 11. Nevertheless upon the strength of the passage from Genesis just quoted, the assertion is made that "nefesh" does not signify life, and is not therefore identical with the blood. We never said, as our critic appears to have understood us, that "nefesh" life is identical with "dam" blood. We think, on the contrary, the words convey two very distinct ideas, notwithstanding our belief, that life has connection with the blood; therefore, he has formed his conclusion rather hastily and unwarrantably. We concur with the following passage from the writer, except in one small, but important, particular, upon which we shall remark within brackets. "Until the breath of life was breathed into man's face, the "nefesh" was dead. [We would rather say it was *the body* that was dead especially since the writer joins with us in the belief that the animating principle was directly bestowed by God, and that then man became a living being; he adds] the soul wanted animation. [To say the least of it, we think that this expression of our author involves some little self-contradiction. We again repeat it was *the body* that wanted animation, not the soul, and the contradictoriness of our critic's assertion is shown in this; he first asserts that "nefesh" means soul, and then that the *soul wanted animation!* Now to find such an assertion as the latter made by a religionist, a reverent Scripture reader, and a scholar, all which our critic evidently is, we think an amazing thing. Surely he shares the belief that man's soul is an emanation from God, is immortal, and consequently, that it never was dead in Adam, but that from the moment it was breathed in him, from that moment it lived—ay—and lives even now, while we write, and while he reads. The writer continues, "True, Mr. De Sola may allege that this breathing into the face or nostrils has reference to the first circulating of the blood, and suggested the practice adopted in cases of suspended animation from drowning or other mode of suffocation. [We have

by the Hebrew people that the prohibition of blood is also a Sanatory law, in other words that blood-eating is forbidden on account of the baneful effects of the practice, physically. And we hold that sufficient intimation of this is given in the sacred volume itself, irrespective of what may be contained on the subject in the Talmud and other authoritative sources. That the practice is really a bad one in a sanatory point of view, we think is shown, 1st, by the Scriptures; 2ndly, by the commentators; and, 3rdly, by other authorities.

1. *The effects of blood eating are shown to be physically bad by the Scriptures.* We shall quote a few passages only, thinking they are sufficient to show that the fact is clearly intimated by inspiration. It is *clearly conveyed in the whole of the ceremonial law*, which, we presume it will not be denied, was intended to promote the physical as well as the moral well being of the Hebrew. The practice is spoken of as one that defileth. And in the prophets it is also spoken of as a practice of baneful effects; one passage will perhaps suffice. In the book of the prophet Isaiah ch. 49, v. 26, God in denouncing his heavy judg-

already given our ideas on this subject.] Perhaps so, but it shows that there are in the Hebrew, distinct words signifying the life, the soul, and the blood, things quite distinct, however closely related to each other they may be. [We agree here *in toto* with the writer, and hence our humble attempt above to show that what meant soul did not mean life, as according to his views of "nefesh," it must needs do.]—And more that with respect to the reason for the prohibition of the eating of blood, Mr. De Sola is labouring under a mistake. [We can scarcely consider this remark written with that fairness which it is due to state our critic has throughout displayed. We have as yet merely given not as our own opinion, but as the opinion of celebrated Christian and Jewish authorities, *some* of the reasons assigned for the prohibition. Had our remarks on the prohibition of blood been at end, we might then be justly charged with overlooking those reasons of most import, and more immediately having reference to the Sanatory Institutions of the Hebrews. As will be presently seen, we have by no means overlooked these reasons. Our critic continues.] David did not when he said, "elecha adonai nafshi essa," unto Thee O Lord I lift my "nefesh," surely intimate that he offered only his life's blood as a sacrifice to the Lord." Thus far our critic. We think that David as an Israelite might and really did use the word as signifying life. And without reference to that theological dogma involved by raising this question, and upon which the writer and ourself necessarily differ, we may be permitted to say that David may convey that in this word he offers to God all he could, and which we should all offer him—the undivided earnest, devotion of our "nefesh," that is of our life—a mode of expression, as common to the Hebrew, as to the English language, conveying all the functions, the source, and energies of life. But as we are disqualified here from entering into questions of a dogmatical controversial character, we must beg to take a friendly leave of our critic, and in so doing, must apologise to our readers for detaining them so long from our main subject, which we have done only because we have been assured they were concerned in the important questions this note involves.

ments against those who oppress Israel, proclaims the following as their awful punishment, "And I will feed them that oppress thee with their own flesh [what would be fearful effects of "eating their own flesh" must be known to all; in the same connexion the text immediately adds] and they shall be drunken with their own blood as with sweet (or new) wine." Here the text we think clearly and aptly illustrates the effects of blood eating, which, as has been indisputably shown by experience, has really the same effect, when taken in quantity, as wine; for it both maddens and stupifies, and this whether human blood or the blood of beasts. In the same way speak Jeremiah, Ezekiel and the other prophets. And with inclination and opportunity it would perhaps be no difficult matter to show that among the earliest Christian churches they abstained as "necessary things" from "things strangled and from blood," because they considered the command, tending not only to promote the health of their soul but of their body too.

2. *The effects of blood eating are shown to be physically bad by the commentators.* The Hebrew writers constantly and earnestly inculcate a loathing, we might rather say an abhorrence, of the practice, which they regard as destructive both to body and mind. They regard blood as a most unwholesome article of diet, and as inducing a gross, plethoric, and vitiated state of body. Some fifteen centuries back, the Talmud, in its concise but emphatic manner, proclaimed—and it then merely repeated old teachings in Israel דם בריש כל מרעין אנה דם—(the main cause of all disease is blood).* Again in the same passage דם בריש כל מותא אנה דם—(the main cause of all death is blood.) And again דם רבה שחין רבה—(much blood, much scurvy.)† But as we shall presently have occasion to call the reader's attention to those constitutions of the Jewish ritual having especial reference to this subject, and as our limits therefore will forbid our multiplying quotations, we think it proper to state at once those objections with which Christian commentators have supplied us. Our limits will compel us to brevity here also, wherefore we can do no better than to present what we may regard as a digest of Christian commentary supplied us by the learned Dr. Townley. A further reason we have for doing this is to show that in the three positions he, we think very correctly, assumes, and advances as the results of modern investigation and science, Dr. T. has been anticipated by Hebrew writers at an age almost as early as the introduction of Christianity.‡ This we

* Batra f. 58. b.

† Bechor. f. 44. b.

‡ It may be known to the reader that there are two Talmuds in use among the Jews. The 1st, the *Talmood Yerushalmi* or Jerusalem Talmud, was compiled in the year 230, according to some in the year 300 of the Christian era. This, however, is not so much in use, and does not contain so many legal decisions as the 2nd, the *Talmood Babli* or Babylonian Talmud, completed about the year 500. It need scarcely

may see by comparing the Talmudic quotations above with Dr. Townley's three propositions.

The first Talmudic axiom quoted was, that "the main cause of all disease is blood," and we maintain that is to the eating of blood this remark refers. The observations of Dr. Townley will appear to the candid reader to be nothing more than illustration and commentary on these axioms, though doubtless involuntarily so on his part, for we may be permitted to suppose that the Doctor, without any imputation on his Rabbinical learning, which seems to be of no mean order, did not know, or perhaps did not recollect, these Talmudic passages. We say, then, that Dr. Townley observes—and *not* with reference to the first of the Talmudic axioms we have quoted, though we request the reader to compare; "the blood being highly *alkalescent* especially in hot climates, is subject to speedy putrefaction; and, consequently, that flesh will be most wholesome and best answer the purposes of life and health, from which the blood has been drained, and will preserve its suitableness for food the longest.

Our second Talmudic quotation was, "the main cause of all disease is blood," Dr. Townley remarks: "2nd. Blood affords a very gross nutriment, and is very difficult of digestion, and in some cases it is actually dangerous to drink it: for if taken warm and in large quantities, it may prove fatal, particularly bull's blood, which was given, with this view, to criminals by the Greeks, "its extreme viscosity rendering it totally indigestible by the powers of the human stomach." Valerius Maximus (lib. v. c. 6.) ascribes the death of Themistocles to his having purposely drunk a bowl of ox blood during a sacrifice, in order to avoid subjecting his country, Greece, to the King of Persia. It is true, the blood of animals does not always produce similar effects, but this may be owing rather to the smallness of the quantity taken, than to its not being injurious in its nature, or its malignity may be partially counteracted by the other dietetic substances with which it may be eaten.*

The third Talmudic axiom was, "Much blood, much scurvy". Dr. Townley says "3rd. Those nations which feed largely upon flesh, are observed to be remarkably subject to *scorbutic diseases*; and if physicians be right in ascribing such tendency to animal food in general when freely eaten, especially in the hotter climates, it must be acknowledged that the grosser and more indigestible juices of such food must have the greatest

be remarked that the Talmud contains traditions which were generally acknowledged by Jews, and were ancient even at the time of their compilation.

* Dr. A. Clarke's commentary on Levit. xvii. 11.—Michaelis's Commentaries on the Laws of Moses, vol. 3. art. 206, p. 252.—Revelation examined with Candour vol. 2. 23. Encyc. Perth., article *Blood*.

tendency to produce such injurious consequences, and blood as the grossest of all animal juices be the most inimical to health and soundness. * To abstain therefore from all meat, from which the blood has not been drained, from whatever cause the blood has been retained in the animal, whether purposely, by strangling or otherwise, must be much more conducive to health than by yielding to a luxurious and vitiated taste, and adopting a contrary practice.

3. *The effects of blood eating are shown to be physically bad by other authorities.* The Abbé Fleury (*Mœurs des Israelites*) says, the Hebrews "were forbidden to eat blood or fat, both are *hard of digestion* : and though strong working people, as the Israelites, might find less inconvenience from it than others, it was better to provide wholesome food for them, since it was a matter of option." Dr. Townley says, "the divine Being enjoined that animals destined for food should be killed with the greatest possible despatch, their blood be poured upon the ground, and the eating of blood religiously avoided ; and still more deservedly prohibits such sanguinary food from *its baneful influence upon the dispositions* of those whose vitiated appetites or brutal superstitions led them to indulge in gross and bloody repasts." For as has been remarked "all animals that feed upon blood, are observed to be much more *furious* than others. † Bryson (*Voyage*, p. 77.) tells us that the men by eating what they found raw, *became little better than cannibals*. ‡ Further illustration of this fact we think may be found in Alexander Henry's *Travels through Canada and the Indian Territories*. In that work it is stated that "man-eating was then, and always had been, practised among the Indian nations, for the purpose of giving them courage to attack, (in other words to *shed blood*.) and resolution to die, (in other words a *brutish indifference to death*. ¶ This extract (for which we are indebted to Priest's *American Antiquities*.) shows us that *savages* at least could estimate the value of blood eating. That ultimately it may insidiously gain ground, and advance until men indeed *become little better than cannibals*, we think is shown in the case referred to by Baron Humboldt in his personal narrative, he says that "in Egypt" once, as our readers will please recollect, the centre of refinement, when the law would set its face against such a practice, here, "in the 13th century, five or six hundred years ago, the habit of eating human flesh pervaded all classes of society. Extraordinary snares were spread, for physicians

* Revelation examined with Candour," *ut sup.*

† Delaney's "Revelation examined with Candour," vol. ii., p. 21.

‡ Fergus's *Short Account of the Laws and Institutions of Moses*, p. 99, note. Dunfermline 1810, 8vo. c. 8. See also Marshami, *Chronicon*, sec ix, p. 185. Lipsiæ, 1676, 4to.

¶ *Medical Repository* vol. 14, pp. 261, 262.

in particular. They were called to attend persons who pretended to be sick, but who were only hungry, and it was not in order to be consulted, but to be devoured." Michaelis says, "drinking of blood is certainly not a becoming ceremony in religious worship. It is not a *very refined custom*, and if often repeated, it might probably *habituate a people to cruelty and make them unfeeling with regard to blood*; and certainly religion should not give, nor even have the appearance of giving, any such direction to the manners of a nation."*

Having thus seen that the practice of blood-eating is one by no means commendable, or conducive to *mens sana in corpore sano* we proceed now to detail the various requirements and enactments laid down in the Jewish ritual code—the Talmud, Maimonides and other rabbinical authorities—having reference to the slaughtering of animals, and abstinence from blood; since they will best show with what religious strictness and sedulous care Israelites are required to (and in fact do now really) exhibit to remove the possibility of their eating prohibited blood. We ask the reader's indulgence in that, hereby, we shall have to extend considerably our remarks on this one sanatory Institution of the Hebrews, but we think it right so to do, and shall, on other occasions when we may have to elaborate, inasmuch as in our introductory remarks we said that after due attention to the sacred text we should "offer such illustrations afforded both by Christian and Jewish writers as may be within our reach or memory, and necessary to do full justice to our subject." And since we consider that the enactments alluded to above should be noticed as being intimately connected therewith; and that to the inquiring English reader they would prove neither uninteresting nor unacceptable, we venture now to exhibit what have been thought by many to demonstrate the superstition of the rabbinical Jew, and the trifling of the Talmud, but which we honestly confess, we are blind enough not to perceive in any such light. And we think that even the scientific reader, whose religious convictions may be opposed to those of the people to whom these enactments are addressed, will candidly assert that they are by no means of a bad, but of a good, healthy tendency, and are not to be despised. Indeed, many authorities high in the scientific world have already so pronounced, as we may perhaps have occasion to show hereafter. At present we would proceed with the task immediately before us.

In the Mishna which is the text of the Talmud, there is a treatise called חולין *Cholin* i. e. of profane (slaughtering) thus styled in con-

* Michaelis's Commentaries on the Laws of Moses; vol. iii., p. 252.

tradistinction to that treatise which discourses of קדשים *Kadashim*, i. e. of sacred (slaughtering) the former, with which we have now to do, treating of the slaughtering of animals required for domestic or secular purposes—the latter, of those devoted to sacrifice. In our extracts from this Mishnic treatise, we shall avail ourselves of the translations and notes of the Rev. Messrs. D. A. De Sola, and Dr. M. J. Raphall, of Dr. Jost, and of the excellent Hebrew commentaries of R. Obadiah Bartenora, and *Tosephet Yom Tob* and also of the *Meloh Caph Nachat* appended to the Berlin edition of the Mishna, (A. M. 5593.)

The first chap. of the treatise *Cholin* treats of the persons qualified, the instruments used, and the mode and place of slaughtering. We shall add a few explanatory words within brackets. §1. All [who are well acquainted with the laws respecting slaughtering] are permitted to slaughter [animals allowed to be eaten,—no priest is required as in the case of sacrifices,] and their slaughtering is *casher*. [To convey what has been properly slaughtered, and may be lawfully eaten, we retain this rabbinical term, or use the English word “proper.”] Deaf and dumb or demented persons, or little [young] ones are, however, excepted; because they are liable to make mistakes in slaughtering, &c.* * * * [The appointment in Jewish communities of a Shochet, or qualified slaughterer is a consequence of the requirements of the Mishna, and where private individuals do not perform the functions of the Shochet, he becomes a salaried officer of the congregation. This is almost universally the case, since the due discharge of his duties requires much time, he having not only to see that the animal or fowl be slain so that the blood flow from it in a proper manner, but having carefully to *examine* the beasts to ascertain that their internal state and conformation be perfectly healthy ere he can pronounce them fit for food; but of this more hereafter. The second section of this chapter directs that the slaughtering shall be performed with sharp instruments only, prohibiting those which are at all blunt or jagged, “because these do not cut but strangle,” [and they therefore not only inflict great and unnecessary pain upon the animal, but prevent *the free flow of blood*, and consequently, as is known, *even affect the state of the flesh*. Testimony to the propriety and value of this enactment of the Mishna, and proof that it, as well as those presently noticed are good and well calculated to secure *wholesome, healthy meat*, more especially with reference to the flowing of the blood from the animal we find supplied not only by Dr. Townley, as quoted above, but by that high authority, the

* The asterisks denote the omission of passages we have considered not immediately connected with our subject.

celebrated Dr. Andrew Duncan, late Professor of Medical Jurisprudence in the University of Edinburgh. He says, "*The mode of killing has considerable effect on the flesh of the animal.* * * The common mode of killing animals in this kingdom is by striking them on the forehead with a pole-axe, and then cutting their throats to bleed them. But this method is cruel and not free from danger. The animal is not always brought down by the first blow, and the repetition is difficult and uncertain, and if the animal be not very well secured, accidents may happen. Lord Somerville* therefore endeavoured to introduce the method of pithing or laying cattle by dividing the spinal marrow above the origin of the phrenic nerves, as is commonly practised in Barbary and Spain, Portugal, Jamaica, and in some parts of England; and Mr. Jackson says that "the best method of killing a bullock is by the thrusting a sharp pointed knife into the spinal marrow when the bullock will immediately fall without a struggle; then cut the arteries above the heart.† Although the operation of pithing is not so difficult, but that it may after some practice be performed with tolerable certainty, and although Lord Somerville took a man with him to Portugal to be instructed in the method, and made it a condition that the prize cattle should be pithed instead of being knocked down, still *pithing is not becoming general in England.* This may be partly owing to prejudice; but we have been told that the flesh of the cattle killed in this way in Portugal is *very dark*, and *becomes soon putrid*, probably from the animal *not bleeding* well, in consequence of the action of the heart being interrupted before the vessels of the neck are divided. It therefore becomes *preferable to bleed the animal to death directly, as is practised by the Jewish butchers.* The Mosaic law so strictly prohibits the eating of blood that the Talmud contains a body of regulations concerning the killing of animals; and the Jews as a point of religion will not eat the flesh of any animal not killed by a butcher of their own persuasion. Their method is to tie all the four feet of the animal together, bring it to the ground, and turning its head back, to cut the throat at once down to the bone with a long, very sharp, but not pointed knife, dividing all the large vessels of the neck. In this way the blood is discharged quickly and completely. The effect is indeed said to be so very obvious, that some Christians will eat no meat but what has been killed by a Jew butcher." Dr. Duncan further remarks, "Domestic birds in general are killed in a very unskilful and barbarous manner," and after detailing those methods, his further remarks

* General Survey of the Agriculture of Shropshire. By Joseph Plymley, M.A. 8vo., London, 1803, p. 243.

† Reflections on the Commerce of the Mediterranean. By John Jackson, Esq., F. S. A., 8vo., London, 1804, p. 91.

tend to show that those laid down and required by the Mishna is the most merciful, and in every way the best. But for these details we must refer the reader to the learned writer himself.* We have made the above lengthy extract from him because it conveys our own convictions, and in language preferable to our own, since it furnishes the unbiassed testimony to the wisdom and principles of the directions for slaughtering given by the Mishna of one highly esteemed in the scientific world; one, also, who, if he have a religious leaning at all in what he writes, cannot certainly be suspected of its being towards the ritual of the Jews.] Founded upon the same reasons, and having the same object are the following five traditional rules which are to be strictly observed in killing cattle or fowl, or they become *Pasool*, *i. e.*, unlawful to be used for food. In slaughtering there must not be 1st, *שהיה* *i. e. delay*—as when a person cuts a little of the throat of the animal, then stops, and cuts again, and continues in the same manner till the act of killing is completed. 2nd, *דרסה* *i. e. pressure*,—when the cutting was effected by pressure only, without passing the knife to and fro on the animals throat; or cutting off the head or tubes by a single stroke, using the knife like a hatchet or sword. 3rd, *חלדה* *i. e. concealment*,—when the knife was covered with any thing; for instance, if it was covered or hidden by the wool of the animal, or by a cloth, or that it was passed between the tubes, and the killing completed by cutting the tubes either upwards or downwards. 4th, *הגרמה* *i. e. deviation*,—when the cutting has been beyond the bounds or limits on the throat of the animal, and it was made either above or below these limits indicated by the Mishna. 5th, *עקור* *i. e. tearing*,—when the tubes of any of them had been forcibly torn away before the act of killing was completed. (For more detailed particulars the Hebrew reader is referred to the Talmud, Treatise *Cholin* p. 9., and Maimonides chap. iii. of *Hikhoth Shechitah*, in vol. ii. of *Yad Hachazakah*. Grounded upon these reason also are the immediately following directions in §3 and in the following Mishnic sections.] §4. An animal which was slaughtered by being cut at either side of the throat is *Cashér*. * * If an animal was cut from the neck downwards, [that is, if the incision was made on the top of the neck, through the vertebra before the knife reached the œsophagus and trachea,] it becomes unlawful for use. * * An animal which is cut below the throat is *Cashér*. * * Chapter ii., § 1. When one of the pipes [*i. e.* the trachea] has been cut through in killing fowl, and both [the trachea and œsophagus] in killing cattle they are *Cashér*, [but are only so when it has thus happened unpremeditatedly, for it is necessary to commence the act of slaughtering with the intention of cutting through both tubes. For

* See Encyclopædia Britannica Art. Food.

the purpose of securing a perfect flow of blood, the following remark of R. Yehudah is directed.] It is necessary that in killing fowl the veins at the sides of the throat should also be cut through. [With the same intent, come the concluding requirements of this section.] If but one half [of the trachea] is cut through in fowl, and one and a-half [*i. e.* the trachea, and half of the œsophagus] in cattle, it is unfit; but if the greater part of one tube is cut through in fowl and the greater part of the two in cattle it is Cashér.

(To be Continued.)

ART. XXX.—*Observations upon Infanticide.* By A. VON IFFLAND, M. D., M. R. C. S.

NEVER is the physician seen to greater advantage, nor of greater practical importance to society, than when his science becomes the intervening agency of protection to injured innocence. As it not unfrequently happens to the frail and erring, but erroneously accused mortal, to stand charged with the commission of the revolting and unnatural crime of destroying the fruits of her illicit passion, and for the conviction of which, the offended laws have decreed the forfeiture of her own life, the following case, which points out one source of error, may not be without interest to the profession, or utility to society.

I was drawn into these reflections seven years since, on reading in the 1st volume (August number) of the British American Journal of Medical and Physical Science, so ably edited by Dr. Archibald Hall, the case of a married woman, who, pregnant with her first child, had hardly seated herself upon the edge of a rather high chair, when the uterine contraction became suddenly so energetic, that before assistance could be afforded, the child was forcibly expelled and fell head-foremost on the floor, and was killed upon the spot! The case is related by Dr. James A. Sewell, under the head "*of source of error in supposed Infanticide.*"

It is written and commented upon under those feelings of benevolence which have at all times characterised that amiable and talented physician, and with a desire of supplying those deficiencies of facts, so important and interesting in a medico-legal point of view, and which, while advancing the higher purposes of science and humanity, never fail of justly elevating the character of the author.

In cases of infanticide, the important question upon which the charge of murder can be founded, rests entirely upon the cause of death. 1. It is established that the child may die during its birth or after. 2. In either of which, it may die from natural or violent causes. The violent

causes may have originated from accidental or criminal design. The last case only, involves the question of child murder. But when called before a Coroner's inquest, on the important responsibility of investigating this cause, we ought to endeavour to lay aside that feeling which often induces us to see a criminal in every one who happens to be accused, and to keep in mind the valuable principle of *Grotius*, "prius est crimine quàm de reo inquirendum."

With a view of adding another case of unexpected seizure, (primiparens) with labour, and sudden expulsion of the child by the violent efforts of the uterus, I beg to relate the following:—

In the month of May last, I was hastily called to visit a young married woman, named Paquet, living in a back concession of this Parish, taken, as stated by her husband, suddenly ill, under very peculiar circumstances. On reaching the house, the patient informed me, that early in the morning, she was seized with violent colic pains, and a desire of evacuating her bowels, and for that purpose she had gone to a privy, (if it may be so called,) situated a short distance from the house, that while on the stool, a wide open place, the pains became so severe that she could not move, and nearly lost her senses; that all on a sudden she felt something pressing heavily downwards, she gave one scream, (heard by her mother in the house,) and at the same time she felt something leaving the passage, and falling into the privy-hole; the child's head, in falling, came in contact with a piece of wood projecting on the side of the privy, and produced great laceration of the scalp over the right parietal bone, but no fracture; the cord, which, on measuring, was found to be nineteen inches long, was ruptured near its placental end; the child, a full grown one, survived three or four hours.

This young woman was twenty-three years of age, of irreproachable character, and had been married only ten months, and on the morning in question, she was under the impression, as was also her mother, that she had upwards of two weeks to reach the time of her confinement.

This, then, is another case which suggests many important reflections in regard to the medical jurisprudence of infanticide, and, from the *possibility* of its occurrence in the unmarried state, it points out the great responsibility which is attached to the Coroner, if, in the vindication of justice, and the due protection of society, he fails to place before his jury such facts as are available through the agency of an experienced physician, and through whose proper information, respecting the phenomena which accompany birth, he may influence that jury in rendering an irreprehensible verdict. The following from Mr. Ollivier's *Annales d'Hygiene, &c.*, so intimately bears upon the above subject, and conveys so forcibly and impressively the integrity of position which the physician or surgeon

should assume in giving evidence in courts of justice, on subjects connected with medical jurisprudence, that I have presumed to quote it:—“*Lorsque la justice demande des lumières de la médecine, les explications de cel-ci doivent être aussi complètes que possible. Un expert doit donc dire tout ce que la conscience lui inspire, quand ses observations sont d’ailleurs le résultat de l’examen attentif, qu’il a fait du sujet sur lequel on demande son opinion. Il est de son devoir de dire alors tout ce qu’il croit de nature à favoriser la découverte de la vérité: il aurait tort de borner ses réponses aux questions qui lui sont posées, s’il ne peut exprimer de la sorte toute sa pensée.*”

ART. XXXI.—*Case of Saturnine Ptyalism.* By H. HILL, M. R. C. S. L., Bytown, C. W.

THE following instance of a peculiar idiosyncrasy, or susceptibility of the constitution, to the effects of lead on the salivary apparatus, may prove interesting to the pharmacist as well as to the toxicologist. During the past spring, I was in attendance on a lady who was threatened with miscarriage about the eighth week of pregnancy, the symptoms were very slight at first, being confined to the smallest possible appearance of hæmorrhage, unattended with any pain or sense of weight in the pelvic region; it consequently was thought, that by enjoying perfect rest in the horizontal position with the use of sulphuric acid and opium, that all unpleasant consequences would be avoided. After having kept the patient in bed for a fortnight, during which time there were occasionally the very slightest marks of hæmorrhage, one morning the sign of abortion became too evident to be any longer mistaken, or the expectation of its recurrence to be further delayed; after a few hours the ovum became detached and came away, with considerable flooding at the time, and continuing for days and weeks afterwards. It was soon after the continuation of the hæmorrhage that I commenced to administer the acetate of lead in five grain doses with ergot of rye, about every four hours; its effect on the flooding was marked, the discharge became decidedly lessened, but on the third day all the symptoms of mercurial salivation were evident, the gums were much swollen, the buccal and labial glands elevated and raised, the sublingual and submaxillary glands enlarged and painful, whilst the saliva was pouring from the mouth, possessing the characteristic fœtor of ptyalism. I should have sought the explanation of these phenomena in an accidental admixture of Calomel or Corrosive Sublimate

in the specimen of lead, of which I was availing myself, had it not been for the circumstance, that, about two years previously, under precisely similar conditions with the same individual, like results had taken place; at that period, having been using portions of the same specimen of lead in several cases without any of these abnormal effects, I had no reason for suspecting its purity, but in the latter instance, I examined it with hydriodate of potassa, which only threw down the beautiful yellow precipitate of iodide of lead without any vestige of the salmon colour of iodide of mercury. So singular an effect of lead I have never before met with, either in practice or in works on *Materia Medica*, or *Toxicology*; *au contraire*, in Christison's work there is reference made to a paper published by a Mr. Daniell, in the *London Medical Repository*, advocating its use as a *Remedy* in mercurial salivation.

This unfortunate idiosyncrasy, existing in my patient, effectually excluded the continuance of the acetate, which was immediately followed up by a return of very distressing hæmorrhage, and was only finally controlled by the use of the tampon, which I look upon as a most effectual means of arresting uterine hæmorrhage, and one that is too seldom had recourse to from non-appreciation of its utility, or from prejudices founded on its unphilosophical effect of rather assisting to distend the uterus, than of allowing of its permanent contraction, and plugging up the vessels by coagulation of the blood.

ART. XXXII.—*A few observations on Dr. Howard's Lecture.* By
MEDICUS.

WHENEVER a member of any profession assumes the position of a teacher in that profession, and makes his teachings patent to all, by their publication, he at once becomes amenable to the laws of criticism, and cannot, therefore, be displeased if his productions excite attention and remark. Modern clinical instruction, which comprises clinical lectures, conversations, and investigations, is eminently fitted to impart practical knowledge to the student of medicine. Books, no doubt, are of great value to him; but books can *never* make up the loss which he sustains by a neglect of bed-side instruction. It is only in the wards of an Hospital that disease can be *seen*, *heard* and *felt* by the student; it is there only that he can meet with, and observe it in its various phases, modifications and complications; it is there only that the higher powers of his mind, on the successful cultivation of which greatly depends his future success in life, can be fully exercised

in the diagnosis of disease. It is, therefore, a matter of no slight importance that the information and direction he receives from his clinical instructor should be as free of error as possible. This, I must offer as my excuse for the few remarks I intend to make.

I commenced the perusal of Dr. Howard's lecture with a feeling of satisfaction, that, in this city, a young physician had taken up the subject of heart disease; a subject which, notwithstanding the light that modern investigation has thrown upon it, is still in many parts obscure. Much has yet to be worked out in cardiac pathology—much in the symptoms and treatment of cardiac disease. It offers, therefore, to the ardent and persevering who are so fortunate as to occupy positions in our Hospital Staffs, a mine which by hard working may yield a fair return for the labour expended on it. I finished the perusal with feelings of more than disappointment. I expected, from the title of the paper, that, at least, "the cadaveric examination would have confirmed the diagnosis very closely." Whether such was the case or not, and whether the different steps of the process by which Dr. Howard arrived at his diagnosis, were such as in every respect merited the confidence of his hearers, are questions which will be more properly answered by a careful examination of the whole case as recorded by himself. The first part of the diagnosis was "*no disease of the aortic valves; possibly disease of the mitral, obstructive rather than regurgitant; or, perhaps, softening or weakness of the heart.*" The only portion of this clause verified by the subsequent *post mortem*, was "no disease of the aortic valves." The mitral valves were found quite healthy, and, instead of softening of the muscular structure of the organ, the walls of the ventricles were found "*firm and red.*" I must confess to a complete ignorance of any pathological condition of the heart, termed "weakness of the heart." I have read somewhat of cardiac pathology, but in no author that I have had access to, have I found any notice taken of a morbid state to which such a denomination has been given. I imagined, at first, that the term "weakness" was used synonymously with "softening," but, on reading further, it became evident that the terms were used to signify separate and distinct conditions:—for example, he says, "yet softening and weakness of the heart *are* also tolerably frequent"; clearly drawing a line of demarcation between the two, and although the following would appear to embody his views of the difference between "softening" and "weakness," and of the condition obtaining in weakness of the heart,—"*softening of the heart, whether from fatty degeneration, inflammation, blood disease or other cause; weakness of heart from engorgement of its cavities and polypus, all pro-*

duce many of the signs and symptoms observed in Churchill's case ;" yet, on another page, he completely does away with this impression, by saying, "a largely dilated heart would be equally compatible with such signs and symptoms on the supposition that its walls were *weak*, or that they were gorged with blood from the obstruction to the pulmonary and general circulations."

Another circumstance, which I must take objection to, because of its tendency to perplex and mislead the student, is to be found in that portion of one of the above quotations which I have italicised, *viz* :—the placing of a recognized pathological condition of the heart among the causes of another condition. "Fatty degeneration of the heart" is treated of by all modern writers on heart disease in distinct terms, and is never associated, as a cause, with the pathological state treated of under the name of "softening."

There is one sign of polypus of the heart, of great diagnostic value, which Dr. Howard has entirely omitted to notice, and that is, *violent and continued vomiting, without any accompanying thirst, redness of tongue, pain in the epigastrium or pain on pressure*, occurring in connection with sudden dyspnœa, constant tossing of the arms, and throwing of the body from one side of the bed to the other—expression of extreme anguish, &c., &c.

The second part of the diagnosis was, "*enlarged heart, Dilatation of right ventricle, with slight tricuspid regurgitation, Left hydrothorax and pulmonary congestion.*"

The heart was enlarged. That the right ventricle was dilated, and that there was slight tricuspid regurgitation, however, admits of serious doubt. He makes the following record in his account of the autopsy :— "Heart *dilated* and hypertrophied," and singularly enough, follows it up, a few lines after, with the announcement, "*both ventricles closed by rigor mortis.*" Now, how to reconcile this plain contradiction otherwise than by supposing that, having fully made up his mind from the symptoms present during life, that dilatation existed, he felt himself bound, from his convictions, to assert its presence, notwithstanding the "closure" of the cavities. In his subsequent remarks on the case, he falls into the same error,— "the cadaveric examination proved the heart to be *generally dilated* and hypertrophied ; the right cavities so enlarged as to allow of tricuspid regurgitation whenever distended by the blood, which would naturally accumulate therein during severe exercise, or the dyspnœa under which the patient labored,"—which latter clause means neither more nor than the right cavities were of normal dimensions, for what novice in physiological anatomy does not know of the "safety-valve action" of the tricuspid valves ; an action which

allows regurgitation to take place, precisely under those conditions mentioned by Dr. Howard.

In speaking of enlarged jugular veins as being a sign of a dilated right cavity, if he had said, that the fact had been established by Lancisi, and corroborated by *nearly* every writer from his time, "and by myself," instead of saying, "as established by Dr. Blakiston, and corroborated by myself," it would have been more strictly correct. I have said *nearly* every writer, for there have been some distinguished dissidents. Corvisart, for instance, rejected it, because "it has been noticed in patients in whom the left cavities have been found to be dilated, and because the pulsation may be confounded with that of the carotids." His illustrious pupil, Laennec, however, speaks decidedly in favour of it:—"An habitual distension of the external jugular veins without sensible pulsations, has appeared to me the most constant and characteristic equivocal sign of dilatation of the right cavities of the heart."

There was an adherent pericardium which was not diagnosed.

It has not been my object, in these few remarks, to find fault with Dr. Howard for not making a perfect diagnosis. I am too conscious of our present imperfect knowledge of the various morbid conditions of the heart, and their declaratory signs and symptoms, to expect anything of the kind. What I object to is, the confidence with which he tells the student, that he has "had an opportunity of observing some of the difficulties that are frequently encountered at the bed-side, in ascertaining the exact pathological conditions existing in affections of the heart, and, at the same time, of witnessing how many of those difficulties may be overcome, and how *large* an amount of *positive and accurate* information may be obtained by the application of our present knowledge of cardiac diagnosis, when assisted and corrected by successive examinations," when the case would serve as an excellent illustration of failure in diagnosis, notwithstanding patient and repeated investigation.

If I might, in concluding, venture to give a hint to Dr. Howard, I would say, "carefully eschew for the future *elaborateness* in drawing up cases for the benefit of the student, and adopt, as much as possible, a plain and simple language, and let every statement be concise and rigidly correct."

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

On the Fallacies of Homeopathy, and the imperfect statistical enquiries on which the results of that practice are estimated. BY C. H. F. ROUTH, M. D., M. R. C. S.

As the empirical practice called Homeopathy is now being introduced into some of the larger cities of Canada, we deem it our duty to lay before our readers the more important portions of recently published works, written in exposure of the fallacies of this specious system of medicine, as they come to hand.

It is true, indeed, that the regular profession of this Province have little cause, from present appearances, to apprehend any wide spread adoption by the people, of the absurdities of globulism. Canada, although geographically in juxtaposition to a country where hydra-headed Quackery reigns rampant, and rapidly multiplies its heads even without excision of a previously existing one; where homeopathy, soon after its first promulgation, found a sure footing; and where Homeopathic Colleges yearly send forth numbers of manufactured globulists to dispense sugar of milk pilules to every willing dupe, can boast of but four homeopathic practitioners. This, we take it, is highly creditable to the sound common sense of the community; for, if adequate encouragement were given by the people to the system, there is not the slightest doubt but that, long ere this, homeopathic practitioners would have been as "plenty as blackberries."

It is a fact worthy of honourable mention, that out of a profession numbering upwards of eight hundred members in this Province, two only have been induced to place themselves beyond the recognition of the regular practitioner, by throwing up legitimate medicine and adopting this branch of irregular practice, and they had not obtained, nor were they likely ever to obtain, a position, of even respectable mediocrity, in the legitimate practice of medicine. How far the following remarks, taken from an able review of Homeopathy in the last number of the *British and Foreign Medico-Chirurgical Review*, are applicable to those two, we leave practitioners of older standing, and of longer residence in this city than ourselves to judge. "They are not to us disinterested enquirers after truth, patient endurers of unmerited contumely, followers of a faith which the dictates of a deep conscientious conviction required them to adopt. They are rather men who follow their profession, and who suffer their pseudo-martyrdom for no higher or holier motive than the need to make money. Their motto is "REM." No sophistry, however elabo-

rate, no manifestation ; scientific research, however apparently profound ; no protestations of deep conviction, however loud, can blind the observer of their proceedings to the damning fact, that before they embraced homeopathy, they had no success, pecuniary or curative, in ordinary practice. Their failures in the former sense are patent to the world, in the latter are loudly proclaimed by themselves."

Dr. Routh has divided his pamphlet into three parts. In the first division he gives a definition of the system, and briefly, but satisfactorily, exposes the absurdity of the reasoning employed by the globulists, their amusing contradictions, their moral obliquity, in fact, their want of common honesty and perpetration of direct fraud in many cases. Take, for instance, the following as an example of moral obliquity and direct fraud.

"And others, however, go even further still, they combine Homeopathy with Allopathy, at the choice of the patient. It is now no longer among the less distinguished ; the heads of the homeopathic school adopt it. Professor Henderson authorizes the mixed practice, and his views are admitted by the *Journal of Homeopathy*. Occasionally, however, it becomes necessary to show that homeopathic medicines have really an effect, and this is especially useful with unbelievers. Our strongest active principles are put in a homeopathic pill or pilule and administered. It is owing to such treachery that the Duke of Cannizaro was killed by three homeopathic globules. The death of Mr. Horace Green, of New York, who swallowed in sport a number of homeopathic globules, is explained in the same way." (p. 10.)

Dr. Alfred Taylor* relates a case, in which the salts of morphia were surreptitiously administered in poisonous doses by a homeopath. Five years ago, there appeared in the *Kinderhook Sentinel* a notice of a coroner's inquest having been held in Stockport on the body of Martin Van Stickler, who, in jest, swallowed a number of homeopathic pills furnished to him by one Dr. Philip, a globulist. Shortly after swallowing the globules he was seized with symptoms of poisoning by strychnine, and in a few hours was a corpse. Dr. P., when sent for, refused to go, stating as his reason, that, if Stickler had taken the whole of the medicine, it was useless, as the case would inevitably terminate in death.

The jury returned that he came to his death *by taking an overdose of arsenic and strychnine pills.*

In the March number of this Journal (p. 26) we copied from the Buffalo Medical Journal the record of a novel operation performed by Prof. F. H. Hamilton, for the restoration of the lip, in a case where extensive destruction of the lower jaw and face resulted, in a child of seven years of age, from the administration of homeopathic globules.

* Taylor on Poisons. p. 617.

Many other well authenticated cases, that have occurred at a distance, might be cited, but our space will not permit us to notice more than one additional instance, one which occurred in this city, which was, we have not the slightest doubt, conducted with all due secrecy, and consequently supposed to be destined never to see the light. We may state in the premises, that we are fully prepared to prove, whenever called upon, the truth of the particulars of this case. While Dr. Rosenstein was tickling the ears of the more credulous of the inhabitants of Montreal, with high wrought descriptions of the wonderful cures effected by homeopathic practice, and the impossibility of affecting a cure in disease, otherwise than by strict attention to the "universal law" *similia similibus curantur*, the remedies being administered in infinitesimal doses, he was *practising* in the following manner:—A gentleman suffering from Syphilitic nodes, placed himself under Dr. R.'s care, to be treated *homeopathically*. Instead, however, of giving the pilules, he wrote out the following prescription and desired him to get it made up at a druggist's. ℞. Morph: Acet: gr. iss: Aquæ Dist: ℥ iv. This was followed a short time after by ℞. Olei Terebinth: Olei Sabinæ aa ℥iii: Tinct: Opii ℥ ii: Decoct: Sarzæ ℥iii. The directions for taking them were given verbally. This he denominated the "*anodyne preparatory treatment*." The next prescription was ℞. Pot: Iod: gr. xv: Aquæ Dest: ℥ viii. one ounce to be taken every fourth hour. Leeches were to be applied in the vicinity of the painful swellings, and subsequently the following ointment was to be applied to their surface. ℞. Pot: Iod: ℥ iss: Opii ℥ii: Axungiæ ℥ i. The Iodide of potassium was gradually increased in the mixture until the patient took fifteen grains during the day. A friend, to whom the prescriptions were given, expressed his surprise to Dr. R. that he should adopt such treatment. "*The truth is,*" was the Quack's reply, "*some diseases cannot be cured if we stick to pure Homeopathy.*"

There are three things indisputably proved by the foregoing cases: 1st. *Poisonous doses of the active principles of medicines may be administered in a few homeopathic globules.* 2nd. *Homeopaths have not scrupled to avail themselves of this circumstance, for the purpose of fraudulently administering active remedies.* 3rd. *Homeopaths do not hesitate in violating the fundamental principles of their system, by having recourse to orthodox treatment in certain diseases.*

We confess to a genuine feeling of respect for the man, who, conscientiously and with singleness of purpose, adopts a system of treatment, and consistently carries it out, even although the principles, on which such treatment is based, are to others palpably erroneous. We can look without positive disgust on the bold and sturdy quack, who, while

conscious of the falsity of his assertions, pursues his course without deviating in the slightest to the right or left. But we regard with feelings of unmitigated loathing and contempt the man, who, actuated by sordid motives, is guilty of the despicable scoundrelism of denouncing in unmeasured terms the regular system of medicine, and all who practise it, professing at the same time exclusive attachment to a system of a most opposite character, and yet, when occasion demands, throws his beautiful theories to the winds, and covertly has recourse to the treatment he denounces.

Most of our readers must have had their attention drawn to the *pœan* of victory which arose from the ranks of the homeopaths, when, on the discovery of the magnetoscope, experiments were instituted by some of their leading men to ascertain if infinitesimal quantities of matter really produced any effect on the organism. Wonderful, indeed, was the disturbance which a decillionth of a grain caused, of the animal magnetism. Here was a proof, then, which the regular profession must succumb to. The magnetoscope could not utter a falsehood, and it spoke absolutely in favour of globulism. Many who firmly believed they were practising a lie, now, astonished beyond measure at finding themselves accidentally in a path so strange to them as the way of truth, increased their arrogant boasting, spoke loudly of the proof this wonderful instrument afforded of the truth of their science, (save the mark!) and launched out double the ordinary amount of abuse on the heads of those who were "so far behind the times" as to doubt the results of the experiments. Non-professional papers in London and New York had elaborate "leaders" on the subject, which were copied by Montreal papers, and in which the thing was made so plain, no man of ordinary intelligence could indulge in the slightest scepticism. What a pity it is, that all those high hopes should have lately "melted into air, thin air"! But it is not the first time that precipitancy in forming conclusions has brought experimenters to humiliating recantation and exposure.

"The last argument used in favour of the efficacy of infinitesimal doses is connected with the discovery of the magnetoscope. By this we were triumphantly informed, that infinitesimal doses, a long way beyond the *Ultima Thule* of homeopathic arithmeticians, the decillionth could be detected, and were found to produce exactly the same effect on the magnetic currents as the same medicine in its grosser preparations. Here was indeed a discovery, and one which could not fail to stagger the most incredulous; but, *O miserabile dictu!* Dr. Madden has now recanted! He sinks beneath the mighty arguments of "J. H."* Dr. Madden himself now admits, in a letter published in the same

* Homeopathic Times, Nov. 8.

Journal, "that he fears he is bound to conclude that Mr. Rutter's magnetoscope in its present form *is not applicable to experiments with homeopathic doses, the motions produced being the result of every slight motion of the operator's hands.*" What a falling off is here! It may be wrong to crow over a fallen foe; I shall, therefore, rest satisfied, in instancing this *mauvais pas* on the part of homeopathic professors, as another proof of their tendency to universalize from a few non-conclusive and hasty experiments." (p. 16).

In the second and third parts, Dr. Routh enters into a critical examination of the Statistics published by the Homeopathic Hospitals. From a residence of several years in Vienna he was enabled to observe the treatment adopted in, and make himself acquainted with, the nature of the cases admitted into Fleischmann's Hospital. This was absolutely necessary in estimating the value of the Statistics published by that Hospital. "Statistical tables," says a writer on the subject, "may lead, and have led, to incorrect notions, when the bare results are considered, without reference to the causes and accompanying circumstances, but, when used with due caution, they are of the highest importance." To form a correct judgment of the importance of any course of treatment pursued at a Hospital, as compared with that adopted at any other, more is to be taken into consideration than the mere comparison of the average rate of mortality, made out from the returns of such Hospitals. In the first place, the previous condition in life of the majority of the patients will influence very materially the ratio of deaths. If the greater number admitted into one institution are persons belonging to the lowest ranks, of seriously impaired constitutions, from a familiarization with dissipation, poverty, filth and misery; and the other institution receives those only who belong to a better class, and who have previously led temperate lives, and have had sufficient clothing and food, it would be obviously unfair, putting aside entirely the consideration of treatment, to expect the same average amount of recoveries out of a certain number of cases admitted into each. Dr. Routh notices this circumstance.

"The delusion of homeopathy has only reached the upper and better class, and not the very lower orders. These debilitated, oftentimes by excess, privation, exposure, &c., are at all times the more obnoxious to disease, and less able to resist it when once it has attacked them. The acute cases, in addition, will be sure to come to us, at least the great majority of such cases. In addition, I can state from personal observation in regard to Dr. Fleischmann's Hospital (homeopathic) that the patients are not the very poorest, but the better class of working mechanics and manufacturers. Those in the General

Hospital are oftentimes the most wretched objects living. My observation, I am happy to find, is fully confirmed by Dr. Gluck, who for a considerable time attended the practice of Fleischmann's Hospital in Vienna." (p. 43)

It is easy to conceive, again, how much an average could be affected by one party having recourse to a selection of cases, that is, admitting by preference those suffering from ailments distinguished for mildness and non-fatality, and rejecting many afflicted with *bonâ fide* dangerous or incurable disease.

"When, for instance, we find in Fleischmann's Hospital, between 1835-43, the following simple cases (which cannot include the more severe, which are referred to separate heads):—Hysteria, 6; hypochondriasis, 3; spasms, 23; spasms of bladder, chest and stomach, 37; amenorrhœa, 10; chlorosis, 80; rheumatic and gout affections of the chest, 47; catamenial colic, 15; headaches, 79; hoarseness, 6; shingles, 20; swelling of cheeks, 29; vomiting, 23; simple cough, 9; dyspepsia, 172; catarrh, 43; chorea, 4; &c., &c., total 662, of simple diseases, seldom fatal, not to include 270 very mild surgical cases and such diseases as tonsillitis, &c., it is very difficult to believe the cases are not selected. In 1842-43, in the Leipsic Hospital (homeopathic) we have 23 cases of odontalgia, *i. e.* simple toothache, admitted out of 418 cases altogether." (p. 39.)

In Fleischmann's Hospital, between the years 1835-43, the proportion of cases of amenorrhœa chlorosis and headaches to all cases admitted, was 22 per 1000, and in Leipsic 29 per 1000. In the Glasgow Infirmary, it was only 4 per 1000, and in the General Hospital at Vienna, in the two years 1848-9, it was 10.9 per 1000. There were admitted of the incurable disease, pulmonary phthisis, into the

			per cent.
"Glasgow Infirmary, 4 years	481		4.0
General Hospital, Vienna, out of 51,709 cases	366		4.5
Dresden 1821-43	27,067	"	1854 6.8
Strazburg, 1841 (Forget statistics)	1,324	"	128 9.6
<i>In the Homeopathic Hospitals.</i>			
Fleischmann's	6,501	"	98 1.5
Leipsic 1841-8	6,507	"	101 1.6"

We are of opinion, that our readers will agree with Dr. Routh, in regarding the foregoing facts as containing positive proof of the homeopaths having recourse to a selection from the cases which present themselves for admission into their hospitals.

The extremes of age are notoriously incapable of resisting disease. Under 10 and over 40, the *vis vitæ*, as a general rule, readily yields to an

attack of illness. In the former case, development and growth are rapidly proceeding; the ordinary demand on the circulatory and nervous systems is very great. Any powerful additional stimulus, therefore, rapidly exhausts the nervous excitability, seriously deranges the various functions through the circulation, arrests development and growth, and soon terminates, if relief be not obtained, in the death of the individual. In the latter, a gradual decay has commenced, which would of itself eventually terminate in complete dissolution, and which may be very much hastened by many causes, particularly by disease. The circulation becomes languid; the functions gradually lose their activity and become almost torpid; there is less reactive power of the system.

Dr. Routh gives a table, (p. 45) in which he shews that the number, per cent., of cases admitted into the Homeopathic Hospitals is, under 10 years of age, 11.2; between 10 and 40, 73.7; and above 40, 15.1 per cent. Nearly three-fourths of all the cases being between the years, which mark the boundaries of the time when the body is most capable of resisting disease. Here, again, is evidence of careful selection, on the part of the Homeopaths, for the purpose of showing a small rate of mortality.

Dr. Routh, in the second section of the third part, takes up the subject of "mortality on particular diseases," and proves conclusively, from their own returns, that, under the heads of such serious inflammatory complaints as pneumonia, pleuritis and peritonitis, they include many diseases of a neuralgic character; and, indeed, have recourse to various disgraceful means, with the view of shewing that their treatment is even more successful in those diseases, than that pursued by the regular profession. "Thus in the Leipsic (1841-2) returns, we have 7 cases of peritonitis *muscularis*; in 1840-1, 1 case of peritonitis *muscularis*, another of pleuritis *muscularis* (Statklinik); again the same year, 3 cases *muscular peritonitis* and *muscular pleuritis*, &c., in their cases of pneumonia, instances of *pneumonia-hypostatica* are recorded. This improper nomenclature it is clear, as including diseases perfectly different and in no ways fatal, must materially affect the cypher of mortality when a comparison is made for special diseases." (p. 48.)

In conclusion, Dr. Routh is deservedly entitled to the thanks of every member of the medical profession, for his able *exposé* of the "crooked statistics" of the Homeopathic Hospitals. His pamphlet is a *desideratum* which the opponents of this branch of quackery long wanted. Want of positive and reliable information on the subject, placed the defender of medical truth in a disadvantageous position; for when all other argument failed, the Homeopath was sure to bring forward his "statistics," and triumphantly point to the small cypher of mortality which they exhibited.

Elements of Chemistry. By THOMAS GRAHAM, F. R. S., Professor of Chemistry in University College, London, &c. Second American Edition from an entirely revised, &c., and greatly enlarged English Edition. Edited with notes by ROBERT BRIDGES, M. D., Professor of Chemistry in the Philadelphia Medical College of Pharmacy, &c. Part 1. Blanchard and Lea, Phil., 1852.

THIS portion of the above treatise begins with a short but clear account of the most important of the laws of heat. Having merely glanced at the mechanical properties of light, upon which, in our opinion, the author is altogether too brief and condensed, the important subject of polarised light, for instance, being considered in twenty-two lines, he discusses at considerable length the various topics appertaining to what may be called Chemical Philosophy, viz, chemical nomenclature and notation, the laws of combination, isomorphism, chemical affinity and polarity, and the like. The metalloids and their combinations with each other are then described in a very full yet practical manner, and the most approved methods of obtaining the elements and their compounds explained, and illustrated by numerous well executed wood-cuts of the necessary apparatus. The last chapter is devoted to general observations upon the metals, and a particular description of the metallic bases of the alkalies, alkaline earths, and earths proper. In connexion with each metal is found an account of its various compounds with the salt-radicals oxygen, chlorine, iodine, cyanogen, &c., and of the most important salts resulting from the union of its oxide or oxides with the mineral acids, a plan which secures to the student a connected and consecutive account of a metal and all its important chemical combinations.

Being thus occupied with the *principles* of the science, and with that department of chemistry, the *inorganic*, which has been less enlarged and investigated for the past few years than the sister or *organic* department, it can be scarcely expected to contain many novelties, or facts not embodied in the other excellent and recent works upon the same subject already in our hands; and such is actually the case. Hence in our further remarks upon the book before us, we will simply point out some of the passages, opinions, and subjects, that we noted as worthy of comment or mention, when perusing it.

It will be remembered that the late Dr. Prout suggested, and ably supported, the hypothesis that the equivalents of all the elements are simple even multiples of the equivalent of hydrogen, which if regarded as all the others will be whole numbers. Now as this opinion was also maintained by Dr. Thomson and others, and seemed to be sustained by ex-

periment, and was regarded by Herschel* as involving "a class of phenomena in physical science of a remote and singular kind, and of a very high and refined order, which could never become known but in an advanced state of science," it enlisted in its investigation many of those aspiring minds, who, not content to be the mere inheritors of bequeathed opinions, explore for themselves nature's storehouses of knowledge, and seek in their turn to add new particles of truth to the general mass. From their labours, "it appears to be definitely settled," to use the words of Professor Graham, "that the equivalents of the elements are not, without exception, multiples of the equivalent of hydrogen. The number for chlorine, 35.5, is conclusive against that hypothesis." But the *principle* of the idea conceived by the profound Prout seems to be quite established, for our author proceeds to say: "At the same time, the accurate determinations of the equivalents of chlorine, silver, and potassium, by Mauminé, lend positive support to the opinion that these and all other equivalents are multiples of *half* the equivalent of hydrogen." p. 118.

When M.M. Dulong & Petit discovered that equivalent or atomic weights of many elements have the same capacity for heat, they drew the general conclusion that *all* simple atoms have the same capacity for heat, and that those atomic weights which are inconsistent with that supposition ought to be altered and accommodated to it. Could such a remarkable relation be proved to exist between the chemical and the molecular constitution of bodies many important consequences might arise from it. Among others, the specific heat of a body would afford the means of determining its atomic weight. However, more extended observation has led Professor Graham and others to conclude "that elementary atoms have *not* necessarily the *same* capacity for heat, although a *simple relation* appears *always to exist* between their capacities." Thus while the specific heat of an atom of the following bodies, lead, tin, copper, nickel, cobalt, iron, sulphur, &c., is 1, that of arsenic and silver is 2, of phosphorus 4, of iodine $4\frac{1}{2}$, and so on. It may be as well to state that the specific heat of an atom of a body, or its "atomic heat" as it is called by Regnault, who has lately added much to our information on this subject, is obtained by multiplying the observed specific heat of the body by its equivalent number. From the researches of Neumann, Avogadro and Regnault, it appears that a *similar relation* exists between the *specific heat* and the *equivalent numbers* of *compound* bodies of *analogous composition* as obtains among the elementary. Our author, after illustrating this fact by 2 classes of salts, the carbonates and

* Discourse on Natural Philosophy, by J. F. W. Herschel, p. 307.

sulphates, observes: "Identity in capacity for heat is, therefore, to be looked for in compound atoms of the same nature, and which *closely agree* in their chemical relations like the numbers of each group, but not between compound atoms which are *differently* constituted."—p. 123. Mr. Regnault has announced the following general law in connexion with this subject: "In all compound bodies of the same atomic composition and similar chemical constitution, the specific heats are in the inverse proportion of the atomic weights."

The author's remarks upon combining proportions are not as clear and simple, nor their meaning as palpable as those of other writers upon the same subject; that is, a novice would not as readily seize the sense and appreciate the relative importance of the laws of combination as by perusing Turner's or Fownes' statement of those laws. But the observations on the relation between the atomic weights and volumes of bodies in the gaseous state are truly excellent, and a long and valuable table is given showing the number of volumes in an equivalent of a large number of gases and vapours, and their specific gravity as compared with air, oxygen and hydrogen respectively as unity.

In the 4th section of the 3rd chapter is a brief but able exposition of Mitscherlich's great discovery, that the same number of atoms combined in the same way produce the same crystalline form. Following out this theory, the author has arranged a large majority of the elements in 10 isomorphous groups, and extended the list of isomorphous bodies much further than is done in other English works; indeed the only elementary substances not included in this classification, and whose isomorphous relations have not been traced out, are carbon, boron silicon, mercury, cerium, didymium, lanthanum, lithium, rhodium, ruthenium, palladium, and uranium, and even of these, didymium, cerium and lanthanum, rhodium and ruthenium may probably have their places assigned them. The members of these several groups are so linked together by the isomorphism of one or more of their compounds, that it is probable that a large proportion, if not the whole of the elementary bodies, are isomorphous—indeed Professor Graham thinks "the tendency of discovery is to bring all the elements into one class, either as isomorphous atom to atom, or with the relation to the others which sodium, chlorine, and arsenic exhibit."

Having pointed out the fact that isomorphism is the surest criterion of similarity of composition which we possess, and that it is generally an indication of many common properties besides external form, and is a feature which indicates the closest relationship between bodies; and having considered the chief objections which have been urged against the principles of this truly sublime generalization, he makes the follow-

ing important observations: "Admitting that isomorphism is a certain proof of similarity of atomic constitution within a class of elements and their compounds, it may still be doubted whether the relation of the atom to crystalline form is the same without modification, throughout the whole series of the elements, or whether all atoms agree exactly in this or any other physical character.

Crystalline form and the isomorphous relation may prove not to be a reflection of atomic constitution, or immediately and necessarily connected with it, but to arise from some secondary property of bodies, such as their relation to heat, in which a simple atom may occasionally resemble a compound body, as we find sulphur isomorphous in one of its forms with bisulphate of potassa, while we find another simple atom, potassium, isomorphous through a long series of compounds with the group of five atoms which constitute ammonium. The occurrence of dimorphism also, both in simple and compound bodies, gives to crystalline form a less fundamental character.

Is it probable that sulphur and carbonate of lime could be made to appear in sets of crystals which are wholly unlike, merely by a slight change of temperature, if form were the consequence of an invariable atomic constitution? Crystalline form, then, may possibly depend upon some, at present unknown, property of bodies, which may have a frequent and general, but certainly not an invariable relation to their atomic constitution. There may be nothing truly inconsistent with the principles of isomorphism in one atom of a certain class of elements having the same crystallographic value as two atoms of another class, the relation which has been assumed to exist between the sodium chlorine and phosphorus classes, and the others, particularly when the classes stand apart, and differ in their properties from all the others, as those of sodium and chlorine do."—pp. 149–150.

The subject of *Allotropism* is also ably handled by the author. It is well known to chemists that the same compound or simple body may possess different properties under different circumstances—thus phosphorus in its ordinary state is colourless, very inflammable, luminous in the dark if exposed to air, and slowly passes by oxidation into a deliquescent acid; but when exposed for some time to a heat near its boiling point, air being excluded, it undergoes a striking change of properties; it becomes solid, brownish-red, less combustible, and unalterable in air—before it was soluble in bisulphuret of carbon and poisonous, now it is insoluble in that liquid and innocuous to the animal system. We might cite many other examples of similar transformations, but this will suffice. What is the cause of these differences of property in the same body? Hitherto this question has been unanswered, even

Liebig, in his work of 1851, attempts no solution of it. But our author has advanced the following ingenious and plausible explanation, which we shall attempt to compress into a few words. He supposes that *heat* is combined in definite proportions with bodies—that is, that it is as really and essentially a constituent of them as their ponderable elements—and that any change in the amount of their combined heat is attended with a change of properties—in obedience to the great physical law “that no change of properties can occur without change of composition.” The only objection to this hypothesis that occurs to us, is its regarding heat as a material substance in opposition to the more generally received undulatory theory of heat; but this is not a sufficient reason for its rejection, as many of the properties of heat are as explicable, if not, more so, on the molecular as on the undulatory theory.

In the section on the constitution of salts, we find a very lucid statement of a theory, which, conceived long ago in the comprehensive mind of Davy, has, under the fostering care of Dulong, Liebig, Dumas, Clark, Frémy and others, passed scathlessly through the period of infancy, and now almost claims the authority amongst modern philosophers of an established opinion. We allude to the theory which regards all salts as being compounds, analogous in their constitution to chloride of sodium; thus sulphate of soda, which, upon the old view, consists of soda (NaO) and sulphuric acid (SO₃), is composed agreeably to the new, of sodium (Na) and the salt radical sulphion (SO₄) and is called the sulphionide of sodium; so the sulphate of water (oil of vitriol) formerly stated to consist of water (HO) and sulphuric acid (SO₃), by the binary hypothesis is composed of hydrogen (H) and sulphion (SO₄) and called the sulphionide of hydrogen:—

Old view.	New view.
Sulphate of Soda.....NaO,SO ₃	Chloride of Sodium.....Na,Cl. Sulphionide of Sodium.....Na,SO ₄
Sulphate of Water.....HO,SO ₃	Sulphionide of Hydrogen.....H,SO ₄

Now though our author, in common with most authorities, evidently inclines to this beautiful and simple view of the constitution of salts and hydracids, he candidly states the arguments *pro* and *con* which affect it, and admits that this theory, like the older one rests on no demonstrative evidence, “that they are both hypotheses, and are both capable of explaining all the phenomena of the salts.” However, the American editor, Dr. Bridges, assigns several additional and very sensible objections to the salt-radical theory, which must be met before it can be substituted for its older rival.

Before concluding this glance at some of the peculiarities of this edition of Graham's Chemistry, which is indeed worthy of the numer-

ous commendations pronounced upon it by such men as Hare, Mitchell, Bache, &c., we would not silently pass over the excellent style as regards paper, type and illustration in which the publishers have produced it—the book having quite the appearance of one of Churchill's best. We hope soon to receive the second part, which no doubt will be peculiarly valuable, as it will contain that rapidly extending and exceedingly interesting department of the science—the *Organic*—in which both the author and editor will have full scope for the exercise of their judgment and industry.

R. P. H.

The Principles and Practice of Surgery. BY WILLIAM PIRRIE, F. R. S. E., Regius Professor of Surgery in the Marischal College and University of Aberdeen; Surgeon to the Royal Infirmary, &c., Edited with additions, by JOHN NEILL, M. D., &c. Philadelphia, Blanchard and Lea 1852. B. Dawson, Agent, Montreal.

WE have received the work, of which the above is the title, too late to lay an abstract of its contents before our readers in this number, but from what we have already perused of it, we are disposed to form a very high estimate of Professor Pirrie's production, which appears to give a condensed and accurate view of Surgery up to the present day, but on this subject we shall speak more fully in our next issue.

SCIENTIFIC INTELLIGENCE.

SURGERY.

On the cancerous degeneration of warty excrescences, and their treatment. By RICHARD G. H. BUTCHER, F. R. C. S. I., Examiner on Anatomy and Physiology in the Royal College of Surgeons in Ireland, Surgeon to Mercer's Hospital, &c., &c., &c.

MR. PRESIDENT,—On a former occasion I had the honour of bringing before the notice of this Society (the Surgical) a paper on the relationship that is found to subsist between cancer and fungus hæmatodes; and illustrated this alliance by preparations and specimens—1stly, when the diseases coexisted together; 2ndly, where the one was consecutive to, or replaced by, the other; and 3rdly, where the two manifestations of disease were tinuous in the same tumour.

These facts are borne testimony to and established by the investigations of Langstaff (Med. Chir. Trans., vol. ix.) Cruveilhier (Anat. Pathol., livr. xxiii., Explanation of Plates, 5 and 6,) and others.

The observations which I now wish to lay before the profession are in reference to the cancerous degeneration of warty excrescences—an

association which I do not think has met with all the careful attention from writers to which it is entitled. Entitled on two grounds—1st, from the frequency of the one as a sequence to the other; and 2ndly, from the inveteracy of the connexion when once established.

The following cases will afford exposition of the various changes brought about, from the apparently innocent verruca to the cancerous ulcer, and this again to the contamination of the system and the springing up of encephaloid disease. To illustrate still further this subject, I shall lay before the Society numerous casts and drawings, accurate representations of the respective changes as they were effected in each individual case, and shall conclude with a few practical deductions from the premises obtained.

Case 1.—Anne Sullivan, aged 52, applied to me for relief, in May, 1850, being then suffering severely from a large, painful, ulcerated tumour over the right eye. The history which she gave goes to prove that a wart about the size of a pea existed above the eyebrow ever since she was a child; that eleven months previous to her seeking my advice, it became painful and itchy; that she frequently tried to pick it away in little pieces, and often pulled long shreds out of it, the separation of which was always attended with sharp pain, lasting frequently for a lengthened period after, and usually with a smart flow of blood. About this time, too, the bulk of the swelling began rapidly to increase, with a red margin round it, and soon its appearance was altered in every respect from the original condition; the warty excrescence was cast off, and a small ulcerated surface, about the size of a shilling, lay exposed, which was elevated, hard, and circumscribed; yielding a thin yellowish discharge, and characterised by persistent pain of a pricking kind, subject at different times to various degrees of intensity. Day after day the tumour continued to enlarge, spreading its base by the accession of fresh nodules, which never rose to any greater height than half an inch above the surrounding healthy parts; the integuments thus appeared to ulcerate around, the destroyed part being supplanted with firm elevations, which, in their turn, coalesced, became convex, and in this way preserving the nodulated character of the entire surface. Thus the base extended widely in all directions—upwards on the forehead, inwards and beyond the mesial line, externally towards the temple, and down upon the cheek, and inferiorly so as to involve and depress the upper lid, and compromise vision in the right eye. The extent of ulcerated surface measured round its circumference ten inches. This amount of disease, then, was hurried into existence in the incredibly short period of eleven months. The character of the sore was peculiarly cancerous, the surface being nodulated, hard, and firm almost as cartilage, yielding a dia-

charge thin, yellowish, and watery; profuse in quantity, and emitting the peculiar odour so pathognomonic, and readily recognized by the surgeon accustomed to meet with this form of disease. Eight months after the commencement of the disease in the forehead, a tumour began to form in the upper part of the parotidian region; it gradually came on, at first attended with most severe darting pain through the ear, up along the side of the head, and forwards towards the face, and thus averting sleep for nights, even before there was any appreciable swelling. At this time, the pain, she states, to have been most agonizing; but it gradually declined as the bulk of the tumour was augmented. The size of this secondary growth obtains in magnitude about that of a split orange, and from its osseous boundaries its outline is not regular; it is also somewhat compressed transversely about its centre, and the upper part is more of an ovoid, while the lower portion is lobulated, and spread out. This cast, taken from the patient, most faithfully represents the appearances of the primary and secondary formations, and the colouration of each has been very carefully preserved. From a careful consideration of the phenomena attendant on this tumour, the rapidity of its growth, the character of the pain, the elastic sensation elicited by the touch, the colour of its surface, I concluded it was of encephaloid formation, and referred it to that class. With anxiety I watched this creature for some time, and in about five weeks after the cast was taken, the most prominent part gave way, and a fungus shot out, never attaining beyond the size of a large fig, and emitting from its centre, at intervals of a few days, repeated arterial hæmorrhages; some of them to the extent of several ounces. She struggled on in this way for two months, when she died from the debility consequent upon those frequent losses, and I regret to say I could not obtain any dissection of the body. I examined the structure of the original tumour several times with the aid of the microscope, and which most clearly proved its cancerous nature. A fine section of it showed the basis to be made up of fibrous tissue, having embedded, as it were, in its structure numerous nucleated cells; many with nucleoli. The addition of acetic acid had no other effect than that of rendering more conspicuous the nuclei at the expense of almost the dissolution of the cell-wall. On subjecting a piece of the tumour to pressure, a juice could be expressed from it yielding an abundance of cells similar to those visible in the section, and by the addition of acetic acid were acted on with a similar result. Numerous granular bodies were also floated through the fluid.

Here is a drawing of the microscopic appearances of the primary tumour, showing the arrangement of the fibrous tissue, cells, and granular bodies, which I have adverted to. The next point to be cleared up

in this case was, carefully to ascertain the nature of the secondary formation, the tumour behind the jaw, and to trace out the affinity between it and the antecedent true scirrhus by microscopic examination. After the tumour had burst and the fungus shot out, I introduced a grooved needle into its structure about an inch deep, then rotated it between the finger and thumb, and on withdrawing it the groove was loaded with the morbid product. This was not uniformly of the same consistence; some parts were harder than others. On placing a small portion of it under the microscope, every atom absolutely teemed with a profusion of nucleated cells, supported with the most delicate filamentous tissue. On examining some particles firmer than others, the cells were much the same, the only difference being in the compression of the cells; while those of the softer portions approximated more closely to a sphere. There were no caudate corpuscles present in this specimen.

Here is a drawing of the appearance of the cells, as represented under the same power as that used in the first picture.

Case 2.—Jane Murphy, aged 70, a healthy-looking country woman, who had been mother of ten children, consulted me in January, 1849, for a small tumour situated beneath her chin in the mesial line. She mentioned that a wart had been there from childhood, but that within the last four months it had lost its form, the irregular surface becoming smooth, its size larger, and extremely painful. She had been in the habit of frequently pressing the tumour, endeavouring to allay the pain, which often induced it to bleed, and then the annoyance in a measure subsided. When I first saw this patient, the tumour was about the size of a marble, smooth and polished on the surface, with a semitransparency over it, of stony hardness and quite moveable. Taking these features into consideration, together with the characteristic pain, always of a lancinating nature, the altered aspect of the part, and the period of life at which it was brought about, I was led to the inference of malignant degeneration being set up in this change, and urged its immediate removal. Coexisting with this suspicious tubercle, there was a warty growth, larger than a pea, a little above the chin, and to the left side. This, she said, also existed from infancy, never gave her any uneasiness, and exactly resembled the one beneath the chin, previous to the alteration above noticed. I removed the tumour beneath the chin in January, 1849, by two elliptical incisions, their long axis from above downwards cutting far wide of the diseased structure, and deeper by several lines of the bed of the tumour. The wound inflicted readily admitted of being brought together from side to side, and the edges retained so by two fine needles and the twisted suture, compresses were placed beneath the ends of each needle with a double object, to bear off any undue pressure and to act as on the

principle of the quill suture in supporting the lips of the wound at their very deepest line in contact, and thus taking the strain off the needles. So effectual was the support and apposition afforded that union by the first intention was constrained, almost through its entire track, the lower part only suppurating. In ten days after being cut, the wound was altogether healed, and the patient went to the country to her friends. Previous to her going home, I urged the removal of the wart above the chin, but to no effect; she would not submit to have it done. During nine months after the operation, she remained free from disease, and satisfied that a cure had been effected. About the end of this time, the wart, which had been permitted to remain, began to spread and get painful. The cicatrix resulting from the former operation became tender, tumid, and ultimately gave way by an ulcerated fissure, which rapidly grew wider, yielding a profuse ichorous discharge.

The destructive action progressed for about a fortnight, when a fungous growth spread around the sulcus formed in the first instance, assuming the shape of a mushroom and the size of a crown-piece, its margin being turned over so as to rest upon the sound skin. She came up to town again for my advice, and I declined interfering by operation; the grounds of objection being chiefly founded on the presence of a deep sinus leading backwards towards the line of lymphatics, parallel and beneath the anterior margin of the sterno-mastoid muscle. Again, the root of the disease was struck so deep, and the width of the contaminating base so widely spread, that even the most expert operator could not be satisfied that the entire was removed. Palliatives were again ordered, and she returned to the country. For many months the disease very slowly increased, but the warty excrescence was very considerably augmented, its surface having ulcerated, and the same process spread its margin, until ultimately it joined the disease spreading upwards from beneath the chin, the two having coalesced and become inseparably united together. During the last four months still further changes have been added; not only has the original manifestation of the disease been progressive, but we have formed two additional tumours, situated one on either side of the neck, and in the line of the absorbents, manifestly of encephaloid nature. Their springiness and elasticity, their colouration, and above all, the microscopic examination of their contents on exploration, pointed to, and confirmed the opinion of, their being true cephaloma. In this miserable state she endured, the gravity of the symptoms having been greatly increased, pain giving rise to the most intolerable suffering, the features being haggard and pinched, and the skin of a dull ochry colour, debility and emaciation having made rapid progress, and all the functions of the eco-

mony more and more becoming implicated in the deteriorating influence of the disease.

In this deplorable condition (in December, 1851), she went back to her family in the country, to await her final release from suffering, which, to all certainty, was not far distant.

Here is a cast accurately showing the condition of the parts previous to operation in January, 1849; and here is a second, graphically illustrating the changes which have been brought about, from the period of nine months after the operation, when the disease appeared in the cicatrix, with all the progressive changes up to the present time (January, 1851), an interval of fifteen months having elapsed. The painting of each has been most truthfully executed.

I have also preserved these microscopic drawings, taken of the primary and secondary tumours as they appeared. Here is one representing the appearances of the tumour that first showed itself beneath the chin. It exhibits a number of true cancer cells, scattered everywhere through a fibrous basis. Some separate cells are also seen detached.

This second drawing shows the arrangement of the encephaloid tumours which sprung up beneath the mastoid muscles. The structure seemed entirely composed of myriads of nucleated cancer-cells, and very closely resembled the secondary formation in the case of Sullivan; inasmuch as there were no caudate corpuscles in this specimen either, and the cells were held together by the finest areolar tissue.

Case 3.—Ellen Fitzpatrick, aged 65, consulted me in March, 1850, for a large bleeding wart, placed above and behind the right ear; it was attended for some time before with repeated hæmorrhages. She said it had been there for many years, never created any annoyance until about six weeks before seeking my advice. She referred the great change which had taken place in it to a bruise occasioned by a water pail that she had been in the habit of carrying on her shoulder. Shortly after this "the wart became very sore," and soon the pain set in, of intense character, darting up along the side of the head, down towards the angle of the jaw, and represented by the sufferer as "indescribably severe." On examining the part, a highly irritable and inflamed base surrounded the tumour, which was about the size of a shilling, uneven on its surface, and elevated about half an inch; it was hard to the touch, and bled upon the slightest pressure from an ulcerated line partly round it and through its structure.

I removed this tumour with great care, cutting far wide of the base, and as I thought most effectively. Two arteries sprung which required ligatures, and so free had been the excision that the edges of the wound

would not permit of being brought together, yet it healed perfectly in three weeks by granulation, a soft yet polished cicatrix being left. For a period of eight months she continued quite well and exempt from all annoyance. After this time she began to complain of uneasiness behind the angle of the jaw on mastication: by degrees the part became tense, and then she felt a small tumour there. This at the time she believed originated from cold, and it did not alarm her, more particularly as she often relieved the urgent pain by repeated stuping. However, the swelling continued to increase so as to become perceptible, and when it attained such magnitude as to fill up the angle of the jaw, she began to suffer from the effects of paralysis of the facial division of the 7th nerve on the right side. Day after day the tumour extended itself, particularly in the direction of the site of the original warty excrescence. At this time she again sought my advice, and then the case was truly a lamentable one. A tumour, considerably larger than an orange, filled up the space between the angle of the jaw and the mastoid process, lost upwards towards the zygoma, passing downwards and encroaching on the neck, extending behind the ear, and implicating the structures attached to the occipital bone: uneven, projecting, and lobulated on its surface; fixed, irregular, and immoveable at its base. The colour of the tumour was very remarkable and strikingly indicative of the condition so frequently associated with the proper circulation of the true cephaloma. Large veins traversed it in every direction, some of them lying, as it were, in grooves embedded on its surface; while again numerous vessels marked the colouration in a peculiar way, constituting what might be called a number of vascular spots, from which capillaries radiated in every direction for a short distance, and ultimately breaking up into a fine ramiform distribution.

Here is a cast taken from the patient at this time, which most accurately shows the position, form, and colour of the secondary tumour, also the paralytic condition of the corresponding side of the face, from the implication of the motor portion of the 7th nerve with the morbid product.

The face is greatly distorted, and the right side very remarkable when contrasted with the other. Upon the forehead the integuments lie flat, smooth, and at rest, there being no wrinkles or motion as on the left side. A vertical furrow is placed nearly in the centre, dividing the bulging of the muscles on the left side from the uncontracted state of those on the right; and the slip of the occipito-frontalis muscle forms a remarkable prominence at the junction of the nasal bone with the frontal on the left side. The power of closing the eyelids of the right eye was lost; they remained always open. When asked to close the

eye forcibly, although she made the attempt, there was not the slightest motion observed in the eyelids. When the eye was at rest, and the patient using the sound one, about half the pupil remained visible, but during sleep was completely concealed behind the upper lid.—The conjunctiva of the eye was in a chronic state of inflammation, and exhibited through a lens a perfectly villous surface, permeated in every point with innumerable vessels. On close examination, the cornea looked dull, but at a little distance presented a borrowed brilliancy from the abundant flow of tears which were constantly secreted and pouring over the cheek. The lower eyelid drooped a little, and the mucous membrane lining it presented the same vascular arrangement as that covering the sclerotic coat. The right nostril lay flat, collapsed, and not distended on a deep inspiration, but rather closed together, and the nose pointed towards the left side. When she blew or attempted to whistle, the air escaped by the right angle of the mouth, the right buccinator not at all corresponding in action with the muscle of the left side, nor with that of the muscles of the chest and neck by which the air was expelled. In mastication, the food collected in the right cheek between it and the teeth, and the patient could not push it from its place without the assistance of the tongue, and frequently of the finger. The saliva constantly flowed out at this side, and when drinking, part of the fluid likewise escaped.

When the disease attained the size represented in the cast, it did not at all increase so rapidly as at first; and during the following thirteen months I had repeated opportunities of watching the course of the disease, a part of it ulcerated, a fungus shot out, and was attended by small hæmorrhages. I regret to say in January, 1852, this creature took typhus fever from an individual in the same lodging house, and died on the tenth day. I could not obtain permission for an examination of the parts.

It may be said, the cases of cancerous degeneration which I have brought forward all occurred in patients of advanced life. In most of the instances which have fallen to my lot for observation, it was so; but I have also seen the change brought about in early age, which the following cases will testify.

Case 4.—Maria Williams, aged 19, a particularly handsome girl, of dark complexion, consulted me in February, 1849, for what appeared a very irritable wart, and situated on the forepart of the neck. She mentioned it had been there as long as she could remember, but that latterly it had increased and become very painful, which she attributed to the pressure of her dress. The tumour when I saw her was the size of a filbert, hard and irregular on the surface, which at the highest point was elevated about a quarter of an inch above the surrounding

healthy skin. It was quite moveable, placed about the centre of the depression, situated above the sternum, and three quarters of an inch from its upper margin.

The patient suffered great uneasiness in her mind from the rapidity of its increase, and the "dread of cancer," as her mother had died of that disease, and great depression and annoyance from the constant pain present in it.

Mr. Tagert, whom I consulted in the case, agreed with me that it was better to remove the part,—a proposition to which the patient most readily acquiesced. I did so by two incisions, one on either side, and wide of its base, meeting above and below, and then by a few touches of the knife lifted the tumour in its perfect integrity from the subjacent cellular tissue. The lips of the wound were brought together with two fine needles and the twisted suture. Union by the first intention was nearly accomplished on the fourth day, and in less than a fortnight the part was healed altogether. During the three years which have elapsed, I have several times seen this young woman, and up to the present date there has been no return of the disease, either in the cicatrix or elsewhere.

I regret to say I have mislaid the microscopic drawing of the tumour cut out in this case, which I made most carefully; and more particularly so as bearing on a question about which I think a good deal of uncertainty still exists. From my notes, however, the following are the particulars. The specimen yielded epithelial scales, in various conditions and stages; some compressed together, forming laminæ, whilst deeper ones assumed a somewhat square form, some of them a caudate shape, whilst around the base there were other cells which I at once pronounced to be cancer-cells. When separated and broken up they did not at all seem disposed to run together, they were nucleated, some with nucleoli, and which, on the addition of acetic acid, were rendered more distinct, and the cell-wall was nearly dissolved, while the other cells resisted its action with impunity. I am quite sure I was not led astray here by an appearance that frequently takes place—namely, the enlargement of the epithelial cells from endosmosis.

Mr. Wardrop records a very remarkable instance of this cancerous degeneration of a wart occurring in a subject much younger than in the case which I have just related. "I had an opportunity (writes this eminent pathologist) of seeing an example of a true cancerous sore in a girl about 12 years of age, and it is the only case of the kind which has come to my knowledge. It appeared on the lower part of the abdomen, and begun in the form of a black wart on the skin. The wart ulcerated, and the surrounding skin was gradually destroyed, so as to form an immense

ulcer, having all the characters of a true cancerous sore, which at last destroyed the child." (*Wardrop's Observations on Fungous Hæmatodes*, p. 189.)

Case 5.—The supervention of fungous hæmatodes, after the removal of a large wart from the inner side of the foot, is well exemplified by the following case which occurred in our hospital some time since:—Mary Murphy, aged 28, admitted into Mercer's Hospital, October, 1846, being the second time this year. In the preceding February she was received into the house for the removal of a large painful wart, fully the size of a half-crown piece, and situated on the inner side of the left foot. It occasioned her great pain, and was so irritable that even a stocking could not be worn over it, and it was deeply ulcerated round its base. At this time there was no evidence of internal disease, and the lymphatic glands of the extremities were neither indurated nor enlarged; therefore Mr. Tagert removed the part, and without difficulty, for it had no deep attachment whatever; it was quite loose, and readily floated on the surface from the slightest touch. The wound quickly healed, and in three weeks she returned to the country. Her second admission, as above dated, was nine months after this operation, when she was received with far advanced encephaloid disease in the groin of the same side. The history which she gave of the tumour in the groin is as follows: For five weeks after her return home—that is, two months from the period of the operation—she was free from all disease; that exactly at this time "a kernel" appeared in the left groin; it continued to increase for a month, and attained the size of a small apple, when it remained stationary for a short time. Up to this period there was very little uneasiness in the part. After this the tumour began again to enlarge, with a "bursting sensation" in it. During the following months her sufferings were greatly augmented, the tumour widely extending itself in all directions, irregular and nodulated on the surface, and highly sensitive. At this time, too, just before admission, the most prominent part burst, from which she lost a quantity of blood. In this state, then, she was received nine months after the operation, the tumour being larger than the clenched hand, accompanied by darting pains occasionally through it; but she refers an indescribable sensation of tension being always located in the upper half of it, and here, too, was a black spot marking the site from which the hæmorrhage had proceeded a few days before.

November 10th. Since her admission to hospital, the increase of the tumour has been most rapid; it is now enormous, measuring ten inches and a half transversely, and seven and a half from above downwards. Its colour is also greatly altered, being now of a dark purple and reddish hue all over. Its surface is irregularly lobulated, and deprived of skin, with

the elevations coated over by a semi-opaque fluid, and the depressions containing unhealthy watery pus. The constitution is sympathizing acutely with this mass of local disease. The pulse is never under 120; she has at intervals during the night profuse perspirations; her countenance is haggard and of a yellowish hue; and all appetite is gone. One point in the upper part of the tumour is far darker than the rest, and from which point two ounces of venous blood trickled the evening before. There has been no return of the disease on the foot, but the cicatrix is very hard and firm.

13th. There was hæmorrhage last night to about two ounces, but it was readily restrained by a few dossils of lint steeped in spirits of turpentine and finger pressure.

18th. Had profuse hæmorrhage last night; she lost nearly a pint of dark blood; to-day she is greatly exhausted, and bathed in sweat; her pulse weak, yet throbbing, and 130 in the minute; the tumour is quite black and turgid from where the blood flowed last night, and all its lobulated and broken up surface seems a mass of sloughs; she does not complain of pain now.

19th. Is much depressed to-day; at six o'clock in the evening bleeding began again, at first slowly, and was staunched by pledgets of lint dipped in muriated tincture of iron. In two hours after it broke out afresh, and was perfectly uncontrollable. At this time the bleeding was frightful, it issued out in large bursts from the pultaceous disorganized mass. When pressure was made over one point, it welled up as rapidly from under another lobe of the fungus, and so on until death threatened by hæmorrhage; she was waxy pale, with violent jactitation of the arms, profuse cold sweat over the entire body, screaming for the windows to be opened and the admission of air. In these efforts at length all motions ceased, and though there was no appearance of life, yet the blood continued to flow for a few seconds longer, when the pulse forsook the heart, and then death.

On examination of the body, a tumour as large as a small melon, of the same nature as that in the groin, filled the iliac fossa of the same side, intimately attached to the fascia, and implicating the muscles in this region. The iliac artery and vein ran through its base, and below Poupart's ligament the femoral artery and vein were surrounded by the encephaloid structure situated there. This pathological condition may account for the fact of the total uselessness of pressure over either of the trunks in arresting the fatal hæmorrhage. On slitting up the artery and vein through their entire extent as they traversed this diseased mass, I could not by the closest examination find any solution of their integrity. Vessels of considerable size, both arteries and veins, however, could be dis-

covered through the structure, with their opened up and patulous extremities. These were very numerous, and evidently the source from which the blood issued in such quantities. The patulous condition of the arteries, as well as the veins, I ascribe to the matting of the coats of the vessels with the surrounding tissues, and thus neutralizing their contractile power. The softer parts of the tumour, on section, exactly resembled the brain in a state of decomposition.

Case 6.—The late Mr. Palmer, of this city, had a case very analogous to the one just particularized, a short time before under his care, in Mercer's Hospital. The patient was a young woman only 24 years of age; she had a flat painful wart on the inner side of the knee; it was there for years, but having become very irritable and ulcerated, and bleeding from the least injury, she solicited for its removal; it was taken away by the knife, and the part healed favourably. She returned to the hospital in five months after; the glands in the groin of the same side being enormously enlarged, and all the structures in the inguinal region participating in the encephaloid degeneration. This creature died before the end of the seventh month after the operation, of repeated and profuse hæmorrhages.

Now the cases which I have given are examples of only one condition of the skin preparatory to ulceration and malignancy; that is, when there exists an indurated warty tumour, and this I conceive to have a cancerous tendency, *ab initio*. The small growth may be unproductive of inconvenience for years, until irritated, as illustrated in many of the cases which I have adduced; then the characteristic pain, sharp and lancinating, never entirely deserts it; ulceration sets in, making breaches round its base, and proceeds to the detachment of the warty surface. During this time, a thin fluid exudes from underneath; hard firm granulations are thrown up from an indurated base, not rising very high, yet presenting a mammillated surface, far denser than the interior of the projecting nodules. The destructive process which I have endeavoured to describe and elucidate by the foregoing cases, presents to the inquirer two very striking characteristics, and essentially belonging to it—1st, that when once the ulcerative process is set up, there is never any amelioration, ever so temporary, no attempt at cicatrization; and 2nd, the great liability of the appearance of encephaloid disease, either in the site of the original tumour or in the line of the absorbents, returning from its position. Here, then, are two marked differences as to the results between it and the condition to which the term *noli me tangere* is applied, and to the *destructive ulceration* most accurately described by Dr. Jacob. Of this latter disease, I present to the Society this highly painted cast to

contrast with those I have already exhibited. It shows well the characters of the disease as recorded by that gentleman. In this instance, though nearly half the scalp was destroyed, though inroads had been made by the disease to a considerable extent on the side and posterior part of the neck, the ear nearly detached, large vessels exposed, coated by small granulations, and sealed up against the passage of blood—yet, I say, with this amount of ulceration and death of parts around, the neighbouring glands did not participate in or suffer contamination.

In the cases Nos. 1, 2, and 3, the germ of disease lay, as it were, innocuous; its malignant tendency did not manifest itself until a very advanced period of life, at the respective ages of 52, 70, and 65: while in the cases Nos. 4, 5, and 6, it was ushered into existence at a much earlier age, 19, 28, and 24; while in Mr. Wardrop's case, the subject, a little girl, was only 12 years old.

It is remarkable, too, that once the ulceration was fairly established in the primary tumour, true encephaloid disease rapidly sprung up either in its site or in its immediate locality, with the exception of case No. 4, successfully extirpated. Again, in every instance which I have recorded, all the changes were brought about more speedily, and death followed more quickly, in proportion to the youth of the patient.

The inferences deducible from the results of these several cases, relative to treatment, point to the practical precept of early extirpation; we have evidence of its beneficial results in case No. 4, though ulceration, with its characteristic attendant symptoms, had just manifested themselves; the part was excised, the wound healed, and there has been no return of the disease, though a period of over three years has now elapsed.

In cases Nos. 2, 3, 5, and 6, the operation, I conceive, was had recourse to after the lymphatics and capillaries were charged with the product of the cancerous alteration; and though in some instances the wounds readily healed, yet in a short time the secondary results, the effects of the absorption, manifested themselves in the form of encephaloid disease. So firmly convinced am I of the line of treatment to be adopted in these cases, that I would advise all warts, when situated on the face or elsewhere, to be removed by the knife as early as possible, no matter how youthful the patient may be, as they all have a tendency in advancing years to degenerate in the manner which I have endeavoured to represent and elucidate.

Dr. BEATTY thought that the cases brought under the notice of the Society that evening by Mr. Butcher, were both instructive and interesting in the highest degree, and said he fully concurred in his conclud-

ing observation, which should be borne in mind by every person who was likely to encounter those remarkable affections—namely, that a suspicious looking wart, especially on the face, should not be tampered with by attempting to effect a cure, but should be extirpated with the least possible delay. The remarks of Mr. Butcher had brought to his recollection the case of an acquaintance of his own, a very handsome young lady, who had upon her right cheek a wart of a very suspicious nature. Meeting her in the street one day, he asked her about it, and she informed him that it was a thing of no consequence whatever, and that her apothecary was daily in the habit of applying caustic to the wart with a view of curing it. He advised her to go to some eminent surgeon and have it removed; she took his advice; the wart was extirpated, and from that day to the present there was no return of the disease. But if she had permitted more time to pass without the removal of the excrescence, she would in all probability be now in the condition of one of the unfortunate patients described by Mr. Butcher in his interesting communication.

Dr. JACOB believed the cases adduced by Mr. Butcher to be well worthy the consideration of the profession; and trusted that they would have the effect of calling attention to the subject, as it might perhaps lead to a more distinct arrangement of these affections, than had been hitherto made. Last year he (Dr. Jacob) exhibited to the Society a case in which he had extirpated a tumour of a malignant nature from the orbit, and as such a case must be watched with great care, of course he kept the patient within view. It was one of carcinomatous tumour of the orbit, with encephaloid growth engrafted upon it. The poor man had since come back to him with a return of the disease, a great development of encephaloid structure having taken place in the orbit and on the side of the head. The instructive question in those cases was, whether they ought or ought not to extirpate the disease. Eighteen months had gone by since the tumour was removed in the case to which he referred; and therefore he thought that the argument for the operation amounted to this, that the man's life was prolonged, though not saved by it.—*Dublin Medical Press.*

[The foregoing eminently practical paper, well deserves the attentive perusal of the Surgeon. Dr. Butcher has opened up a field for inquiry not hitherto cultivated, and we doubt not, our readers will feel as grateful for his investigations, as we have much pleasure in acknowledging that we are.—[*Eds. Can. Med. Journal.*]

PATHOLOGY AND PRACTICE OF MEDICINE.

On the structure, function, and diseases of the liver; and on the action of cholagogue medicines. By C. H. JONES, M. D., F. R. S.

THE author first described the minute structure of the liver, which consisted essentially of a mass of nucleated cells or celloid particles, usually more perfectly formed than the cells either of the salivary or renal glands, presenting a distinct nucleus, with a nucleolar spot, an exterior envelope, and an included mass of soft, semi-solid, albuminous substance, which commonly contained a few oily molecules. In addition to these, in well-nourished livers, were numerous free nuclei, imbedded in albuminous blastema, which exhibited various stages of progress towards the mature or perfect cell. The oily contents of the cells were subject to great variation, both in the same individual and in different classes of animals; the less perfect the type of the respiratory process, the greater the quantity of oily matter in the hepatic cells. The cells in their general mass constituted the hepatic parenchyma; this might be subdivided into smaller portions, called lobules, which were separated from each other more or less completely by fissures, the fissures themselves being continuous with canals that ramified throughout the parenchyma, and which, from containing the portal vein and its associated vessels, had been termed portal canals. In reference to the mode of distribution of the vessels, originally so well expounded by Mr. Kiernan, the author remarked that he decidedly agreed with Theile, who denied the existence of the vaginal branches and plexus of the portal vein mentioned by Mr. Kiernan. The author quoted from a paper by Mr. Paget, who had described these vaginal plexuses to be derived, not from the portal veins, but from the hepatic arteries, from which they were completely filled, when both arteries and veins were at the same time injected. The interlobular portal veins were therefore derived directly from the portal veins; and those which appeared to be vaginal branches of the portal vein were its internal roots, by which it received the blood which had served for the nutrition of the hepatic ducts and other vessels of the liver. After alluding to the mode of ramification of the hepatic artery, and the divisions of the hepatic ducts following the branches of the portal canal, the author referred to the relation which existed between the ultimate ducts and the cells constituting the parenchyma of the lobules. The prevalent opinion had been, that these cells were exactly homologous to the cells of the renal tubule or salivary vesicles, like them growing on a free surface open to the exterior. Hence some anatomists had believed they had detected a basement membrane, forming anastomosing tubes, constituting a true lobular biliary plexus. Others, unable to find a basement membrane, had described the ducts as continued into the paren-

chyma of the lobules, as channels without proper walls, mere intercellular passages. After referring to the researches and opinions of Weber, Müller, Professor Retzius, on the one side, and of Val Guillon, Gerlach, and Doctor Carpenter, on the other, the author stated that the views of Kölliker, who denied the existence of intercellular passages in the lobule, agreed very nearly with his (the author's) and conceded his main position, that the cavity of the ducts was quite shut off from the cells of the lobules of their interspaces. The structure of the ultimate ducts, which the author had first discovered, was peculiar, and seemed to indicate strongly that they exerted active functions, and that they were something more than mere afferent canals. The injection of the duct, in the livers of pigs, by the double method, using separately saturated watery solutions of bichromate of potass and acetate of lead, exhibited an abundant yellow precipitate in the fissures; but in very few parts did it penetrate the lobules, which must have happened if there existed a lobular biliary plexus, or a plexus of intercellular passages. The author conceived, therefore, that the hepatic ducts did something more than merely carry out already elaborated bile. The ultimate ducts were far too small, and too sparingly distributed, to be able to take up the bile from so vast a mass of cells as that which constituted the parenchyma. If the ducts did not extend beyond the margins of the lobules, of which the author had no doubt, then the bile must be transmitted from cell to cell; or there was a march of cells outwards from the centre to the circumference; or else the bile, arriving at the margin of the lobules, was taken up by the ultimate ducts in some unknown way. The author thought such assumptions groundless and unnecessary; and that the pathological state of fatty liver, as well as the fatty liver occurring naturally in fishes, showed that the secretion of the parenchyma was not identical with that of the ducts, for the gall-bladder could hardly contain deep-green bile, when the parenchyma was nought but a mass of oil. He concluded, then, that the parenchymal cells of the lobules did not merely secrete bile which was carried off unaltered by the ducts, but that the cells secreted biliary material, or some of its components, which were not fully elaborated or formed into perfect bile, except by the action of the ultimate ducts. Proof was then offered that the hepatic cells did not ordinarily contain bile, although it was commonly held they did. He believed that to be a diseased or exceptional condition, not found in the hepatic cells of slaughtered or healthy animals. Furthermore, a yellow tint in the cells was no proof of the presence of bile; it showed merely the presence of pigment, and yellow pigment is found in the fat of some animals, quite independent of biliary secretion. Chemistry must be resorted to, to solve the question of the presence of bile in the hepatic

cells. The author had made alcoholic extracts of the livers of different animals, and having evaporated to dryness, the residue, when dissolved in water, failed to show, by Pettenkötter's test, any reaction characteristic of the presence of the bile. The author, however, did not wish to express a positive opinion, but he thought that the received opinion had need of more direct evidence, before it could be regarded as proved. He then detailed the mode in which the morphological structure of the ultimate biliary duct fulfilled the function of secretion. The chemical changes which the ultimate ducts effected, might be conceived according to the hypothesis of Lehmann; and a summary of our present knowledge might stand as follows: Sugar, oil, and a yellow pigment were found in the parenchyma of the liver; bile is not found there, but in the ducts; it is inferred, then, that the ducts, through their ultimate extreme portions, *make* the bile. The author next proceeded to detail some experiments made relative to the action of cholagogue medicines, the results of which led him to believe that mercury, muriate of manganese, and colchicum, were the only ones which seemed to increase the production of yellow pigmentary matter in the cells of the liver. They also increased the production of glycocholate and tauro-cholate of soda; but it had to be determined whether the quantity of these principles was always proportionate to the yellow pigment. It was clear that the cholagogue action of a medicine, its emulging effects on the ducts, was distinct from that which it excited in the production of biliary pigment. One very important effect of the administration of mercury on the liver was noticed to be congestion of this organ; an argument rather forbidding the use of the remedy in inflammation of the substance of the liver, a plan otherwise recommended by analogical experience. The author then passed to the subject of diseases of the liver; the microscopic appearances of fatty liver were detailed, and the question, what constituted true fatty degeneration of the liver, discussed. Was it a simple increase in the quantity of oil naturally existing in the hepatic cells, or was it a further and more important change? He believed the latter. In the liver of animals artificially fed on oily food, and subsequently examined, the cells, as well as the inter-cellular substance, were loaded with oil-molecules; the accumulation of oil was equal everywhere. But in the morbid state of fatty degeneration, the oil-drops were not enclosed in distinct cells, but appeared to lie in an indistinct and granular, or semi-fibrous substratum. Another point of difference consisted in the absence of sugar in true fatty degeneration; while in the liver of an animal fed on oily food to produce a fatty liver, sugar could be detected. Another point of importance was the limitation of fatty degeneration to the margin of the lobules; it was not a mere accumulation of oil in the marginal cells; a

liver thus affected presented the lobules marked out by a zone of opaque matter. No satisfactory explanation of this tendency of oil to accumulate in the marginal cells could be offered. Fatty degeneration of the liver might occur in very different diseases; it was by no means peculiar to phthisis. Reference was then made to the waxy liver of Rokitansky, with which the author was not sure that he was acquainted. Cirrhosis was then mentioned, and Rokitansky's description quoted, as also that of Dr. Budd, whose views expressed the opinion ordinarily received, but from which the author in some degree dissented. The author believed that an unhealthy nutritive process was the essence of cirrhosis, and might be developed in one of three situations. 1. In the larger and moderate-sized portal canals, excluding only the smallest. 2. In these last and in the fissures. 3. In the smaller canals and fissures, and in the substance of the lobules. The first form produced common *hobnail* liver; the second and third, the tough, firm, dense liver, sometimes termed brawny. The author considered cirrhosis to represent essentially a degenerative process, and to arise from the effusion of an unhealthy plasma, not only in the canals and fissures, where it induced unnatural increase, but also in the external part of the lobules, where it passed into a solid form, and constituted an amorphogranular substance, compressing the capillaries and obstructing the secreting cells. The thickening and condensation of the fibrous tissue in the liver were thus not so much the effect of an inflammatory action, as of a low degenerative process, analogous to that which stiffened the valves of the heart and contracted the orifices; and which view the author thought was supported by the results exhibited in a table appended to the paper. The subject of jaundice next received attention. This was a disease that manifestly resulted from the conveyance into the blood of bile pigment, a constituent of the bile which was essentially excrementitious, and intended to be cast out with the faecal matter. In many cases it existed only as retained excretion; in others it seemed to be formed in excessive quantity, as in the acute yellow atrophy of the liver. Yellow matter was often found in the central cells of the lobules, and nevertheless there was no jaundice. It should be borne in mind, that the yellow pigment, as it existed in the cells, did not evidence the presence of biliary matter, of cholic acid, or its conjugates. The yellow matter could be extracted by alcohol, and its characteristic reaction obtained by nitric acid, but Pettenkoffer's test decided against the presence of any organic biliary acid. The deep colour of the urine in jaundice depended on the presence of bile pigment solely; no trace of cholic acid was discoverable. The author considered the majority of cases of jaundice to depend on the absorption into the blood, not of completely formed bile, but of one of its constituents

only, the yellow pigment; and this might take place in one of three ways: 1, by a mechanical obstruction to the flow of bile into the intestine, through the ductus communis choledochus; 2, from inaction of the elaborating ducts; 3, with or without impairment of the action of the excretory ducts, when an increased quantity of yellow pigment was formed in the parenchyma of the liver.

TOPICAL MEDICATION OF THE LARYNX.

Dr. COTTON brought under the notice of the Medical Society of London a new method of applying a solution of nitrate of silver, or any other substance, to the laryngeal mucous membrane. After making a few remarks upon the practice of introducing a piece of sponge *within* the larynx, which he believed to be not only practicable, but, in the majority of cases, useful, and always with proper precaution harmless, he had nevertheless become convinced, from a number of experiments at the Consumption Hospital, that it was better merely to drop the solution into the laryngeal opening. • This was easily accomplished by means of the simple instrument he presented to the Society, which was made by Mr. Coxeter, and consisted of a pair of forceps slightly curved, and having a small piece of sponge attached to one of its blades. By depressing and slightly drawing forwards the tongue by the ordinary spatula, extremities of the blades might be held over the larynx, and at the proper moment the contents of the sponge could be squeezed into it. Dr. Cotton had used it successfully in a considerable number of cases, and had found that it was generally less disagreeable to the patient, and produced less spasm and cough, than the ordinary method of passing down the sponge itself; whilst it possessed the obvious advantage of making it impossible that the sponge could ever fall into the larynx, the closing of the forceps effectually holding it. The sponge would contain about half a drachm of fluid, nearly the whole of which might, if desired, be applied to the laryngeal membrane and its neighbourhood, the cough which invariably followed its use always ensuring its diffusion.—*Lancet*.

DEVELOPMENT OF PUS CORPUSCLES.

Dr. SANDERS reported some observations on the corpuscular contents of the vesicles of small pox. On the fourth day of the eruption, the fluid of the vesicle presented some clear, gray nuclei, about the size of blood corpuscles, and showing only one or two granules in their interior when acted on by acetic acid. On the fifth and sixth days these corpuscles had increased in size and numbers, and become more granular; the

amount of free molecules and granules, at first very scanty, was now greater. On the sixth and seventh days, nucleated cells, spherical, and more or less granular, occurred along with the corpuscles before described; and a few large cells, of the diameter of four to five blood discs, and containing several nuclei imbedded in granular matter, were also observed. The corpuscles, however, were the chief elements; they were granular, like the usual pus-corpuscles, and presented under the action of acetic acid, some a triple nucleus, others several granules. From this stage, when the fluid was distinctly purulent in its characters even to the naked eye, up to the time of scabbing, or twelfth day of the eruption, the changes were a gradual increase in the free granular matter, and a diminution in the amount of corpuscles, which at last gave place to the granular matter; which last, along with epithelium cells, dried up to form the scab. The fluid of the vesicles therefore exhibits a process of cell growth from nuclei to pus corpuscles, and nucleated cells, which become more and more granular, and break up at last into free granular matter. The so-called pus-corpuscles are a stage in cell formation. Considering the small amount of granular matter, both free and within the corpuscles at the beginning, and its great abundance subsequently, the author was disposed to doubt the formation of these corpuscles and cells by the aggregation of granules subsequently surrounded by a cell wall, but regarded the granular matter rather as a production of cell growth.

MIDWIFERY.

ARTIFICIAL DILATATION OF THE OS UTERI. BY S. W. J. MERRIMAN, M.D. THE author, conceiving that the true principles of midwifery have recently been assailed, gave, concisely, arguments from various sources, why it is improper to accede to the proposal to use the fingers as dilating agents in the first stages of tedious labours. No accoucheur can attain true celebrity, he said, who is unable to discriminate between the two principles of action—viz., when to leave the case entirely to Nature, when to render aid. He first referred to the opinions of ancient and almost modern writers, who all advocate this plan of treatment by manual dilatation, and stated that their habit of speaking of the os externum vaginae as the os uteri, and their belief that the child by its own efforts conduced to the opening of a passage for itself, rendered their advice useful only as a matter of history, not as a rule of practice for the present day. He expressed his surprise at finding such recommendations brought forward at the present time, the reasoning on which the advice was founded being so completely at variance with what we know

to be the real state of the case. He then proceeded to the writings of accoucheurs published 100 years ago, and stated that the same advice was found in them, coupled with much else that is now obsolete, because injurious. The learned Smellie, who did so much for the practice of midwifery, was instanced as having gravely recommended and practised dilatation of the os externum by the hand formed into a conical shape, in order that he might pass his hand flat between the head of the fœtus and the os uteri, believing that to be the best way of preventing "the os uteri being pushed before the head of the child." That such advice should be followed, or even referred to as evidence of the applicability of the practice, was inconceivable, especially when coupled, as it is, with recommendations to press back the os coccygis to make room; the principle of Smellie's usual conduct being to do as much as possible himself, and to leave very little to Nature. Passing on to modern authors he showed that Burns expresses his belief that the first stage of labour, or the complete obliteration of the os uteri, should be accomplished in a certain time; and that Dr. J. Hamilton limited the time to twelve or fourteen hours of constantly recurring pains, and recommended artificial dilatation by the fingers if the complete opening of the os were likely to be delayed beyond that time. This brought us to a reason alleged which could be fairly considered—viz., that danger necessarily accrues if the labour last many hours—over twenty-four hours, for example—the term usually assigned to a natural labour. This doctrine he controverted in the following manner. Allowing that Prof. Simpson's analysis of Dr. Collin's tables shows that danger to life does increase as the duration of labour is prolonged, he did not consider that danger of much moment, compared with the very great majority of perfectly natural labours of short duration; the question being rather, whether dilatation by the finger does not produce as much injury as the prolongation of the labour would. He brought forward the following statistics, from Dr. Collins, that out of 15,850 labours of all kinds, the period of which was noted, 13,412 were over within six hours; 1672 additional within twelve hours; and only 766 were prolonged to twenty-four hours; the total mortality being 158. Dr. Joseph Clarke, of Dublin, attended at 3878 births, in his private practice, and lost none from the effects of protracted labour. In his hospital practice he enumerates 9748 ordinary labours over within twenty-four hours, with 71 deaths, and only 183 similar cases prolonged beyond that time, 37 of whom died; but 49 had required craniotomy to be performed, the head being impacted. The author says—"We have therefore very strong reasons for being in no hurry to hasten the progress of labours, seeing how very large a majority terminate speedily, and how trifling the mortality is from the mere length of time occupied."

Pressure by the fingers could not, it was shown, act on the os uteri like the bag of waters, or the head when moulded into a lengthened shape. There could be no reciprocal action between the force pressing upon the cervix and the power of the uterine structure to endure the pressure. The accoucheur cannot tell by the mere motion of his finger what amount of space there is for the head to occupy ; and he will seldom succeed in keeping up the lip of the os, except in the last moments of a protracted first stage of labour. Fissures of the os uteri in labour, with enlargement and ulceration, so called, of the cervix, about which so much has lately been said, were briefly alluded to ; the cause of these post-parturient complaints being considered a want of tone in the uterine vessels, contraction not duly taking place after labour, or, in other terms, there being want of re-absorption of the enlarged uterine structure. The author considered that pressure on the os uteri in artificial dilatation must bruise the part, and render it unable to resume perfectly its pristine condition. The os is treated as if not possessed of sensibility ; the sensibility to external objects may be slight, but the distribution of nerves of the organic class is abundant, and they cannot fail to receive injury, and so impede the return of the part to a healthy condition. The necessity of bleeding and tartar emetic to overcome congestion, where pressure has been exerted on the os uteri, pushed down before the head, was also briefly alluded to, as an argument against using artificial pressure in ordinary cases. The author proceeded as follows :—“The temptation to endeavour to hasten a slow labour where the patient resides at a distance, where the fee is small, and a sufficient income can only be got by incessant occupation among a number of patients, is too strong to be resisted ; the smallest concession to the desire to afford manual assistance in some peculiar cases is certain to be extended to others, where the necessities of the practitioner are so many. We ought therefore to set our faces boldly against any proposals, the following of which is likely, almost certain I might say, to be injurious to the mother.” Then suggesting that the “passing the finger gradually round the os uteri” may produce its effect in a secondary way, by enabling the accoucheur to regulate the mother’s expenditure of force upon her uterine organs, by observing whether her powers are equal to the task, and giving nourishment or medicine as required, he concluded thus :—“I look upon labour as essentially a natural, healthy process, yet verging upon disease. The accoucheur’s business is to preserve health, not to promote disease ; he may hasten a labour by interference, but the interference of dilatation of the os uteri by the finger ought not to be made, except there is that amount of pressure upon the anterior lip of the uterus which would soon bring on congestion if it were not moved out of the way.”

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MONTREAL: AUGUST, 1852.

MEDICAL CONVENTION AT TORONTO.

As there is no subject, at present before the profession of Lower Canada, of sufficient interest, with which to occupy the attention of our readers, we have been looking with anxiety for the appearance of our Upper Canada contemporary, to ascertain from his pages the particulars of the above meeting, but as yet he has not reached this city. We are not, however, without different versions of the scenes there enacted, furnished by our correspondents, but as they are evidently biased by private feeling we refrain from giving any extracts from them; they all agree, notwithstanding, in one point, that a great want of unanimity pervaded the assembly, and that some of the proceedings were any thing but regular. Strange it is, that with the common enemy, QUACKERY, assailing the profession in every quarter, its members cannot lay aside their personal feelings, and unite in one common struggle for self-protection, which only requires a hearty co-operation with one another to be successful. In Lower Canada, a difference of race, and a difference in habits, and to some extent, of practice, between the members of our profession, will account for the want of concord sometimes displayed amongst us, but when the interests of the profession demanded removal of the feelings originating from the above causes, we did overcome them and acted in unison for our common good, and as a reward, have obtained our act of incorporation, which has already, in many instances, afforded redress to the aggrieved practitioner. But, in Upper Canada, no such causes for disunion are in existence, but there, party politics and petty jealousies take the place of difference in race, religion and interests—and no where is the baneful fruit of this want of unanimity more to be deplored. It is useless concealing from ourselves the fact, that unless the profession in Upper Canada becomes incorporated, it must lose all title to respect; if it cannot put down quackery, it will become tainted with the poison itself. The regular practitioner, who has a family to support, sees that the illiterate quack gains ground more rapidly with

the public than he does ; he sees he cannot interfere with the charlatan's progress, he adopts, the next best step—*he imitates him*—he is forced to do it in self defence. At first the attempt is revolting to his finer feelings—he soon becomes callous, and if pecuniary reward follows his experiments, he feels he has got the recompense, the legitimate practice of his profession refused to afford. Whatever is most striking in the career of the quack is now most attractive to him, and he is ready to take up any novelty in practice for which the public mind has shown a partiality. He may not do it so awkwardly as friend *Carson*, whose advertisement we copy from a country paper ; he may commence in a more modest manner like friend *Seagram*, whose pills “ are calculated to relieve under any circumstances.” How blessed are the good people of Galt, let them but show the learned Carson their urine, and the pills of the modest and retiring Seagram, who, by the by, is also THE CORONER of the District, will *relieve them under any circumstances*, and lest any inconvenience may accrue to those fortunate Arcadians, they can procure these health restoring globules at *S. Miller's Store*, who is appointed *wholesale agent*,—an admirable arrangement, whereby a great saving in the way of discount will, no doubt, be affected. With Dr. Carson, we have nothing to do, his name is not on the list of licensed practitioners, but as Dr. Seagram has procured his provincial license, we think his advertisement fully proves the necessity for a corporation, and as his pills *are calculated to relieve under any circumstances*, we recommend him a full dose *half an hour* before perusal of this notice, which we trust “ will prove not only a good Digestive,” but an excellent *Corrective*.

DR. SEAGRAM'S CELEBRATED VEGETABLE ANTI-BILIOUS PILLS.

DR. SEAGRAM, in calling the attention of his friends to his Vegetable Pills, would state that they are calculated to relieve under any circumstances. If taken in the following manner they will prove useful to all, and more particularly to Females :—

One every day, half an hour before dinner, will prove a good Digestive. When a greater effect is required, two or three will be required to be taken.

To be obtained at *S. Miller's Store*, who is appointed Wholesale Agent, or of *Dr. Seagram*, at his residence, near the Queen's Arms Hotel.

Galt, Oct. 21, 1851.

GERMAN METHOD OF PRACTICE.

DR. CARSON respectfully announces to the Public of the County of Waterloo and surrounding country, that he has *opened a Medical Office*, in the Town of Galt, second door West of the Bridge leading from Main Street, where he will at all times be happy to attend to the calls of those who are afflicted with Disease, either Acute or Chronic, and render them the most *speedy Relief*.

From the experience of several years' practice, and the success Dr. Carson has had, with the addition of all the Remedies of one of the best Medical Reform Colleges in the United States, [of which Dr. C. is a Graduate] he feels safe in saying that his method of treating Diseases of the Lungs, Liver, Kidneys, Spine, Nerves, and all Female Complaints, cannot be surpassed by any in the country.

He would also say that he has obtained a thorough knowledge of the German Method of Practice, by which he arrives at a correct diagnosis in all Chronic cases, and will prescribe medicine accordingly. To those acquainted with this system of Practice he would say, he examines the Urine to tell the diseases. It should be brought in a clean vial, holding from 2 to 3 Ounces; the first in the morning is preferred. The name and age of the Patient are requested. No charge is made for examination or advice. Medicines for Chronic diseases, are principally from the Vegetable Kingdom.

 To those afflicted with disease of the Eye, Cancers, or Fever Sores, Dr. C. warrants a Cure or no pay.

 All diseases of a private nature kept in profound Secresy.

 All calls attended in Town or Country.

G. A. CARSON, M. D.

Galt, 18th June, 1852.

We copy the above from the "Galt Reporter." It will give a good idea of the sort of competition the regular Physician has to cope with in Upper Canada.

A SURGEON COMMITTED FOR MAN SLAUGHTER.

ON Friday an inquest was held at Wellow, a village in the neighbourhood of Bath, before J. Whitmore, Esq., deputy coroner for the Northern Division of Somerset, and a respectable jury, upon the body of a woman named Ann Nokes, the wife of a labouring man residing in the village, who had died on Monday morning last, in consequence (it was alleged) of the gross neglect of the medical man who attended her in her confinement. The evidence occupied several hours, but the facts may be briefly stated. The poor woman (the deceased) was 45 years of age and the mother of 11 children. On Sunday afternoon last she was taken in labour with the 12th child, and there being peculiar circumstances in her case, the woman in attendance upon her sent her husband for Mr. Bourn, a surgeon, residing at Radstock, a village a few miles off. That gentleman appears to have come as early as possible, and remained nine hours in attendance upon her, during which time he removed a part of the infant. At 4 o'clock in the morning, however, he received a message from Mrs. Parker, the wife of a yeoman living a few miles off, requiring his attendance under similar circumstances, and by whom his services had been bespoke two months previously. Strange as it may appear, he immediately resolved to leave the poor woman he was attending to go to his richer patient, on the plea that he had been bespoke by Mrs. Parker but not by Mrs. Nokes. As soon as he was gone, a messenger was despatched to Mr. Marsh, at Midsomer Norton, who immediately attended, and proceeded with the operation left unfinished by Mr. Bourn. The unfortunate creature, however, was completely exhausted, and died in two hours after. The

jury consulted together for a few minutes, and then returned the following verdict:—"We are of opinion that Ann Nokes (the deceased) died through exhaustion consequent on the neglect of her medical attendant, Mr. Bourn." The coroner inquired if he was to understand the jury to intend that their verdict should be one of manslaughter against Mr. Bourn. The foreman said they had carefully considered the case, and that was the only conclusion they could come to. The coroner's warrant was accordingly made out for the committal of Mr. Bourn.

[There can be very little doubt that the jury returned a proper verdict in the foregoing case. The man who could, for filthy lucre, abandon an unfortunate woman, under the peculiar circumstances of the foregoing case, could hardly expect a more lenient punishment.]

Removal of Liebig from Giessen.—Professor Liebig has at length yielded to the inducements held out to him by the Bavarian government to leave Giessen and settle at the University of Munich. He is to commence his labours there with the winter season.

Notice to Subscribers.—We beg to call the attention of our subscribers to the necessity of immediately remitting us their subscriptions. The amount is to each a mere trifle, but the sum now due to us, is in the aggregate, a considerable one. We have, it is true, met with a most liberal patronage, but the expenses of publication are very heavy, and to meet the demands upon the Journal, it is necessary we should suffer as little delay as possible in procuring our subscriptions. We hope our friends will comply with our reasonable request.

Obituary.—At Lennoxville, the 9th ult., Simeon Mallory, Esq., M. D., aged 66 years.

At Quebec, on the 19th instant, William T. Kimlin Esq., M. D.

His Excellency the Governor General has been pleased to grant Licenses, to practise Physic, Surgery and Midwifery in Upper Canada, to the following Gentlemen, viz :—Solomon W. Davidson, of Bowmanville, Jeremiah W. Sovereign, of Paris, and David S. Bowlby, of Waterford.—*Secretary's Office, Quebec, July 24, 1852.*

SUBSCRIPTIONS HAVE BEEN RECEIVED FROM

Dr. Nicholl, Perth.
 Dr. Christie, Lachute.
 Dr. MacLaggan, XXth Regiment.
 Dr. Doherty, Markham.
 Dr. Jarron, Dunville.

Dr. W. M. Lyons, Seymour Bridge.
 Dr. Kingdom, Royal Canadian Rifles.
 Dr. Mason, St. Anns.
 Dr. Church, Aylmer.

JOURNALS RECEIVED IN EXCHANGE.

Dublin Medical Press.
 Boston Medical Journal.
 New York Medical Journal.
 Nelson's Northern Lancet.
 Buffalo Medical Journal.
 Upper Canada Medical Journal.
 New Hampshire Medical Journal.
 New Jersey Medical Reporter.
 American Journal of Insanity.
 The London Pharmaceutical Journal.

The South Western Medical Journal.
 The Western Journal of Medicine and Surgery.
 New York Medical Times.
 Philadelphia Medical Examiner.
 Southern Medical and Surgical Journal.
 The Stethoscope.
 Nashville Journal of Medicine and Surgery.

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Montreal, March, 1852.

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Braithwaite's Retrospect,.....	" 2,00
Lancet, (London,) Weekly,.....	11,75
Do., (Reprint,) Monthly,.....	" 5,00
Medical Examiner,.....	3,00
Medical News,.....	1,00
Medical Times and Gazette, (London,) Weekly,.....	11,75
Ranking's Half Yearly Abstract,.....	1,50

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WILLIAM SUTHERLAND, M. D., Lecturer on Chemistry in the University of McGill College, and one of the Physicians of the Montreal General Hospital.

HENRY HOWARD, M. R. O. S. L., Oculist and Aurist, Ophthalmic and Aural Surgeon, Clinical Lecturer to St. Patrick's Hospital, Surgeon to the Montreal Eye and Ear Institution, and Lecturer upon Ophthalmic and Aural Surgery, St. Lawrence School of Medicine.

J. E. CODERE, M. D., Professor of Materia Medica and Therapeutics, in the Montreal School of Medicine and Surgery.

Montreal, March, 1852.

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COLLEGE OF PHYSICIANS AND SURGEONS OF THE UNIVERSITY OF THE STATE OF NEW YORK.

The Forty-Sixth Session of the College will be commenced on Monday, 11th of October, 1852, and continued until March 10, 1853, (commencement day.)

ALEXANDER H. STEVENS, M.D., L.L.D., President of the College and Emeritus Professor of Clinical Surgery.

JOSEPH M. SMITH, M.D., Professor of the Theory and Practice of Medicine and Clinical Medicine.

JOHN TORREY, M.D., L.L.D., Professor of Botany and Chemistry.

ROBERT WATTS, M.D., Professor of Anatomy.

WILLARD PARKER, M.D., Professor of the Principles and Practice of Surgery.

CHANDLER R. GILMAN, M.D., Professor of Obstetrics and the Diseases of Women and Children.

ALONZO CLARK, M.D., Professor of Physiology and Pathology (including Microscopy.)

ELISHA BARTLET, M.D., Professor of Materia Medica and Medical Jurisprudence.

CHARLES E. ISAACS, M.D., Demonstrator of Anatomy.

FEES.—Matriculation Fee, \$5; Fees for the full Course of Lectures, \$105; Demonstrator's Ticket, \$5; Graduation Fee, \$25; Board, average \$8 per week.

Clinical Instruction is given at the New York Hospital daily, by the Medical Officers, (Professor Smith being one of them,) fee \$8 per annum; at the Bellevue Hospital twice a week, without fee, (Professor Parker and Clark belonging to the Medical Staff;) at the Eye Infirmary, without fee; and upwards of 1000 patients are annually exhibited to the class in the College Clinique. Obstetrical cases and subjects for dissection are abundantly furnished through the respective department.

The Annual Commencement is held at the close of the Session; there is also a Semi-annual Examination on the second Tuesday of September. The pre-requisites for Graduation are—21 years of age, three years of Study, including two full Courses of Lectures, the last of which must have been attended in this College, and the presentation of a Thesis on some subject connected with Medical Science.

In addition to the regular Course, and not interfering with it, a Course of Lectures will be commenced on Monday, 27th September, and continued until the 10th October.

This Course will be free.

R. WATTS, M.D., Secretary to the Faculty.
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