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ORIGINAL COMMUNICATIONS.

ART. XX.—*On Combined Internal and External Version.* By
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Podalic Version has been long recognized by British Obstetricians as an operation fraught with less danger to the mother than any other in the whole range of operative obstetrics. The chief obstacle hitherto opposing its performance has been the delay necessarily involved in obtaining the requisite amount of dilatation of the os uteri so as to admit the introduction of the whole hand into the uterus; hence fatal cases of placenta prævia and puerperal convulsions have too frequently occurred during the early stages of labour, the accoucheur being quite powerless to act promptly and efficiently, although it must be admitted that since the introduction of chloroform, the operation of version has been rendered far less difficult of accomplishment.

My attention was attracted some time ago by a very interesting article in the fifth volume of the *Obstetrical Transactions*, from the pen of the talented Professor of Midwifery to Guy's Hospital, Dr. Braxton Hicks, entitled *Combined External and Internal Version*. The mode of treatment proposed appeared to me so simple, and, moreover, so admirably suited to meet those trying cases demanding the operation of turning but where it could not be attempted, owing to the undilated state of the cervix uteri, that I determined to test its applicability on the first case which presented itself in my practice. Having recently had an opportunity of adopting the treatment, I have ventured to lay the result before my professional brethren, in the hope that it may excite sufficient interest to induce others to follow in my wake, and thus fortify the accuracy of Dr. Hick's suggestions. That the position of the child admits of change in utero by external manipulation alone, has been long known and practised by the German obstetricians, and cases of transverse presentations having spontaneously altered their position during the progress of parturition have been published from time to time long since, and

their history viewed with no little incredulity, until the true explanation of "Spontaneous Evolution" was given to the profession by the late Dr. Douglass, of Dublin. Such cases being fully recognised in the present day, there will be little difficulty in inducing obstetricians to admit the feasibility of version by combined external and internal manipulation, as advocated by Dr. Hicks. I will, however, at the outset describe the mode of procedure in the professor's own words:—

"The first point which must be borne in mind is, that the child in the uterus is easily moved about by any impetus acting from without. This I shall not stop a moment to prove. Take any pregnant woman near her full term, lay your hand on the abdomen, and press upon any prominent part of the child, you will find it recede till you have considerably, if not completely, altered its position. This mobility is, of course, most complete when the membranes are perfect; it is less so when the waters have escaped, although it is an error to suppose that there is little or no movement when they have wholly passed off. The motion in this latter case is a gliding round within the slippery membranes, while in the first state it is a floating in the fluid. The condition in which the mobility of the fœtus is most curtailed is when the waters have escaped completely for a considerable time, and an irritable uterus is tightly clamped around. Relieve that irritability by chloroform or otherwise, and you will find that the absence of the waters has not destroyed the mobility of the fœtus within the uterus.

"The second point is this, that when the child is placed transversely in the uterus, the knee, in its natural position at the umbilical region of the child, is nearly immediately over the os uteri, and, therefore, within a finger's length of it; and that also, in the natural position, the foot is close to the breech, and will be found upon it when that end of the child presents. Hence, should we succeed by any means in placing the fœtus transversely in the uterus, the principal difficulty in version is overcome.

"But there is a third fact which it is important to recognise, namely, that when the child is transversely placed in the uterus, that is, with its long axis at right angles to that of the uterus, there is a great tendency for it to assume a position in which their long axis will become coincident; or, in other words, a very slight force will be sufficient to determine which direction the head shall take, either back to the os or upwards to the fundus: this is very apparent in practice, and the reason is palpable."

I will now proceed to describe the mode by which I effect podalic version. We will suppose a case where everything is natural. The os uteri dilated to admit one or two fingers, membranes perfect, and free toward the right side.

The patient may be placed in the ordinary obstetric position. Having lubricated my left hand, I introduce it as far into the vagina as is necessary in order to reach a finger's length within the cervix. Sometimes it requires the whole hand, sometimes three or four fingers will be sufficient in the vagina. Having clearly made out the

head and its direction, whether to one side or other of the os uteri, I place my right hand on the abdomen of the patient towards the fundus. I then endeavour to make out the breech, which is seldom a difficult matter. The external hand then presses gently, but firmly, the breech to the right side; as it recedes, so the hand follows it, either by gentle palpation, or by a kind of gliding movement over the integuments, while at the same time the other hand pushes up the head in the opposite direction, so as to raise it above the brim. It may here be mentioned, that when the head has descended a considerable distance into the pelvic cavity, or more than half way through the os uteri, it is scarcely possible to lift it above the brim, especially if the uterus be active. When the breech has arrived at about the transverse diameter of the uterus, the head will have cleared the brim, and the shoulder will be opposite the os. That is pushed on in the same manner as the head, and after a little further depression of the breech from the outside, the knee touches the finger, and can be hooked down by it. It very frequently happens, when the membranes are perfect, that as soon as the shoulder is felt, the breech and foot come to the os in a moment, in consequence of the tendency of the uterus to bring the long axis of the child coincident with that of its own. Should it, therefore, be difficult to hook down the knee, depress the breech still more, and it will be almost always the case that the foot will be at hand. It will sometimes render the turning more easy if, as soon as the head is above the brim, we pass the outside hand beneath it, and push it up from the outside alternately with the depression of the breech. All this can generally be performed in a much less time than I have taken to describe it, although in some it requires gentle, firm, and steady perseverance, with such a supply of patience as is always demanded in obstetric operations.

In January last, I was summoned to attend Mrs. C. in her first confinement. On my arrival at her residence, about 2 p.m., I found that she had been in the first stage of labour for several hours, but that the pains had not increased in frequency or force for some time past. I therefore instituted an examination, per vaginam. At the entrance of the vagina a tense bag of waters presented during the pain, conveying the impression that the head of the child was pressing down upon the perineum. As the pain passed off, the membranes relaxed, and on tracing them upwards I found that they assumed a pear-shaped form, the apex being at the os uteri, which was high up above the brim, and reached with difficulty. It was dilated to about the size of half-a-crown, but apparently yielding. I could not discover the nature of the presentation. Suspecting something wrong, I withdrew my finger, lubricated my left hand, and cautiously insinuated it within the vagina, being resolved to ascertain as early as possible the nature of the presentation. After careful investigation, I decided that it was a case of hand presentation. With the first and second fingers of the left hand, I made firm and steady pressure upon the arm of the child, pushing the trunk steadily upward and toward the left ilium, at the same time making steady pressure

over the fundus with my right hand externally, directing the pressure toward the right iliac fossa. I was gratified to find the description given by Dr. Hicks fully verified. The trunk of the child gradually and readily receded before the upward pressure of my fingers internally, whilst the nates could be felt descending under the external compression exerted by my right hand on the fundus of the uterus. The knee presented at the os. After about ten minutes manipulation, I had no difficulty in hooking my finger into the ham, and as the case was then under my control, I proceeded leisurely. Regular pains set in, the os uteri gradually yielded, first one leg was brought down into the vagina, speedily followed by the second, and a living child was expelled in about an hour from the commencement of the version. The placenta quickly followed, the uterus contracted well, and the patient made a very satisfactory recovery. The above case can scarcely be considered a fair test of Dr. Hicks' method, inasmuch as in cases of transverse presentation, the lower extremities of the child are placed so near the os uteri that external pressure alone will readily depress them so as to bring the knees within reach of the fingers, and, by insinuating one or two within the ham, the child may be turned without introducing the hand into the uterus at all. This method has been called "two finger version" by Dr. Lee and Professor Simpson. The latter has long taught the advantage to be gained by using the right hand externally, in the old plan of version by introducing the whole hand into the uterus. Most teachers advise the left hand to be employed, inasmuch as the convexity of the knuckles is adapted to the hollow of the sacrum. This, however, may be remedied by placing the patient on her right side, when the operator can only use his right hand expertly. I cannot, however, too strongly urge upon obstetric practitioners the advantages to be derived from the employment of both hands. The principle of Dr. Hicks' method appears to consist in simply acting upon the two poles of the long diameter of the fetus at the same time, just as in the case of a Chinese ball contained within another, if you press upon one point only, the inner ball will not revolve, but if you press upon opposite poles in opposite directions at the same time, the ball will revolve easily. So it is with the fetus in utero. I shall take care to publish, through this Journal, any other cases which may occur in my own practice illustrating the advantages of Dr. Hicks' method; in the meantime, those who may feel interested in the matter, will find numerous cases reported in the fifth volume of the *Obstetrical Transactions*. The value of the treatment can scarcely be over-estimated in those most trying cases of unavoidable hemorrhage from partial placental presentation, where alarming bleeding occurs before the cervical portion of the uterus is sufficiently dilated to admit of active interference by the ordinary method. The plug and detachment of the placenta, as taught by Dr. Barnes, have been the only means at our disposal, the practitioner being compelled to stand by with folded arms whilst valuable moments are lost. Indeed I have invariably found the so-called plug (usually a piece of sponge) worse

than useless ; it is wholly ineffectual for the purpose intended, and tends to mislead by concealing the mischief, the patient grows fainter and fainter, and on removing the sponge, the vagina is found filled with blood sufficient to prove fatal. Still more recently the elastic bag dilators, described by Dr. Barnes, are invaluable additions to our means of arresting hæmorrhage in the early stages of labour. A highly interesting case illustrative of their great value has been published in a recent number of this Journal, by Dr. R. T. Tracy, the lecturer on Obstetrics in the Melbourne University, and will well repay perusal. Unfortunately, however, these bags are only in the possession of a very few practitioners, and could not be procured in the colony until very recently ; moreover, cases of this nature occurring in rural districts may prove fatal before such appliances can be procured ; hence the necessity of advancing the cultivation of the hand as an obstetric instrument. This mode of operating is of extreme value also in puerperal convulsions, viewing this frightful complication of labour as the most exaggerated form of reflex action. Emptying the uterus at the earliest possible period, cannot but be considered the treatment most calculated to allay the convulsive paroxysms. Chloroform, it is true, is an invaluable aid in such cases, by affording time, and inducing tranquillity. It is, however, not suited to all cases ; and there are few practitioners who would risk the introduction of the whole hand into the uterus, such a procedure being calculated to produce rupture of the uterine walls. In many cases of convulsions it is now in our power to turn without those risks, and at a time when the os is not dilated sufficiently to admit the hand, by which means we can avail ourselves of the earliest dilatation of the os, and can also assist it by gentle traction upon the leg, which will thus act as a dilator or an efficient plug as the case may be. I cannot conclude my present article more appropriately than by quoting Dr. Hick's own words, "In considering the general advantages of this mode of operating over the ordinary method, I disclaim all intention of unnecessarily depreciating that ancient and exceedingly valuable operation—one which has saved numberless lives, and one with which we cannot at present, and probably shall never be able to dispense. Still if it can be shown, that, in a considerable number of cases requiring version, the operation can be accomplished much earlier, and as quickly or even more so without the necessity of introducing the whole hand into the uterus, I am sure such an alteration will recommend itself without any panegyric on my part."

Geelong, September, 1865.

MEDICAL SOCIETY OF VICTORIA.

WEDNESDAY, SEPTEMBER 20.

ADJOURNED ORDINARY MONTHLY MEETING.

The President, Dr. MARTIN, in the chair.

The PRESIDENT announced the death of the Hon. Dr. Macadam, long a member of the Society. Several members expressed their regret at the melancholy event, and the Honorary Secretary was requested to enter upon the minutes a record of the deep sense of sorrow entertained by the Society at the loss of Dr. Macadam as a member of the Medical Society of Victoria, and of the Medical Profession.

The PRESIDENT and Dr. MUELLER were nominated to draft a letter of condolence to Mrs. Macadam from the Society.

The death of Mr. Felix Kempster, a member of the Society, was also announced, and cordial testimony borne to the zeal and industry with which he had devoted himself during life to the cultivation of medical science.

A paper was then read :—

On the Use of Magenta and other Dyes in the Investigation of Disease by the Microscope. By THOMAS SHEARMAN RALPH, M.R.C.S., Eng., &c.

The process of dyeing healthy animal tissues in connection with the use of the Microscope is no new thing. For years past I have been in the habit of dyeing vegetable and animal tissues in the investigation of structure ; I for this purpose have employed Iodine or Chromic Acid, and also Permanganate of Potassa ; but my experience has led me to regard their use as not very satisfactory, inasmuch as the objects were merely tinged or tinted with the colouring matter, and also the same colour was to a great degree imparted to the surrounding parts, so that little or no differentiation resulted.

For example, Iodine has been long time past employed to exhibit the presence of starch granules, and starchy matter lying in the midst of vegetable cells, by its characteristic blue or purple tinge communicated to them, while the surrounding portions either retain their original colour or are tinged yellow from the absorption of free Iodine. Here we have a decided case of differentiation, but the other two substances mentioned yield no such result, or to a feeble degree only.

Next to these, Carmine in union with Ammonia came into use, and this has been found to lay hold of some organic substances after the manner of a dye.

After this Magenta, a dye of the aniline series, became a claimant for distinguishing between certain animal and vegetable products.

This dye I have used off and on now for some time past, but felt unwilling to rely upon its evidence when compared with Iodine in its action on animal amyloid substances, and hence I did not quote its use in my observations on pleuro-pneumonia. But after allowing some of my preparations dyed with Magenta to lie by for many months, I was so pleased at finding the permanency of some objects which had been dyed, that I determined to prosecute its trial still further, and in consequence have come to the opinion that its use can be extended so as to employ it as a kind of test; but at present I am unable to define the nature of the object which yields to its operation.

I must first premise that there is an important point to be kept in mind, with regard to processes of this kind, namely, that we carefully recognise between the tinging or tinting of an object and its dyeing, or permanent or nearly permanent colouration. Magenta has this property with respect to some substances; for when an object has been immersed in a solution of Magenta, then taken out and placed in water, or glycerine and water, the dye slowly passes out, leaving some portions unoccupied by it, while others retain permanently their colouration by it.

But the principal point I have to advance on the present occasion is, that as far as my experience goes, this dye has a strong attraction for animal amyloid substances, and what is also curious, it communicates to them a purplish colour, and this does not appear to be capable of being fully discharged under the action of Ammonia or Acetic Acid, or even Sulphuric Acid; hence in due time I expect to find it in as full use as Iodine has been for discrimination of amyloid substance. If so, we have now two substances which operate on amyloid matters; and this Magenta dye may prove serviceable in enabling us to distinguish between true vegetable amyloid and animal amyloid substance, for it will not permanently colour starch, although it can be made to tinge it under some circumstances.

But there is another dye belonging to the aniline series to which I also desire to call attention; but not so much with certainty in its use, as I have not been experimenting with it nearly so long as with Magenta (which is now about a year), but with the view of directing more attention to this subject, that those who are working with the microscope here and elsewhere, may take steps to enlarge our information on this point. Some months since, when I was engaged in reviewing my observations on pleuro-pneumonia in the production of the paper I had the honour of reading to the Society in April last, I made trial of all the dyes I could obtain belonging to the aniline series, and among these I used the green dye, expecting to obtain from it a decided green tint communicated to the objects under investigation, but I found to my surprise that those objects which I expected to be so acted on, assumed a deep red or purplish tint, just as if I had used the Magenta. Not having time then to follow this out, I laid it aside for a future opportunity, but having recurred to its use in connection with that of Magenta, I begin to think we have in these dyes the property of selecting animal products with some

degree of certainty, and that we merely want an extended use of them by several observers, in order to be able to say how far they can be relied on as tests of a certain class. To me, the Magenta stands first, but if the green dye behaves decidedly in the same substances, although its action is much slower than that of Magenta, yet to find the same object turn red or purple under its action will be very satisfactory. I have used the pink and blue dyes, but those imported have not proved of service in my hands. I have read of a blue dye which promises well, but I have no means of obtaining it for trial.

One thing I must notice here, that in discriminating colour under the microscope, we are too apt to disregard the amount of light employed; the degree of light made use of is a very important item in these experiments, and I feel certain we have flooded our eyes with too much light when determining the colour of different substances when under the microscope. The silk-mercer when he desires to value the tint of the silks he buys wholesale, exposes them in England to light from a northerly window, in order to judge correctly of the depth and clearness of the dyed article. We may see in this fact, that it is not the full glare of the solar ray which is useful in discriminating colour, but a modification of it. So in the employment of light in microscopical research, the specific colour of an object seen by transmitted light, should be tested by varying degrees of light. I find also a good method of discriminating colour is to employ a low power with a deep eye-piece, and by the use of this and the gradual admission of light, I generally judge of the colour of an object.

The subject of animal amyloid substances when tested under the microscope, having been so diversely reported on as to colouration by Iodine, has led some reviewers of these points to suggest that the discrepancies as to colour might be due to the colour-blindness of some of the observers. My suggestion is, that none have endeavoured to test their observations in this way, and hence have perhaps diverged in the manner complained of.

In using the dye the following precautions should be adopted:—The dye-bottle when opened for use should never be shaken or disturbed. A drop is to be withdrawn by means of a solid glass-rod, and applied in that state or diluted with glycerine, to the object on a slide.

This precaution is necessary, as the dye frequently precipitates some solid matters, and they are sure to be transferred to the specimens and cause annoyance by their presence.

The following observations made some time ago, and recorded in my note-book, will serve to show how these two dyes may be used:

Examination of a Gall-concretion, one of five, of the size of a small marble.—The most satisfactory mode of showing that Magenta takes hold of some organic matter is to place a little of the concretion on a glass slide and apply a drop of Glycerine-Magenta, the colour having been previously neutralized by caustic Ammonia. When this mixture has penetrated the gall fragments, a gentle heat applied,

and the covering glass lifted in order to expel the Ammonia, it will be seen that portions of the concretion have been taken possession of by the dye. Weak Acetic Acid neutralizing the Ammonia will yield the same result, and can be watched in progress while under the microscope. Some of the particles so dyed do not discharge their colour when Sulphuric Acid is added.

One of several small Gall-concretions from a case in the Benevolent Asylum.—The gall-concretion is composed of cetaceous-looking materials, tinged chiefly a yellow colour. Magenta, when applied, colours a few small patches, and tinges of a dark colour some small masses. Green dye gives a ruby-red to many portions; five cells seen, coloured reddish-brown. Curdy-looking substance contained in a hydatid cyst; green dye lays hold of some solid substances, red purple colour evolves occasionally; some filmy fragments are seen bright blue. Acetic Acid and Acetic Ether appear to produce no change on these—the dye tinges the mass green. Ammonia added, bleaches the green, but does not affect the dark solid bodies.

From past observations and the use of Iodine in the last quoted experiment, I am satisfied the objects which take colour so vigorously, are more especially organized than those which do not. Some large thick-walled cells frequently met with in hydatid cysts, and which hardly yield to the action of Iodine, assume a deep tint under Magenta, whereby they are made to stand out in bold relief from the surrounding portions.

A very good mode of exhibiting the selecting property of these dyes is to subject some small animal to its operation, as a fluke or tape-worm, care being taken not to overdo the experiment by the use of too much dye. The dye will penetrate the various organs and tissues in different degrees, and yield also different depths of colour; we may learn in this way what organs are most readily acted on, and I think it will be found that those cells which have lived the longest will be found to darken most under its influence.

A portion of a liver which had in it two large hydatid cysts with echinococci, examined at a part distant from the situation of the cysts, showed by means of Magenta dye a number of cells of about 1-500th of an inch or more in size, which by careful examination under a high power, proved to be minute laminar walled cells, the incipient state of these larger ones, and corresponding to some minute cysts contained in them. These would, under ordinary observation escape notice, from being in the substance of the liver, and which would have been regarded as a specimen of fatty liver, if not subjected to microscopical examination, and its true character elicited by the action of Magenta.

In a specimen from a greatly enlarged spleen, a number of thick walled cells were seen scattered through the tissue. These take the dye very readily. When acted on by Iodine in some form, the colour assumed is of a deep red. These cells I consider to be of parasitic origin. I have met with them very frequently, and in various organs; *i. e.*, lungs, liver, and kidney; they have also been seen in the urine, and appear to have been noticed by writers on

urinary deposits, but no satisfactory account of them has yet appeared. They are sometimes clustered together in two and three or greater numbers, and would be regarded in some cases as of vegetable origin and as having gained access by accidental means. The action of the Magenta seems to unite with that of Iodine to indicate their positively animal origin.

HOSPITAL REPORTS.

MELBOURNE HOSPITAL.

*Return of Popliteal Aneurism after Deligation of the Femoral Artery.
Cure by means of Pressure.*

In the *Journal* of September of last year, a case of Popliteal Aneurism is recorded by Mr. Gillbee, in which the femoral artery was tied, and the patient subsequently discharged apparently cured. Six months afterwards pulsation returned in the tumour, and the man applied again at the hospital, with a note from the medical attendant of his club, suggesting the tying of the artery above and below the tumour, cutting open this, and turning out its contents. The patient was averse to coming into the hospital, and Mr. Gillbee determined to try the effect of pressure by flexing the leg upon the thigh, and retaining it in that position by means of straps attached to the heel of a slipper, and to the posterior and upper part of the thigh. As the man possessed more than the average intelligence of hospital patients, Mr. Gillbee instructed him how to apply the bandage and straps at his own home, and requested him to report upon the effect of the treatment. This the patient did, and the following was written by himself:—

In the case referred to, I can state that I gradually recovered the use of my leg, and could follow my employment, which I did for a period of six months, when I again felt a pulsation in the tumour, and consequently rested it as much as possible, but could not get the pulsation to cease. The pulsation gradually getting stronger, and the leg swelling after the least walking, accompanied with pain around the tumour, and these symptoms increasing daily, on the 14th of June 1865, I again applied to Mr. Gillbee at the Melbourne Hospital. The pulsation at that time was so strong that it could plainly be seen, it was also very painful. By his advice I laid up at once, applied a flannel bandage from the toes up to the middle of the thigh, and bent the leg under me, it being kept in that position by straps attached to the heel of the slipper and to the back of the thigh. After being in that position for about fifteen minutes, the circulation seemed gradually to cease in the foot. In half an hour it was void of all feeling, externally cold and clammy, in fact, I thought the circulation had ceased altogether. I, therefore, immediately let my

leg straighten again, when circulation gradually returned, and the foot regained its sense of feeling. I again strapped it back but not so far as to be painful, and kept it in that position all night. Next morning on removing the bandage, I found the pulsation to have entirely ceased, but the part was rather painful and the feeling of the leg was as if it had received a severe wrench. I continued to keep the leg slightly bent, strapping it back occasionally. The swelling gradually went down, and in a few days it was free from pain, but the foot was more numbed and difficult to keep warm. I continued in bed twenty-eight days, there being no return of pulsation during that time, but occasionally a slight pricking about the knee and the calf of the leg. Since that time I have been walking with crutches, the leg being much contracted; but I am now able to walk for a short distance with the aid of a stick. The leg has slowly and gradually straightened again, but it is still slightly contracted. The swelling however is much less than at any time since the first operation, and as the tumour is still getting less I walk very little on it at present, but am now sanguine of being able to return to my employment, as the leg is steadily becoming stronger, and there is no sign of pulsation. I am impressed with the necessity of being extremely careful for the future, and I therefore walk as little as possible, since I attribute the return of the aneurism to my having used the leg too much, and to having laid aside the crutches too soon after the operation. The foot is now much numbed and swells slightly after a little walking, and is difficult to keep warm.

A. J. ASHTON.

Melbourne, September 21st, 1865.

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MEDICO-LEGAL TESTIMONY.

“Who ought to get the post mortem”? is a question of frequent occurrence in relation to coroner’s inquests; and it is, and has been from time to time, a source of much angry discussion and no little ill-feeling and jealousy among medical men. It has been very warmly contended that coroners should deal fairly and impartially with the members of the profession, and that the good things which it is their privilege to distribute, should not be continuously directed to any particular quarter, or converted into an annuity for any one particular friend or favourite. It is

urged that whatever medical man has been in attendance on the deceased person, or has ever been called to the case after death has occurred, or has in any way been concerned in, or knows anything of the history of the person whose death is the subject of the enquiry, should be entrusted with the duty of examining the body and testifying as to the cause of death. And it is held that such a previous knowledge would, in many cases, greatly assist and facilitate the enquiry, and frequently throw a light on points otherwise obscure and difficult in the investigation. Cases not seldom happen where no medical man has any claim on account of previous knowledge or attendance, yet in which the coroner must select some one to make the post-mortem examination; in such instances it seems to be expected that the practitioner residing nearest the place where the body lies, should be called upon, as he doubtless considers himself fully competent, and would feel insulted and aggrieved if a "coroner's favourite" were brought, perhaps a long distance, to supersede him.

Like all such questions, involving conflicting interests, this one can only be fairly judged by being considered from several points of view; and we shall first enquire what is the opinion of the coroners themselves in the matter.

It must be admitted that whatever may be their private views as regards the selection of their medical witnesses, coroners have generally respected the feeling of the profession, and, whenever practicable, have given the charge of the post-mortem examination to the medical attendant of the deceased, or whatever practitioner has been called to the case, or has reported the necessity for holding an inquest; and there can be no doubt that, in the majority of cases, the duty thus undertaken is well and properly performed.

But it is equally certain that there are medical practitioners who are either so careless or so ignorant as to be incapable of conducting a necroscopic investigation to any satisfactory issue; or who are so unhappy in their mode of giving evidence as to make confusion worse confounded, and, instead of being lucid and intelligent interpreters of the mysteries of science and the phenomena of life and death, are—on the contrary—so obtuse as to render the duties of the coroner more anxious and difficult, and to oblige him to screw out as best he can facts and opinions, which, if the witness were fully equal to his duties, should be delivered in proper order and sequence.

We can understand that, with such experience, a coroner will sometimes feel himself compelled to make selection of a

medical witness whom he knows to be competent, to the exclusion of a prior claim of another practitioner, who, on former occasions, may have exhibited his incompetence. In such cases, if the circumstances could be made known, the medical profession would probably applaud the selection, or at all events would approve of the principle that a man whose unfitness is notorious, should not be entrusted with a case involving perhaps public interests of high importance. It is incumbent on the coroner to secure proper and sufficient evidence to go before his jury, and if he has previous experience of the incapacity of any particular person for the conduct of the medical evidence at an inquest, or if the case on which the inquest is being held is of a special nature, and likely to require care and skill in its elucidation, there can be little question of the right and duty of the coroner to make such a selection of his medical witness as will be certain to secure the ends of justice. If the death which is the subject of investigation occur in a country district, of course the nearest resident practitioner ought to be considered entitled to be consulted, if he has not previously proved himself unworthy. But, owing to the difficulty of making arrangements as to time, &c., it frequently happens that the coroner is obliged to bring with him to the scene of the inquest some medical man to make the autopsy.

In those instances where no claim can exist, and where the coroner may be considered free to choose whomsoever he thinks proper, it would be somewhat difficult to lay down any rule which should regulate his choice. The principle on which he is supposed to act, is to entrust the post-mortem to some medical man on whom he can, from previous experience, fully rely; and although as regards the city and its suburbs, much jealousy has been excited at times by the frequent occurrence of certain names in the reports of inquests, shewing that the allegations respecting undue preference are not altogether baseless, it can scarcely be expected that the coroner should keep always before him a copy of the "Medical Register" for the purpose of taking the names in the order of their succession. It must be remembered that repeated experience is in this matter a high qualification, and that the more frequently a man who is otherwise competent is called upon to make these necroscopic examinations, the more valuable will be his evidence both as regards its intrinsic worth and importance, and also as to the lucidity and orderly method of its delivery. In fact, it may be safely asserted that, as a general rule, the ordinary practitioner of medicine, engaged in the active exercise of

his profession, and with his mind distracted by the anxieties of his daily round of duties, is not exactly in the right place when called upon to give medico-legal evidence (as, for instance, in infanticide) requiring the highest order of scientific research, and such a familiar acquaintance with the aspect and condition of morbid anatomy as can only be acquired by constant devotion to its study. Yet how often we see the lives of accused persons depending on the evidence of such haphazard witnesses; and still more frequently have we not observed the escape of criminals, whose guilt was notorious, by the blundering incompleteness of the medical evidence.

It may then be worthy of consideration whether the best course would not be followed, both for the safety and welfare of the public, and for the interest and dignity of the medical profession, if all medical evidence at coroner's inquests and other such legal investigations, were, as far as practicable, entrusted to a select number of men, who, by acknowledged proficiency in the required duties, by weight of character and tried honour and integrity, would command implicit respect and confidence, both from the public and their medical brethren. And however difficult and invidious might be the duty of singling out the right men for these high and important functions, it cannot be questioned that legal medicine would, from its public importance, be most certainly maintained in the front rank of scientific progress.

That the attention of the profession in the old country is strongly fixed on the desirability of some movement in this direction, appears evident from the various articles that from time to time appear on the subject. The following extract taken from a paper,* ably and elaborately written, by Dr. Anstie, and published in a late number of "Macmillan's Magazine," presents a picture the truth of which will be at once recognised: "With regard to the manner in which medical evidence is taken on coroners' inquests, it is almost impossible to overstate the evils of the present system. Our best example, perhaps, will be one, which is of very frequent occurrence, namely, the investigation of a case where there is room for suspicion of infanticide, the proof turning mainly on the question whether the child was live-born? The majority of such cases present physiological problems of the deepest kind, such as would require an expert of the highest knowledge and skill to

* State Medicine, by Frederick E. Anstie, M.D.—Macmillan's Magazine February, 1865.

“investigate them successfully; and a rather unusual power
“of interpretation to convey to laymen a just idea of the
“points of certainty and of uncertainty involved. The long
“and peculiar study of this subject from two quite distinct
“points of view, the medical and legal, which would be
“necessary in order to achieve this kind of success, makes it
“quite impossible that a busy practitioner, fully engaged
“with ordinary duties, can acquire it. It needs but a slight
“cross-examination from an incredulous coroner to break
“down the credit of such a witness, for, in nine cases out of
“ten, his opinion (whether right or wrong) will be found to
“have been based not on a comprehensive survey and
“accurate analysis of all the scientific indications, but on
“the result of some specific test, which he believes to be
“crucial, when it may be merely an exploded fallacy. This
“is an especial danger of medico-legal inquiry in cases of
“infanticide. The consequences are most disastrous to the
“cause of justice, and highly conducive to the spread of
“crime. Juries are now for the most part very distrustful
“of such evidence, and, where it bears against an actual
“prisoner, will eagerly seek any loophole to escape from the
“fatal inference which it suggests; a proceeding all the more
“easy, as in the present state of the law as to child murder,
“the public sympathy is nearly always on the side of the
“accused. It is impossible to doubt that this laxity of
“repression has much to do with the enormous prevalence
“of infanticide, which is an undoubted and most dreadful
“fact; a stain on our civilization which has been repeatedly,
“though vainly, denounced.

“In criminal trials a variety of questions arise in which
“the medical evidence forms the turning point, of which
“perhaps the most frequently occurring and most important,
“are enquiries into the relation of particular symptoms to
“the effects of poison. The condition of an ordinary prac-
“titioner, unskilled in this kind of investigation, when
“placed in circumstances where he must give a decided
“opinion on such a question, is most pitiable; he may have
“gained a correct enough idea of the case by mental opera-
“tions, which are, so to speak, irregular; that is to say, they
“do not admit of being analysed, and laid bare to a smart,
“confident, and hostile barrister, and a jury entirely un-
“familiar with medical subjects. His explanation of the
“manner in which he arrived at his opinion on the case,
“may with ease be made to appear ridiculous and incon-
“sistent; whereas his deficiency was not in sound know-
“ledge and judgment, but in the power to translate his

“thoughts into those of unlearned men. Too often, however, it must be allowed that the average practitioner is not possessed of the special knowledge which alone could confer the right to pronounce a decided opinion on such cases. But it is strange to see how nearly universal is the habit of assuming that, provided an expert has the requisite knowledge of special facts, his giving evidence involves no more difficulty than every common witness experiences; when, in fact, there is a difference between the two cases almost as great as between light and darkness. Let any one study with care some text book of the laws of evidence (such for instance as the chapters on evidence in Mr. Fitzjames Stephen’s admirable work on the ‘Criminal Law of England’), and he will perceive that the examination of testimony in courts of law, is necessarily guided by an elaborate theory and by special rules of practice, which it requires the skill and knowledge that a special study alone can confer, to employ with effect in eliciting the true value of the statements of a witness. For dealing with common facts, the kind of knowledge and skill possessed by an acute counsel are doubtless the best preparation. But it is quite impossible for counsel to have any idea how to assist or to compel a scientific witness to that *castigatio trutinæ*, which should make the naked truth, so far as known to science, appear stripped of the vestments of private theory and speculative crotchet.”

It will probably be thought that the facilities which may exist in the old country for selecting a body of experts such as we have alluded to are not to be had here, and that we have not amongst us any men possessing the requisite qualifications for such a distinction; but our colony is making rapid strides towards complete social development, and even now it may be well to reflect that from some of those who are now most frequently engaged as medical witnesses at inquests &c., there may be at some future time a commission or board of medical experts constituted, to whom might safely be entrusted the unravelling of the intricacies which must always render difficult and doubtful the relations between law and medicine.

Although not bearing directly on this question, we are tempted to make another quotation from Dr. Anstie’s admirable paper, in reference to the facility with which medical evidence can be made to serve the purposes of both prosecutors and defendants at any criminal or other trial, to the great discredit of our profession:

“ But the crowning offence against justice and common sense in the reception of medical testimony on trials, consists in allowing, and indeed, requiring it to be given *ex parte*, the universal practice in this country. Experience has abundantly proved that by such a method of taking skilled evidence (whether medical, or engineering, or of any other kind), nothing but a mass of contradiction will be obtained. But the worth of medical testimony is especially damaged by it, because medical problems are considerably further removed than others from the scope of ordinary education, and their interpretation is proportionately more difficult. The most absolute impartiality would be required to enable a witness to execute with a complete success the task of opening the eyes of laymen to the exact position of scientific enquiry on many points of toxicology ; but the present system excludes the possibility of even a tolerable approach to fairness in any case which is of sufficient interest to provoke a contest. The laws of human nature inexorably forbid us to hope that, with such numerous excuses for forming opinions in a crotchety or theoretical manner as are furnished by medico-legal questions, the average medical witness will ever hold the balance true against the pressure of material interest, and the temptation of professional rivalry. There is a cynical insincerity in pretending to expect any such result, which deserves grave reprobation. It is certain that until means shall be provided for obtaining scientific evidence, which has been formed apart from the injurious pressure of interested considerations, we are only making believe to elicit the truth, so far as it can be decided on scientific grounds.”

THE TRIAL OF CAPTAIN JARVEY.

(COMMUNICATED)

This trial—a report of which we have just received—resulting in the conviction of the prisoner for compassing the death of his wife, by administering strychnine, is so replete with matters of peculiar importance and great interest, that we propose to make a very brief *resumé* of the evidence. It will be in the recollection of our readers that the Government Analyst, the late Dr. Macadam, had the stomach and a part of the liver of the deceased sent to him for chemical analysis, and that he proceeded in the early part of this year to Dunedin, to give evidence in the case. The result of the trial, owing as it would seem to the peculiar view taken by the judge, Mr. Justice Chapman, was that the jury could not agree, so that a new trial had to take place, to give evidence at which Dr.

Macadam and his assistant Mr. J. D. Kirkland were on their passage, when the lamented demise of the former gentleman took place. The trial, however, proceeded and resulted in a conviction. The main facts of the case will perhaps be best gathered from an epitome of the leading evidence, herewith subjoined:—Barnard Isaacs, a druggist, was the first witness called. He deposed: “That on the 18th September, 1864, the prisoner purchased of him a mixture of corrosive sublimate and strychnine for the purpose, as he stated, of killing rats on board the *Titania* steamer, with which he was then connected. On the 22nd of September, he purchased a pot of cold cream and a cough mixture, and ordered a package of pure strychnine. This last, the prisoner also stated, was for the purpose of killing rats on board the ship.” Charles Vallance Robinson, deposed, “That he was part owner of the *Titania*, of which the prisoner was master in September and October last. He was in the habit of purchasing ship’s stores, and the persons from whom he bought them usually presented the accounts for payment. He did not remember the prisoner presenting any accounts in September or October, and was quite positive he did not ask to be repaid for any strychnine he had purchased. Did not believe the ship to be infested with rats.” James Curran, second steward of the *Titania*, deposed, “That he had been on board from March 1864, until she was wrecked, and had never seen but one rat. There was never any poison for rats laid to his knowledge on board of her. The prisoner never told him he meant to use poison for them.” Robert Wilkinson Liddell, engineer, and Andrew King, chief steward, corroborated the previous witnesses in the leading facts.

Elizabeth Ann Jarvey, 19 years of age, daughter of the prisoner, deposed—“That her mother died on the 26th September, 1864. She had been ill on the previous Sunday, but was better on the Monday, and took her tea with relish. After tea, prisoner sent witness up stairs to put her brothers to bed. While up stairs heard a jingling of a spoon and glass, and heard her mother say, ‘Oh, dear, it is dreadful bitter, it is burning my throat,’ to which prisoner replied, ‘You will have to take it twice a week before it will do you any good.’ On returning down stairs, witness saw deceased sitting on a chair, leaning with her elbow on the table. She tried to turn round, and she laughed wildly. The witness then described the scene in which the deceased charged the prisoner with her murder, and the death struggles of her mother, in which the witness detailed the stiffening of the limbs, the spasmodic twitching of the muscles of the face, and working of her hands. “She seemed,” she said, “to work the limbs dreadfully hard, up and down, but not quickly.”

The witnesses examined immediately after Miss Jarvey, although highly important as connecting the prisoner with the death of his wife, may be omitted in this summary, as not bearing on the main feature of the case, viz., the means by which the poison was detected in the stomach of the deceased. We therefore pass over them, and take the evidence of Mr. J. D. Kirkland as most material to the issue.

After detailing the receipt of the jars containing the stomach, &c., and proving their identity, he proceeded as follows: "The stomach was taken out of the jar, and placed on a porcelain slab together with what appeared to be a portion of the liver. The stomach was cut open on the slab, and the contents—about four ounces—were transferred to a porcelain evaporating dish. They were then digested with alcohol and tartaric acid, according to Stas's process. One portion was reserved for the detection of mineral poisons, particularly arsenic and corrosive sublimate. The fluid contained in the stomach was divided into four parts. I made notes of the process at the time, in Dr. Macadam's book. The first portion was reserved for vegetable poisons, the alkaloids especially, and there was a portion kept apart until some knowledge might be gained of the description of poison. We tested for the alkaloids by Stas's process, and strychnine was found; in the other portions no arsenic, corrosive sublimate, or other mineral poison was found. The reserved portion of the fluid was operated on according to Rodgers' and Girdwood's process, which is used particularly for the detection of strychnine. A portion of the substance of the stomach and of the liver was cut up and mixed with each portion of the fluid before the tests were applied. The result of Rodgers' and Girdwood's process was the finding of strychnine, corroborative of the results by Stas's process. The two are alike to a certain point; but in the latter, strong oil of vitriol is afterwards added, to destroy all traces of animal matter. From my own experience, I say that the 20,000th part of a grain of strychnine might be discovered in the contents of a human stomach by Rodgers' and Girdwood's process. I have administered strychnine to dogs."

The counsel for the prisoner objected to this kind of evidence being given; but after some debate, the judge decided to admit it with a view to demonstrate the peculiar action of that poison.

The examination in chief proceeded; and Mr. Kirkland gave several instances in which he had administered strychnine to dogs, and described the effects; he also detailed the quantities he had administered, and the results observed.

The first part of the cross-examination was directed chiefly to the reception and custody of the jars, with a view to break the force of the evidence as to their identity. Failing in this the counsel then attacked the evidence as to the finding of the strychnine, and this part is so important that we deem it advisable to give the report unabbreviated.

"I understand that you are now referring only to the residuum from Stas's process. That residuum, as left by the evaporation of the ethereal solution, was divided into eight portions, and to each a separate test was applied, including colour tests. One was combustibility. A portion of the substance was placed on platinum foil, which was heated, and the matter was burned. What was put on the platinum foil was not the thickness of a wafer, it was about the thickness of what would be left of milk, when evaporated on glass. The residuum is left in the evaporating capsule. An eighth of it was taken and dissolved in water; it was a drop on a

glass rod. A drop of that liquid was dropped on the hot foil, and it burned and left a smell as of organic matter. That did not satisfy me that there was strychnine in the residuum—it was only one test. The second was a colour test. Sulphuric acid was applied, and then bichromate of potash; the result being a purple bluish colour, changing into a red. There is a substance which will yield somewhat similar results when so treated—*aniline*, a base found in coal tar. That gives first an olive green, which deepens and changes to a blue, and that into a black, after the lapse of considerable time. I am sure that sugar would not produce such a play of colours. I have tried that several times, and once within the last three weeks. I know that Taylor mentions cerebral matter as giving the same play; I do not know, and do not believe, that he also mentions the constituents of bile. There might have been a trace of animal matter left by Stas's process, but there was none by Rodgers' and Girdwood's—there could not be. The colours were observed by me with the naked eye, in the tests I have mentioned. The vessels used were cleaned so as to avoid all sources of error. The porcelain vessels used were all new, but they were washed; the beakers, also, I believe were new; but the funnels had been used previously. The next test was a colour test, in which ferrid-cyanide of potassium was used instead of the bichromate; the next was of the same kind, the binoxide of lead being used; and another was with binoxide of manganese. All these are called oxydising tests, and produce the same play of colours. In another test, a portion of the residuum was placed on a glass slide and examined under polarised light. The results observed as to colour are not peculiar to strychnine—hundreds of substances will produce them. Nitric acid was used as another test, and it produced an orange-red colour, owing to the strychnine containing a little *brucine*. Another test was that of taste. Strychnine has a very peculiarly bitter taste, not like that of any other substance I ever tasted. I can distinguish between the taste of quinine and that of strychnine. I have been tried, with solutions made of equal bitterness as far as possible, and I always succeeded in telling one from the other. The bitter of quinine is a pure bitter; that of strychnine is acrid, and produces a peculiar sensation in the back of the palate, which quinine certainly does not. An eminent medical man in Dunedin may have been deceived into thinking a strong solution of quinine to be strychnine; I can only state my own experience. I have examined the crystals of quinine after its being treated as strychnine in these cases: they are needle-shaped. The crystals of strychnine are rhombic prisms, needle-shaped or acicular, but not square like quinine. I examined the crystals under a microscope in this case. They presented a stellar appearance. It was not a binocular microscope that I used. I have read Taylor's work on poisons. He is considered an authority as a medical jurist. I am aware that he made remarks, in connection with Palmer's trial, as to the idea of relying upon the colours produced by the oxydising agents in the tests for strychnine. I am by no means aware that he ridicules the

colour tests, when they are taken in connection with themselves and with the other tests. I agree with the extract you have read from Taylor, stating that the colour tests are not to be relied on—that it would be unsafe to rely upon them—unless with the corroboration of crystallization and the bitter taste. I say that I have those corroborations. I observed only needle-shaped crystals, and that is the form which quinine takes. I don't know whether quinine was there, but I know that strychnine was. Supposing quinine had been in this woman's stomach, it would have been in the residuum. There was nothing in either of the processes to destroy or remove it. I say that, taking all the tests together, I can still be certain that strychnine was found in the contents of this stomach. The colour tests alone, without the bitter taste, would not enable any one to say that a substance was strychnine. There was enough in the little film which I took up and placed on my tongue, to give me the sensation of the taste of the peculiar bitter of strychnine; I believe it to be strychnine from that taste, but the taste alone would not enable me to swear that it was strychnine. The presence of quinine might account for the crystallisation I saw; but its presence would not account for what I tasted. I distinctly would not come into Court, and, from taste alone, swear that a substance presented to me was strychnine and not quinine. If there were aniline in the contents of the stomach, I believe that it would be eliminated by Stas's process: I never tried the experiment. I do not think that the decomposition of the human body might re-arrange elements into a substance that would produce the play of colours. I have found that such was not the result in the case of a dog that had been buried three months. I should not expect any different effect upon quinine in the body of a dog, from that which would follow on it in the body of a human being; I cannot say more than that.

“By the Judge: Quinine yields certain colours under the oxydising tests; but if there had been quinine in this residuum, I know that the strychnine colour would have overcome that of the quinine.

“Cross-examination continued: These analyses were not commenced with the belief that strychnine would be obtained. Strychnine was mentioned on the label, as one substance to be tested for; but the whole of the poisons were really tested for.

“Re-examined: There was a label under the bladder-skin which covered the mouth of the jar in which the stomach and contents were. I recognise the label shown me as the one. There was also a label on the other jar, on which was written ‘Portion of liver,’ I think. Assuming that the substance I tasted was quinine, I believe that the quantity would not have been nearly sufficient to produce so powerfully bitter a taste.”

The defence raised was both subtle and ingenious; and in no previous trial in these colonies do we remember a counsel to have shown himself so thoroughly aware of the danger to his client of the scientific evidence tendered, and so well prepared to take every objection to it. It was attempted to be shown that death might

have been occasioned by idiopathic tetanus, hysterical syncope, or puerperal convulsions; but the medical evidence called by the Crown to testify to the difference of the symptoms in these affections from those observed in poisoning by strychnine was very conclusive, and reflected much credit upon the intelligence and scientific knowledge of the medical profession in New Zealand. The somewhat stale expedient of attempting to demonstrate the insignificance of the chemical proofs obtained by Mr. Kirkland was justly reprobated by the judge, who said, "I say to you that scientific facts cannot be judged of by common sense without special knowledge and preparation; that when Mr. Smith (the counsel for the prisoner) appeals to the common sense of uninstructed men he is appealing to an incompetent tribunal so far as those facts are concerned."

Altogether the trial is one of the most interesting in a medico-legal point of view that has ever occurred on this side of the Equator, and its complete details may be read with especial profit by the members of our profession.

THE HOSPITAL ELECTION.

The election of medical officers for the Melbourne Hospital on the 4th ultimo, resulted in the appointment of Drs. Motherwell, Eades, Cutts, Robertson, Wilkie, Martin, and Black, as physicians; and Messrs. James, Gillbee, Garrard, Rudall, Howitt, Dr. Thomas, Mr. Fitzgerald, and Dr. Barker, as surgeons. The returns of the voting are subjoined, the names of the retiring officers being marked with an asterisk :—

LIST OF CANDIDATES.

PHYSICIANS.

(First Seven Elected).

*Dr. Motherwell	685	Dr. Halford	388
* — Eades	538	* — Livingstone	382
* — Cutts	509	— Neild	350
* — Robertson	508	— Bird	272
* — Wilkie	492	* — Hadden	272
— Martin	477	— M'Carthy	194
— Black	461		

SURGEONS.

(First Eight Elected).

Mr. James	639	*Mr. Knaggs	298
* — Gillbee	605	* — Lempriere	280
* — Garrard	546	— Blair	266
— Rudall	533	— Dowling	187
— Howitt	513	— Rankin	111
*Dr. Thomas	508	— Thompson	94
*Mr. Fitzgerald	507	— Keene	89
*Dr. Barker	503	— Stewart	83
*Mr. Beaney	331	— Wilson	77
— Girdlestone	319	— Whitcombe	66

The Late Dr. Macadam.

It is a source of sincere sorrow and regret to have to record the death of the Hon. John Macadam, M.D., who has for a period of ten years, occupied a prominent position in this colony. Cut off in the prime of life, in the midst of a very active career, while proceeding to New Zealand in the discharge of a professional duty, the deceased gentlemen is the more deeply lamented.

For some time it had been evident to his friends that his general health was giving way ; that a frame naturally robust and vigorous was gradually becoming undermined by the incessant and harassing duties of the multifarious offices he filled, and the cares and excitement incidental to a parliamentary life. He was therefore induced to relinquish some of the numerous appointments he held. In 1863, he declined the office of Honorary Secretary to the Royal Society, and in 1864, he resolved, on the dissolution of parliament, to abandon politics, and devote his sole attention to that branch of science he loved to cultivate. Thus relieved of some of his labours and anxieties, and recruited in health to some extent by a short voyage to King George's Sound, which he undertook at the commencement of this year, it was believed that he would soon regain his pristine vigour. In March last he proceeded to New Zealand, having been subpoenaed to give evidence at the trial of Captain Jarvey, on the charge of poisoning his wife. The treatment he there experienced in the witness box, the intemperate expressions affecting his professional reputation, which fell from the prisoner's advocate, and for which that gentleman afterwards considered it necessary to offer an apology, acting on a mind naturally very sensitive, and rendered still more so by his then feeble condition, did not tend to the improvement of his general health. On the voyage homeward he encountered rough weather, which was the occasion of an unfortunate accident, resulting in the fracture of some of his ribs. This was followed by pleurisy with effusion, and for a time he was confined to the house. He had not sufficiently recovered at the end of April to permit his undertaking another voyage to New Zealand to give evidence at the adjourned trial of Captain Jarvey, which had been fixed to take place early in May, the jury having on the previous occasion failed to agree on a verdict. Certificates from his medical advisers were forwarded representing that they considered a sea-voyage extremely hazardous in his then debilitated condition. The trial of Jarvey was in consequence still further postponed, and it was during his second voyage to New Zealand, undertaken for the purpose of giving evidence at that trial, that the lamented gentleman succumbed.

His death took place on board the *Alhambra*, on the morning of the 2nd September, 1865. It was caused by "excessive debility and general exhaustion," as appears from the verdict of the jury at

an inquest held by the District Coroner on the arrival of the vessel at Port Chalmers, Otago.

When he sailed for New Zealand, he had recovered from the effects of his previous accident, and had so far regained strength that the sea voyage was considered not to be attended with danger, but on the contrary likely to prove beneficial to him. He was himself also most anxious to undertake the voyage in the discharge of his duty. The first intimation of his death was received by telegram *via* Sydney, on the 18th September, and published in the *Age* and *Herald* newspapers of the 19th. It was so unexpected, that its correctness was at first doubted by the friends of the deceased gentleman, but the particulars furnished by succeeding telegrams too clearly testified to the truth of the reports, the sad reality of his death.

It is gratifying to be able to note in connection with such a melancholy event that the ends of justice were not frustrated. Mr. J. D. Kirkland, for many years the assistant of Dr. Macadam in the Laboratory, accompanied him on the voyage, and was able at the trial of Jarvey, to sustain fully the evidence previously given by his chief, and thus lead to the conviction of the criminal.

Although a member of the profession, Dr. Macadam did not at any time engage in the active practice of it. His attention had from a very early period of life been chiefly devoted to the cultivation and teaching of that very extensive and most important branch, Chemistry, and he seems to have studied Medicine with the view of obtaining a degree and the status it confers. He held, however, several important offices in connection with the profession, and therefore it is deemed proper to place on record in this Journal, a brief notice of the principal events of his short career.

Dr. Macadam was born at Northbank, near Glasgow, in May 1827, so that at the time of his death he was 38 years of age. He received his primary education at several private academies in Glasgow. At a very early age, he exhibited a strong predilection for the study of natural science, and in 1842, he began to study Chemistry under Professor Penny, of the Andersonian University, Glasgow. His progress was so satisfactory, and his superiority in knowledge over others so decided, that after two years attendance on Lectures and in the Laboratory as a Student of Practical and Analytical Chemistry, he was appointed by the Professor, Senior or Principal Assistant. The manner in which he discharged the duties of this difficult and responsible office is best expressed in the words of the Professor. "I have never," he states, "notwithstanding Mr. Macadam's youth, had these duties discharged more faithfully, more efficiently, or more to my satisfaction. He possesses a peculiar aptitude for chemical pursuits, and a devotion to the subject that I have never seen surpassed in one of his age. At the public lectures he was uniformly active, skilful, and eminently successful." Again, the assistance he rendered to the Professor in his private analyses and investigations is thus referred to: "His advice, attachment, and interest were unabated. We seldom quitted the Laboratory for a long period

until far past midnight. In all his experiments he was painstaking, honest, and expert. I entrusted to him some of the most difficult processes of analysis, and placed unlimited confidence in his results. I can confidently certify that he has acquired a sound fundamental knowledge of the principles and practice of Chemistry in all its departments." From the Andersonian University, Glasgow, he proceeded to Edinburgh University, and studied the practice of chemical analysis under Professor Gregory, who thus writes of his progress: "I have been much gratified by observing his zeal and industry, as well as the progress he has made in several of the most useful kinds of analysis, including that of the ashes of organic bodies, and also the ultimate analysis of these substances in reference to their organic constituents, both of which have now become so important in reference to agriculture. I feel also bound to add that, in all respects, Mr. Macadam, while in my Laboratory, has conducted himself so as to secure my esteem and very best wishes for his future success, which, if he devotes himself to a profession requiring a knowledge of practical chemistry, cannot be doubtful." He afterwards entered the Laboratory of Dr. George Wilson, in Brown Square, Edinburgh, as assistant, and remained there from May, 1846, till the end of July, 1847. This gentleman wrote of him in terms alike laudatory with the others, as follows: "Mr. Macadam's duties consisted in superintending, in my absence, the Laboratory pupils engaged in learning the art of analysis, in performing analysis, and in assisting me in the prosecution of private experimental researches. I had the amplest reason to be satisfied with Mr. Macadam's fulfilment of the duties referred to. He was a painstaking, patient, and considerate superintendent of the pupils, to whom, as they often testified, his services were very acceptable. He showed great aptitude for imparting information, as an analyst especially, in so far as the examination of soils, guanos, waters, minerals of commercial value, and other economical products is concerned. Mr. Macadam has had much experience, and I willingly bear testimony to the dexterity and accuracy of his manipulation and methods of working. Besides commercial analysis, Mr. Macadam, whilst with me, assisted in the performance of several important medico-legal investigations, and aided me in various private researches. Altogether, I have not met with any gentleman of Mr. Macadam's age and standing better qualified than he is to conduct analysis, or give instructions in practical chemistry." This favourable testimony is fully supported by a testimonial from the students attending the Laboratory, who united in offering their "most sincere thanks for the assiduity and zeal displayed in their advancement by their talented instructor, and in wishing that every success may attend his future career, both in public teaching and in private scientific research."

After leaving Dr. George Wilson's Laboratory, he returned to Glasgow, and commenced teaching Chemistry on his own account, at class-rooms in High John Street. At the termination of his first course of lectures in May, 1848, a testimonial subscribed by eighteen

students testifies to their "high appreciation of his efforts for their advancement in the knowledge of chemistry, and their admiration of the very apposite and successful illustrations by experiment and diagram with which the lectures were always accompanied, and of the eloquence with which they were enforced." In 1847, he was elected a Fellow of the Royal Scottish Society of Arts, Edinburgh, and in 1848, a Member of the Glasgow Philosophical Society. While he continued his prelections in theoretical and practical chemistry at the Chemical Theatre, High John Street, he found leisure to pursue his medical studies in the University. In 1854, he obtained the diploma of Licentiate of the Faculty of Physicians and Surgeons, Glasgow, and the degree of Doctor of Medicine of the Glasgow University, and in 1855, he was elected a Fellow of the Faculty of Physicians and Surgeons.

During the latter years of his residence in Glasgow he became most favourably and extensively known as a public lecturer on Chemistry. He laboured hard in the cause of science, and did much to render it popular by delivering short courses on "Chemistry and its Application to the Arts," and on kindred subjects, in connection with numerous institutions throughout Scotland, such as "Athenæums," "Schools of Art," "Mechanics," and "Philosophical Institutions," "Farmers' Clubs," &c.

Dr. Macadam arrived in this colony by the ship "Admiral" in 1855, under an engagement as Lecturer on Chemistry and Natural Science in the Scotch College, Melbourne. This appointment he continued to hold until the beginning of the present year, when the state of his health led to its relinquishment. Soon after his arrival he became a Member of the Philosophical Institute of Victoria, and was elected a Member of its Council. He was shortly afterwards (about the beginning of 1857) elected to the office of Honorary Secretary to the Institute, and on him devolved the task of editing "The Transactions." He was most enthusiastic in his endeavours to promote the success of any object he had in view. Through his exertions the number of members of the Institute was more than doubled during the first year he held office as Secretary. The necessity for the erection of a hall, and the desirability of obtaining a Royal Charter, were warmly advocated by him, and he had the satisfaction of seeing both objects realized during his secretaryship. In January, 1860, the Philosophical Institute was privileged not only to meet in a new hall, but also to assume the title of "The Royal Society of Victoria."

The very active part which Dr. Macadam took in reference to exploration deserves notice. As Secretary of the Exploration Committee, he not only encountered a considerable amount of labour and anxiety, but he became the victim of much opprobrium and abuse in consequence of the disasters which befell the ill-fated expedition. It afterwards appeared that no human foresight could have prevented these disasters, that the Exploration Committee had made ample provision for the safety and success of the expedition. These facts were so clearly demonstrated, and so eloquently urged by Dr. Mac-

adam at a public meeting in St. George's Hall, that they who had met to condemn began to applaud. The victory he achieved on that occasion, when he stood forward in vindication of the Exploration Committee, is still fresh in the recollection of the writer, and doubtless, created a lasting impression on all who listened to him. In 1858, Dr. Macadam was appointed to the office of "Government Analytical Chemist," a position of great responsibility, inasmuch as the gentleman occupying it is entrusted with the medico-legal investigations arising in the colony. In 1860, he received the appointment of Health Officer to the City of Melbourne, and in the discharge of its duties he had been engaged in the analysis of numerous articles of food and drink but a short time previously to his death. His report as Health Officer was one of the last documents that emanated from his pen, and testifies to his efforts in behalf of the public health. He had also just presented a most valuable report to the Board of Agriculture, of which he was a member, containing the results of the laborious analysis of forty samples of Victorian virgin soils.

Dr. Macadam was Lecturer on Theoretical and Practical Chemistry in the Melbourne University. This appointment he held from the institution of the Medical School up to the time of his death. He had, in 1857, been admitted to the *ad eundem* degree of M.D. in the University of Melbourne. Dr. Macadam was also known as an author, having published "Chemistry in its Application to Agriculture," "Course of Testing in Qualitative Analysis," "Reports and Analysis of Mineral Waters," before his arrival in this colony. During his residence in the colony, his engagements could not possibly have allowed him any leisure for literary pursuits, but several valuable reports on the analysis of waters and soils have emanated from his pen.

In addition to the duties arising from the various offices he filled, Dr. Macadam gave courses of lectures at several educational institutions, and numerous gratuitous lectures in aid of the local charities, and in behalf of other benevolent objects throughout the colony. Indeed, he was ever ready to tax his valuable time and physical and mental powers in the interests of science and of suffering humanity. Prompted by a restless ambition, he entered the political arena, and was returned at the head of the poll for Castlemaine at the general election in 1859. In 1861, he was appointed Postmaster General in the Heales Administration. At the dissolution in 1864, he declined to stand again for election, although strongly solicited by a deputation from his previous constituents. There is reason to doubt the wisdom of his having entered Parliament. From a medical point of view, active professional engagements are highly incompatible with political labours, the professional reputation must in some measure be sacrificed to the political, or *vice versa*, the political to the professional. Had Dr. Macadam continued to devote himself exclusively to chemistry, instead of wandering into the devious paths of politics, he would doubtless have extended the boundaries of that science, and have earned for himself a lasting scientific reputation. It is satis-

factory to know that while a member of the Legislature, he jealously watched over the interests of the Profession, and that to him the Profession is indebted for the introduction of "The Medical Practitioners Bill," and the public for the introduction of "The Adulteration of Food Bill."

In general scientific attainments, Dr. Macadam had few equals; in the department of chemistry, he had no equals in this colony. As a lecturer he possessed a peculiar facility in communicating knowledge; he was fluent in language, neat in manipulation, and skilful, and expert in conducting experiments. On the public platform, being tall in stature and prepossessing in appearance, and, possessing a powerful voice, a clear enunciation, and a fluent, easy style of speaking, he was always able to command attention. His natural abilities were great, and he was most energetic and persevering in the prosecution of any objects he had in view. As a gentleman he was courteous, generous, unselfish, ever ready to assist, not anxious to spare himself. Of an amiable and happy, perhaps too facile disposition, he won the affectionate regards of a large circle of friends.

Dr. Macadam was married, and has left a widow and son to mourn his untimely end.

The high respect in which he was held, was displayed by the large attendance at his funeral, the mournful *cortège* consisting of between fifty and sixty carriages occupied by Judges, Ministers of the Crown, Members of Parliament, the Mayor and Corporation of the City; the Chancellor, Vice-chancellor, and Members of the University, Professor Halford, and the other Lecturers, and Medical Students in academic costume. The Profession was well represented, as was also the Royal Society, with which the deceased gentleman had been so long and closely connected.

LOCAL NEWS.

MEDICAL BOARD OF VICTORIA.—The following gentlemen have registered their qualifications since our last issue: George Britton Halford, professor of Anatomy and Physiology in the Melbourne University, M.D., *a.e.g.* Melb. 1863; William John Price, Daylesford, M.R.C.S. Eng. 1843; Jean Werner Günst, Melbourne, M.D. Leyden, 1847.

PUBLIC APPOINTMENTS.—Vaccinators: Thomas Hoskins, Esq. L.R.C.S.I. and L.R.C.P. Ed., for the district of Happy Valley; William Buchanan, Esq. L.F.P.S.G., for the district of Doncaster; George Robert Ridley, Esq. M.R.C.S. Eng., for the district of Queenscliffe, *vice* Dr. Williams, resigned.

MELBOURNE UNIVERSITY.—Mr. J. D. Kirkland has been appointed the successor of the late Dr. Macadam, as lecturer on Chemistry in the Medical School of the University, until the end of the present academic year.

RESIGNATION OF APPOINTMENT.—Mr. H. M. Whitcombe has resigned his commission as Assistant-Surgeon of the East Collingwood Volunteer Rifle Corps.

EYE AND EAR INFIRMARY, ALBERT-STREET.—Return for the month of September. Number of out-patients attending, Mondays, Wednesdays, and Fridays, 80 males, 46 females, 22 children. Total, 148. In-patients remaining in the Infirmary, 3 males, 1 female. Total, 4. Operations performed: artificial pupil, 1 (male); removal of staphyloma, 1 (male); for lachrymal fistula, 1 (female); for posterior aural abscess, 1 (male). Surgeon, Mr. A. Gray, M.R.C.S. Eng.

NEW HOSPITAL.—A movement is on foot for the establishment of a new hospital in Melbourne.

LUNATIC ASYLUM ACCOMMODATION.—The Collingwood Stockade is to be temporarily devoted to the purpose of a supplementary asylum. There are now upwards of a thousand patients at the Yarra Bend.

MR. BOWIE.—We are exceedingly sorry to find the following notification in a recent list of new insolvents: "Robert Bowie, of Northcote, surgeon. Causes of insolvency: Costs of law suit against the *Argus*, heavy losses by removal from appointment as resident medical officer of the Yarra Bend Asylum, and pressure of creditors. Liabilities, £658 14s.; assets, £346 8s.; deficiency, £312 6s. Mr. Moore, official assignee."

MELBOURNE CITY HEALTH OFFICER.—Dr. Neild has been temporarily performing the duties of this office which is now vacant by the death of Dr. Macadam.

BENEVOLENT ASYLUM.—By the resignation of Drs. Martin and Black, physician and surgeon respectively to this institution, two vacancies have occurred in the honorary staff. The election is announced to take place on the 18th instant.

THE CIVIL SERVICE.—The *Geelong Advertiser* is informed that circulars have been sent by the Government to the gentlemen of the medical profession who hold appointments in the Civil Service, prohibiting them from taking private practice.

DR. SAENGER.—This gentleman, who practised for many years at Smythesdale, and was well known to the profession, has been shot dead by a man named James Jones.

INDUSTRIAL SCHOOLS.—The children confined in the Immigrants' Home under the Industrial Schools Act, have been recently suffering extensively from phagedæna oris.

DEATH OF MR. KEMPSTER.—We regret to have to record the decease of this gentleman during the past month. It will be remembered that Mr. Kempster resigned his appointment of House Surgeon to the Melbourne Hospital about a year and a half ago for the purpose of entering into private practice at Castlemaine. His success had already begun to be considerable in this locality, but the anxiety and labour of a country practice brought on a return of the phthisical symptoms from which he had for many years periodically suffered, and in consequence of which he had been compelled to give up an excellent position and still more advantageous prospects in University College, London, where he had been one of the most industrious and successful students. A sea-life appeared to be the only condition under which he could assure himself of even comparative health, but the restoration he had experienced by several voyages to India, induced him to think he had got the better of the terrible malady from which he suffered, and he came to

this colony in 1862, in company with Professor Halford. He was almost immediately appointed one of the resident staff of the Hospital, and the pains-taking industry and enthusiasm with which he devoted himself to his duties, at once gained him the respect and confidence of all who were brought into connexion with him. His contributions to this *Journal* and to the *Medical and Surgical Review* indicate the possession of no ordinary mental powers, and it is saddening to think that in him science loses a most assiduous cultivator, and the profession a most valuable member. Mr. Kempster was only twenty-eight years of age. During the last four months of his life he resided in the house of Professor Halford, from whom he received all that kindness and attention which his sad condition required.

GENERAL CORRESPONDENCE.

THE SUNBURY MURDER CASE.

(To the Editor of the *Australian Medical Journal*.)

Sir,—In the report of the above case, as published in *The Argus*, 28th September, I notice some points in the evidence that appear to me to be of such a nature as to induce me to ask you to allow me space in your valuable periodical for a few remarks.

The scientific witness employed by the Government in this case is reported to have sworn, "I have examined three pieces of board, chemically and microscopically. I found on them several dark stains, which, by analysis, I prove to be blood. I believe the blood to be human blood, but I do not speak positively." So far this gentleman speaks with becoming caution, but a little further on we find he changes his tone, and, speaking of three pieces of board from the "bagatelle room," swears, "I found blood on each of these pieces also. In this case I identify the blood stains positively as human." He then proceeds to state that he operated on pieces of "dirt" found where a scrubbing brush could not reach, and swears, "After a series of observations on the boards and the dirt, I am enabled to satisfy myself that the stains were those of human blood." So much for the boards which "had the appearance of having been cleansed more than the big room boards." Now let us see what he says about the clothes. Referring to certain clothes marked "Furi," he says, "I found several stains upon the trousers, of one of which I am able to say positively that it is of human blood." It is too serious a matter to allow such statements to pass unchallenged on a subject of such importance, involving, as the evidence quoted above does, the safety of several of our fellow creatures. I therefore submit the following authorities against the bold and positive evidence given by the gentleman referred to.

Mr. Alfred S. Taylor, Lecturer on Forensic Medicine at Guy's Hospital, London, and who has been for many years regarded as the best

authority on such subjects, states, page 306 of his treatise on Medical Jurisprudence, 7th Ed. 1861, "When blood has been dried on clothing we cannot with certainty and accuracy distinguish that of an ordinary domestic animal from the blood of a human being." He then gives the following characteristics as a formula for general information :—

"1st. There are no chemical differences between the blood of a man and animals.

"2nd. Microscopical distinction between the blood of man and of domestic animals consists only in a difference in the size of the globules. For example, the diameter of a globule of human blood may vary from the 1-3000th to the 1-5000th of an inch ; in the cow, from the 1-4000th to the 1-4200 of an inch."

These measurements apply only to recent blood, which has not been allowed to dry on woollen or vegetable stuffs.

"3rd. When blood is dried on clothing, we cannot with certainty and accuracy distinguish that of an ordinary domestic animal from the blood of a human being."

Mr. Taylor further believes that no medical witness on a trial has a right to swear positively that he can tell human blood from that of a domestic animal.

I am aware, from my own knowledge, that the celebrated Professor Harley, of London (who is well known for his extensive experience with the microscope), and Dr. Whittle, of Liverpool, Lecturer on Medical Jurisprudence, are of opinion that no one at a trial has a right to swear positively that blood when found is human blood.

I may also observe that the most recent and eminent writers on the subject of Medical Jurisprudence, including the learned and eminent medical jurist, Professor Caspar, are entirely of the same opinion as Mr. Taylor, Professor Harley, and others in England.

From the above authorities it is very important to note that the length of time which has elapsed since the murder was committed, renders it utterly impossible for a scientific witness to swear, with becoming confidence and accuracy, that the blood stains found on the boards and clothes are those of human blood. Yet the witness states, "I should think you could distinguish spots of human blood for several years after being shed, as I have in my possession several samples of some years' standing. From my analysis I am able to say that the stains on the board produced, as taken from the 'bagatelle room' are human blood, as I identify them by the form and size of the corpuscles, not merely by my own knowledge of their appearances, but also by actual measurement and comparison." And, further, he says, "I ascertain the blood to be human by employing my practised eyes, aided by my microscopic analysis and by chemical test." Surely, sir, there must be some grievous mistake in the newspaper report, for it is scarcely possible, I should think, for the veriest tyro in Medical Jurisprudence to be guilty of such bold and

reckless swearing in a case involving the lives of several human beings. I trust, for the sake of our common humanity, the case will not be allowed to rest here, but that some further investigations will be made, for, if the report from which I quote is reliable, most disastrous results may hereafter ensue.

I am, Sir, yours, &c.,

A LATE PUPIL OF PROFESSOR GEORGE HARLEY,
Lecturer on Forensic Medicine and Medical Jurisprudence at
University College, London.

NOTICES TO CORRESPONDENTS.

Communications have been received from Mr. Pincott, Mr. Gray, Mr. Ralph, Dr. Martin, Mr. Kirkland, Dr. Robertson, Dr. Tracy, Mr. Gillbee, and "A late pupil of Professor Harley."

The following publications have been received:—"The Lancet," regularly; "The British Medical Journal," regularly; "The Dublin Medical Press," regularly; "The Ophthalmic Review," for July; Dr. L. S. Beale "On the ultimate nerve, fibres distributed to muscle, and some other tissues;" "The Geelong Register;" "The Geelong Advertiser;" "The Medical and Surgical Review."

The "Australian Medical Journal" is regularly sent to the addresses of the following periodicals for exchange: "The Lancet," "The Dublin Quarterly Journal of Medical Science," "The British Medical Journal," "The Dublin Medical Press," "The Medical Times and Gazette," "The Edinburgh Medical Journal," "Braithwaite's Retrospect," "The British and Foreign Medico-Chirurgical Review," "The Ophthalmic Review." It is sent also to the Librarian of the British Museum, the Librarian of the Royal College of Physicians, London, the Librarian of the Royal College of Surgeons, London, the Librarian of the Royal College of Surgeons, Dublin, and Professor Simpson.

Exchanges are especially requested to be forwarded to the Australian Medical Journal, 78 Collins-street East, Melbourne.

Subscriptions, and orders respecting the supply of the Journal, to be forwarded to the publishers.

DEATHS.

MACADAM.—On the 2nd September, on board the Alhambra, s.s., on her passage to Dunedin, the Hon. John Macadam, M.D., aged 33 years.

KEMPSTER.—On the 19th September, at the residence of Professor Halford, No. 1, Royal Terrace, Felix Henry Kempster, M.R.C.S. Eng., of phthisis, aged twenty-eight years.



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