CONTRIBUTION TOWARDS THE HISTORY OF THE DEVELOPMENT OF THE ECHINOCoccus, WITH ESPECIAL REFERENCE TO THE FORMATION OF DAUGHTER-CYSTS.

BY VALD. RASMUSSEN,
Prosector in Pathological Anatomy at the University of Copenhagen.
Communicated on the 10th May, 1865, to the Naturhistoriske Forening of Copenhagen (with two illustrating tables).

TRANSLATION BY FERD. VON MUELLER, M.D., F.R.S.

(Continued.)

Its actual hosts are certainly the hog and the ruminants, and we see even in them—as proved by Naunyn's observations—in large cysts a beginning daughter-cell formation; consequently even in this respect the difference of species between the Echinococcus scolecipariens, and altricipariens may disappear, as it merely indicates different stages of development. Even apart from the strong proofs of unity afforded by the experiments of administering food, all that remains of this, in the course of time so often asserted diversity of species of the Echinococci, is merely the frequent occurrence of exogenous cyst-formation in the Echinococcus of animals. But I have already shown that such a one even occurs in the human body, and consequently cannot constitute any essential difference; moreover, it does not constantly occur in animals. If we now transfer my observations from daughter-cysts to the primary one, whereto, especially by comparing them with Naunyn's researches we are entitled—we may suppose that the exogenous cyst-formation, even in this (the primary one) appears in an early stage, although it may continue also after the scolex-formation is commenced. The reason why these exogenous cysts are not found with the compound cysts, may be, perhaps, because they soon become atrophied by the strong development of endogenous daughter-cells, and by the pressure thereby caused, which must be far more considerable than that caused by the pressure of the serous content of...
a single cyst. It is a question deserving a closer test, but to be settled only by direct experiments, whether such cysts formed in an exogenous or endogenous way are able to develop themselves outside the parent cyst. I will, respecting this, not withhold some remarks called forth by perusing the abundant casuistic of Echinococci in the human body. It is known that processes of inflammatory character are frequently found in old Echinococcus cysts, by which means the sack may be ruptured and its contents be emptied in different channels in and outside of the liver, (arteries, veins, biliary ducts, etc., etc.) These ruptures, which may perhaps be caused by pressure from the numerous interior cysts, or by traumatic influences (bruises, blows, etc., etc.) are often so considerable, that even large cysts, in such a manner, can be carried through the biliary ducts, to the intestines or up into the pulmonary artery, which latter they may choke up, and thereby cause death. But there is all reason to believe, that besides such large ruptures, even smaller ones not so seldom may be found; this is indicated by the haematoidin crystals, very often present in considerable quantity, and which, on one occasion, I saw forming a completely reddish cover on the inside of the sac. Thus, between the sac and a vessel, small apertures of communication may be formed, which allow only minute cells to pass through; and the possibility is thereby established, that new foci of infection may appear on more remote spots. It is beyond the province of this publication to enter into a closer investigation of the clinical material. I will, therefore, merely direct attention to the remarkable fact, that on all occasions, where an abundant quantity of scattered Echinococcus cysts existed, there always occurred one or several very large and old cysts in another organ, especially in the liver. Such manifold Echinococci appear particularly in the omentum, in the mesentery, and under the peritoneal covering of the intestinal canal, where indeed just the vessels pass; they are small—in contrast to the enormous liver-cysts—very often of the size of a pea, nearly always without scolicies, and single. The number is most frequently so considerable, that it is merely specified as very great. Wunderlich (24) mentions fifty on one occasion, which must be considered a proportionately small number. This great difference in the development appears to indicate positively a repeated infection; because it seems to me too much out of proportion, cysts of the size of an infant’s head and above, with numerous daughter-cells of the size of a pea, to be explained by difference in the conditions of vegetation (Leuckart). Now, it does not appear very likely that such a repeated infection should take place by tapeworm eggs, to judge from the generally rare occurrence of Echinococci in the human body; on the contrary, such infection is easily explained, if we venture to suppose such a metastasis mediated through the circulation, as the very young, acephalocystic cells then only need to continue the commenced development on the new spot.

Meantime, many well founded objections may be raised against such a hypothesis; and it may especially be remarked, that in such
Development of Echinococci.

a case we might expect to meet with these metastases in the lungs, as the capillary net of the latter must intercept them and obstruct their further progress.

Although I will not rely on investigations by Klencke (25), who pretends to have found free Echinococci in the blood, for these statements hardly deserve to be credited now-a-days, yet it can be replied to such objections, which certainly are of importance; that even if the manifold Echinococci are rare in the lungs, still such cases occur. One case is thus satisfactorily described by Andral (26), where in the veins of the lungs—consequently on the other side of the capillaries—numerous single Echinococcus cells of the size of a pea were found, situated in aneurismatic dilatations of small almost capillary vessels. So it was evident, that they had grown and developed themselves on the spot.

Moreover, he lays particular stress on the fact, that it was the second time he had found Echinococcus cysts contemporaneously in the liver and the lungs. Wunderlich (27) has found them in the pulmonary artery, and together with small multiple cells in the mesentery. Older cysts were present in the liver in both cases; in the latter case also rather large ruptures of the sac.

Then, perhaps it cannot be denied that such small vesicles can pass through the capillary vessels of the lungs.

The doctrine of emboly offers facts, which are no less inexplicable; thus metastases of the liver by lesions of the head. The reciprocal pliability of the cysts, and of the walls of the vessels, and the small size of the former, to which we may refer in this place, must be taken into consideration. The cysts developed in an exogenous manner are often very small; the smallest I measured were 0.08 m.m., consequently two to three times smaller than a scolex. Finally, the road need not always pass through the lungs, as the tumour may indeed be so large and so situated, that it may open directly into an artery, for instance:—Art. meseraica sup. lienalis. At least, any other explanation seems to me not possible in the case referred to by Koelpin (28), where a swelling in the pit of the stomach of a man, twenty years of age, suddenly one night disappeared, and nine months later the abdomen gradually expanded, until the patient succumbed after nine years of sufferings. At the dissection it was found that the greatest part of the omentum, with an extraordinary quantity of hydatids formed a mass weighing eleven pounds. Other hydatids were found in the right ureter and in the spleen, which latter was thereby expanded to such a degree that its own tissue appeared entirely dislodged.

The so-called multilocular Echinococcus tumour, which, as we know, consists of numerous single cells, often merely of the size of a millet-seed, lying in a stroma, without any common enclosing sac, and most frequently with a commencing central ulceration—occurs so extraordinarily seldom, that I am unable, from observations of my own, to form any confirmed opinion of its development. It is obvious in this form of Echinococcus, that the exterior capsule—otherwise appertaining to all tape worms—is wanting, and next,
that an exterior proliferation, and a very abundant one too, should take place, exclusively in these—for such is the general opinion—while such a proliferation in the human Echinococcus else is denied by authors. I will permit myself to propose a hypothesis, which may perhaps possess some justification, especially from the circumstance that all the explanations rendered are reciprocally disagreeing, and also more or less hypothetical. I think that we may, more naturally, attribute this peculiar form—so unlike to all other Liver Echinococci—to a rupture of some comparatively young cyst, in which, however, a commencing abundant endogenous cell-formation is already going on. The exterior capsule may thus disappear, and the original interior proliferation become an exterior one, apparently free. The rupture may happen within the very liver-substance, or perhaps in vessels (branches of the portal vein, biliary ducts) and in the latter case follow their course, whereby those greatly different records of the place of development of the Echinococcus, viz., the biliary ducts (Schroeder v. der Kolk, Friedreich), the lymphatic ducts (Virchow), the blood vessels (Leuckart), merely come to depend on chances. The cysts are on all occasions able to grow, to become proliferous, and hereby press the liver—parenchyma aside; so that it gets atrophied, becomes a stroma of connecting tissue; by a progressive growth the nourishment may be altogether cut off, and ulceration may originate.

As I said, it is merely a hypothesis, which, however, may perhaps on further occasions deserve to be taken into consideration; the tumour has, upon the whole, something so uncommon connected with it, that pathological circumstances undoubtedly play a part in its development. There is nothing unnatural in a rupture, like the one supposed; such may even happen without pathological changes in the sac, especially by a bruise, fall, or such like traumatic effects, to which the abdomen is not unfrequently liable. And even if these ruptures seldom occur, yet this is not an essential objection, because the compound Echinococctumour has been observed only a very few times, hardly over ten times.

EXPLANATION OF THE ILLUSTRATIONS.

Tab. I.

Fig. 1. Commencing brood cell formation in a secondary cyst.
   a. The knob-shaped protuberance.
   b. Commencing cavity formation in the same by alteration of the parenchyma.
   c. The wall of the mother-cyst.

Fig. 2. Later stage of brood-cell.
   a. Scolex-bud.
   b. Cavity, with cuticle and interior parenchyma.
   c. Exterior parenchyma
   d. The wall of the mother-cyst.

Fig. 3. Brood-cell, with single Scolex.
   a. Exterior cell-layer.
   b. Its cuticle.
   c. Interior parenchyma.
   d. Scolex.
Fig. 4. Daughter-cyst formed from a brood-cell.
   a. Cuticle.
   b. Interior parenchyma.
   c. Scolices.

Fig. 5. Daughter-cyst formed from a brood-cell, with a single scolex.
   a. Cuticle.
   b. Parenchyma.
   c. Scolex.

Fig. 6. A similar daughter-cyst, with incapsulated scolex. (a.)

Fig. 7. Detached brood-cell, of which only one part is developed into a daughter-vesicle.
   a. The daughter-cell's cuticle.
   b. Parenchyma.
   c. The brood-cell's cuticle.
   d. Scolex.

Fig. 8. Daughter-cyst developed from a brood-cell (magnified about sixty times).
   a. Cuticle.
   b. Parenchyma.
   c. Calcareous bodies.
   d. Hooks.

Fig. 9. A similar daughter-cyst constricted (magnified thirty times).
   a. Cuticle.
   b. Parenchyma.
   c. A hook.
   d. Calcareous bodies.

**TAB. II.**

Fig. 1. Tertiary daughter cyst, with exogenous development of quaternary ones (magnified 220 times).
   a. Cuticle.
   b. Parenchyma.
   c. Circlets of hooks remaining.
   d. Detached pedicellate vesicle.
   e. Protrusion outward.
   f. The same, commencing.

Fig. 2. Daughter-cell, with scolices breaking up and interior cell-formation (decapsulated scolex).
   a. Cuticle.
   b. Parenchyma.
   c. Hook-circllet.
   d. Interior vesicle.
   e. Its cuticle.

Fig. 3. Daughter-cyst developed from a brood-cell, with single scolex.
   a. Cuticle.
   b. Parenchyma.
   c. Scolex, breaking up.

Fig. 4. Parenchyma (entocyst) of a ruptured daughter-cell, with collapsing scolices.
   a. Parenchyma.
   b. Scolex.
   c. Hook-circle of the same.
   d. Two scolices incapsulated.

Fig. 5. Cluster-shaped daughter-cysts developed from a brood-cyst by constrictions.
   a. The principal cyst.
   b. Detached cysts.
QUOTATIONS.

2. Ugeskrift for Læger, 1864.
5. Thus single cysts, containing scolices, don't appear to be so unfrequent in the human body as Leuckart supposes, who only is aware of the one case mentioned by Eschricht.
8. When Naunyn in this stage, mentions a distinct doubly coloured cuticle, it is strikingly opposed to his illustration, in which the contour is hardly defined, far less double, and on the whole very much in accordance with my idea.
11. He imagines that these secondary cysts, corresponding to our brood-cells, are formed from the outside of the parenchyma stratum, almost as an intrusion from this; they should ultimately become disconnected and free.
12. Entwicklungs geschichte der Cestoden, 1852.
17. Nachtrage zu den Parasiten.
19. It is such a stage Cobbold represents after Busk's drawing, without any other designation than degenerating daughter-cells (Pl. xiv. fig. 3).
21. The case of cell-worms in the brain of a young girl, mentioned at the same place by Zeder, which worms he classifies as Polycepalhus under name of Polycepalhus humanus in contrast with P. ovinus (Cenurus) appears to have been Echinococcus without capsule. Without describing the contents of these cells, he even classifies Goeze's hydatids as his Polyceph. humanus, and moreover adds to the confusion by indicating in the second edition of his work without further explanation, the brain as the unknown place of discovery of the cells examined by Goeze.
22. 'Heber Muskelkoerper und das, was man eine Zelle zu nennen hat, Reicherts und du Bois Reymonds Archiv, 1861. S. 19.
27. L.C.
29. Contrary to the other figures, which are accurately drawn from preparations, this one is copied from a sketch, but correct in all particulars.
EPITHELIOMA, INVOLVING THE WHOLE OF LOWER AND HALF OF UPPER LIP—REMOVAL—RESTORATION OF LOST PARTS BY CHEILOPLASTY.

By G. Hogarth Pringle, M.D., Paramatta, N.S.W.

W. W., aged 56, consulted me on the 7th July, 1865, about an epithelial cancer the size of an ordinary orange, involving the whole of lower lip and nearly one-half of upper, projecting fully two and a half inches anteriorly, and only to be treated by entire ablation of the diseased parts. The glandular system being unaffected, I did not hesitate to operate notwithstanding the advanced condition of the disease, and accordingly removed the whole mass by the knife, carrying the incision as far down as the symphysis menti. Prolonging the incision downwards in a curved line below the inferior edge of the maxilla on either side, I detached two large flaps of integument, and bringing these up, fixed them by harelip pins and metallic sutures in the position of the amputated lower lip, while a third incision carried horizontally from the angle of the mouth down the cheek enabled me to fill up the hiatus left by the removed section of upper lip.

The needles, &c., were removed on the third day. On the sixth he was shaved, and in less than three weeks was perfectly well, only a few cicatrices marking the line of union of the flaps.

I have seen him lately upwards of three years since the operation. There has been no recurrence of the disease, nor thickening of the transplanted integument. He retains his saliva perfectly; can eat, smoke, and whistle; of the latter accomplishment he is particularly proud. I append two photographs, one taken just before and the other six days after the operation. The dotted lines on the first show the incisions. I regret I had not his face also taken in profile to show the anterior projection of the diseased mass.

Feb. 15, 1869.

POISONING BY CHLORODYNE.

By John Jamieson, M.D.

It has been remarked that the cases in which Belladonna has been used as a remedy in Opium-poisoning have generally been very far from conclusive. The same may perhaps be said of the following, but it is not without interest, especially since observations of the kind are not very numerous. It occurred in my practice about two years ago, and the notes were taken at the time.

An old woman, upwards of eighty years of age, swallowed a quantity of Chlorodyne, equal to about three fluid drachms. The exact time was not known, but when seen at 4 p.m. she was sick and vomited. She continued quite conscious till about 5 p.m., and after that time she lay in a state of stupor, snoring very loudly at
first. I saw her a little after 8 p.m. She was then quite unconscious; limbs quite flaccid; jaw dropped; skin warm and perspiring; pulse full and slow; breathing very slow and interrupted—three or four gasps and then a complete stoppage, sometimes for as long as two minutes. The symptoms were markedly those of Morphia-poisoning, the pupils being contracted to the size of a small pin-head. I injected one-twelfth of a grain of Atropine in solution subcutaneously. About a pint of water was introduced into the stomach, and drawn off again by means of the stomach pump. The fluid had a faint smell of Chloroform, and was slightly brown in colour. About half a pint of strong tea was then poured down through the tube and left in. Hot bottles were applied to the feet, between the thighs, and to the region of the heart. Friction to the legs was used, and an enema with Turpentine given, which was retained. In about twenty minutes after the Atropine was given the pupils began to dilate, and she showed the first sign of consciousness by closing her teeth on the tube of the stomach pump. Her appearance on the whole improved, the colour of the face becoming more natural, and the intervals between the respirations shorter. The pulse varied a good deal, but was generally about 80 or 85. I remained till about 11 o'clock, and on leaving gave orders to continue the rubbing and the warm applications. I saw her again at 1 a.m. Her breathing was then almost natural. She moved her lower jaw, and when a few drops of wine were poured into her mouth she made an effort to swallow, and even moved her shoulders a little. The pulse, however, was weaker, and the extremities beginning to be cold. She gradually sank, and died about 1.40 p.m. The Chlorodyne was made according to the ordinary published formula, containing four grains of Muriate of Morphia to the ounce, so that she probably took about a grain and a half. How much may have been vomited I have no means of knowing. The improvement in her condition must be ascribed to the Atropine, as it was quite noticeable before the tea was introduced into the stomach. The pupils dilated rapidly, and after two hours contracted a little again. I am inclined to think that recovery would have taken place if the patient had been younger, or if she had been seen and treated sooner. The improvement, even in such desperate circumstances, would encourage me to make use of the same remedy in another similar case.

In order to test the effects of Morphia and Atropine, when given simultaneously, I tried an experiment on my own person, by injecting subcutaneously a solution containing one quarter of a grain of the Morphia and one-twenty-fourth of a grain of Atropine. At the time of making the experiment I was in good health, pulse 60. In fifteen minutes the pulse rose to 76, in twenty minutes to 88, and in half an hour to 104. The pupils at that time were very slightly dilated, and there was considerable dryness of the throat and mouth. I felt slightly giddy, but with a slight effort could walk steadily. On the whole, the sensations were not unpleasant. About an hour after the injection I went to sleep, but could not have slept very profoundly, as I awoke about four hours after, when a slight knock
was made on the door. When I rose I had a good deal of difficulty in walking steadily, especially when turning a corner. Mouth and throat were dry, speech somewhat indistinct, and vision slightly impaired. At that time, however, I felt neither sickness nor headache. These came on two or three hours after, though not very severely, and I did not during the day feel so much languor as on a previous occasion, when I used Morphia alone. Perhaps the dose of Atropine was large in proportion to that of the Morphia, but certainly the symptoms occasioned by it were most marked. The narcotic influence of the Morphia certainly was not heightened.

As regards the amount of Atropine that may with safety be injected hypodermically, there is considerable difference of opinion. Dr. Garrod says the dose should be from one two-hundred and fiftieth of a grain, upwards. Trousseau, in his Clinical Lectures, speaks of one-tenth, or even one fifth, of a grain not being excessive; and again, Dr. Nussbaum, of Munich, in the section on Anaesthetics in Pitha and Billroth’s “Handbuch der Chirurgie,” now in course of publication, gives it as his experience that one-eighth of a grain may produce dangerous symptoms; but that he has often given one-sixteenth without any bad effects. I once injected one-sixteenth of a grain in a case of neuralgia, but the symptoms, though not alarming, were so disagreeable that I would scarcely use the same amount again until I saw the effects produced by a smaller dose.

Warrnambool, Feb., 1869.

MEDICAL SOCIETY OF VICTORIA.

The ordinary monthly meeting was held on Wednesday, the 10th instant. The President, Dr. Bird, in the Chair.

Present: Dr. Bird, Dr. Cutts, Dr. P. Smith, Dr. McCarthy, Mr. Woolridge, Dr. von Mueller, Mr. Blair, Mr. Gillbee, Dr. Martin, Dr. Neild, Dr. Bowen, Mr. Girdlestone, Dr. Hunt, and Dr. Nicholls, Mr. Fitzgibbon (town clerk), Dr. John Murray, Dr. Gordon, and Mr. Ashworth, were present as visitors.

NEW MEMBER.
The name of Mr. Ford was re-entered upon the list of members.

YARRA POLLUTION.
The President offered some general remarks upon the great evils arising from the pollution of running streams. He referred to the great benefit which had been conferred upon the inhabitants of London by the purification of the Thames, and spoke of the disinterestedness of the profession in advocating Yarra purification, inasmuch as if this nuisance were increased the interests of medical men would be certainly augmented.
The Honorary Secretary read the report recently issued by the Health Committee of the City Council, which was as follows:—


"The committee have found, by inspection made upon the 10th inst., that above Dight's Falls the water shows no indications of impurity.

"The sources of pollution which were especially noticed by the committee at Dight's Falls, and downwards to Richmond Punt, are the following:—

"1. The Merri Creek, which drains Brunswick and Northcote, and which just above its embouchure into the Yarra is a filthy sewer, with banks of fetid mud red with myriads of small weed-like worms.

"2. The Reilly-street drain, joining the Merri Creek at the junction of the latter with the Yarra, and bringing down the drainage of North-east Carlton or Smith ward, North Fitzroy, and the northern portion of East Collingwood: also used as the conduit for discharge of the gas-tar and refuse from the works of the Collingwood, Fitzroy, and District Gas and Coke Company.

"This use of the drain by the Company being illegal, the committee were unwillingly led to suspect it by observing large quantities of gas-tar and oil in the mud of the drain from the gasworks downwards, and by the assurances of persons residing along the course of the drain, who, with bitter complaints, stated that a concealed pipe existed, from which, at or after dusk in rainy weather, enormous quantities of black stinking fluid were poured down, the effect being, according to the averment of residents at the junction of the drain with the Merri Creek and the Yarra, that fish were constantly being killed, and that ducks which were turned loose upon the bank died.

"The committee searched in vain for the outlet pipe in the drain near the gasworks, and were assured by the employees of the company that it had no existence; but being by the foregoing circumstances convinced of the contrary, the committee caused close search to be made by the city surveyor's staff, which resulted in the discovery of an iron pipe of 6in. diameter below and concealed by the water of the drain, with an outlet from which, notwithstanding its being loosely stopped with a plug of wood, liquid gas refuse was oozing into the drain. This pipe the committee caused to be examined, found it to be filled with gas-tar and refuse, and to proceed from inside the fence of the company's works. Samples of the fluid were brought away, with a view to any ulterior proceedings which may be adopted.

"As coincident with the poisoning of the river fish (whether connected with it or not, the committee offer no opinion), it was observed that two labourers in the employment of the East Collingwood Council were engaged cleaning the bed of the drain from stones and mud, and thereby liberating and sending down to the
Yarra Pollution.

river large quantities of gas refuse and other filth; it was also learned that this work had been in progress during the two preceding weeks only, and that it had not been previously undertaken for years.

"The committee were aware of the suggestion that the destruction of the fish might be owing to electrical causes; but as against that theory they were informed, by persons getting a living upon the river near the falls, that while hundreds of fish were seen dead below that point, none had been noticed above it.

"3. Below Johnston-street Bridge the wool-washing commences, and water taken from the river is found charged with wool-grease and other impurities, increasing with the number of these establishments and of those for tanning and fellmongering, and crusting the surface of the stream downwards for miles.

"4. The East Collingwood Sewer, draining the centre of Fitzroy and East Collingwood, as an open drain to Hoddle-street, and from thence to, at, or near Gipps-street, a recently-constructed covered sewer of brick, having its mouth at Blind Gully, through which a constant stream of opaque sewage is added to the river.

"5. Additional wool-washing works, fellmongers, a brewery, tanneries, etc. Especially noticeable amongst these is the "Victoria Tannery," where the decomposed pelt matter and refuse tan are got rid of by simply being shot into the river over the bank, upon which they form two enormous heaps sloping to the water like the face of a railway embankment, and promising to choke the river at no distant day.

"6. The Maizena Works at Hawthorn Bridge, with two open pits draining foully-stinking refuse into the river. At the same point is the outlet of a Richmond sewer, temporarily dry, for reasons to be mentioned hereafter.

"7. Comparatively small and inoffensive drains and inlets at Hawthorn and Gardiner's Creek.

"8. Drain near the Richmond rifle butts. This ordinarily drains Richmond Flat south of the Richmond road and the Richmond abattoirs, but at present it also conveys to the river the drainage of the Richmond main drain, which is stopped whilst being converted into a large covered sewer of well-wrought bluestone. Here, therefore, the drainage of East Melbourne and of North Richmond, as well as the blood and filth from the abattoirs, pours in a sickening rivulet to the Yarra, over a bed of mud alive with the weed-like worms before referred to.

"9. The culvert from a lagoon formed of the drainage, cesspool contents, etc., of premises used as a soap and candle works at Richmond, between Chapel-street and the railway bridge. The foulness of this discharge may be conceived from the above description of its constituents.

"10. The South Yarra tannery, now converted into a place for washing wool, subjected, as the committee are informed, to a previous preparation of arsenic, so powerful as to seriously affect persons employed in the washing process.
"The South Yarra and Toorak road swamp drain, which drains a considerable portion of Prahran and South Yarra, and enters the river at the same place—and the Cremorne brewery on the opposite side—may be added as sources of impurity above the city boundary.

"For the distance inspected by the committee the river is in fact used as a main sewer, in contravention of the law, which has been openly set at defiance.

"The principal offenders, as appears to the committee, are:

"1. The woolwashers, fellmongers, tanners, brewers, and other manufacturers, who appear in every instance to have new commenced, or rebuilt or extended, their works and businesses, contrary to the provisions of the act against Yarra pollution.

"2. The Collingwood, Fitzroy, and District Gas and Coke Company, in contravention not only of the act just mentioned, but also of section 47 of the company's own Act of Incorporation, which is as follows:—"The company shall not at any time cause or suffer to be brought or to flow into any river, stream, brook, creek, canal, reservoir, aqueduct, waterway, feeder-pond, spring head, or well, or into any drain communicating therewith, any washing or other substance produced in making or supplying gas, whereby the water in any such river, stream, brook, creek, canal, reservoir, aqueduct, waterway, feeder-pond, spring-head, or well, shall be fouled; and the company shall forfeit for every such offence the sum of £100.

"The borough councils of East Collingwood and Richmond have contributed their quotas by establishing slaughter-houses and manure depots on the river or its tributaries, and in constructing main sewers into the river. The committee also feel bound to call attention to the action of the Department of the Executive Government in granting sites of land so situated for such purposes; and still more strongly to the anomaly of Government action in refusing to fulfil the self-procured obligation to sewer the metropolis, and in the meantime furnishing funds to Richmond and Collingwood for the construction of sewers which must be destroyed when a general system of sewers shall be constructed, and which increase both the necessity for and the difficulty and expense of such a general system.

"The committee have to direct the attention of the council to the fact that the portion of the river to which this report specially relates is above and beyond the city limits, and consequently outside the jurisdiction of the council.

"But that, although not conservator of the stream, the council is deeply interested in its restoration to purity, for the following amongst many other considerations, viz.:—That the polluted water flowing through the city must, under any circumstances, be injurious to the public health; and that in the event of interruption of the Yan Yean water supply, the entire metropolitan district would be driven to the river for its water supply during the continuance of such a mishap.
"The council, as the committee believe, has no special power to enforce the law against any of the offenders; indeed, in respect to the Collingwood Gas Company the provisions of the company's act are that the penalty can only be sued for by "Her Majesty," or any person "into whose water" the gas washings or substance shall be conveyed.

"The committee therefore recommend that a copy of this report be forwarded to the honourable the Attorney-General, and that it be suggested that he should institute proceedings against the Collingwood, Fitzroy, and District Gas and Coke Company, under sections 47, 48, and 49 of the company's act; and should also enforce the law against Yarra pollution under the Health Act, or by ordinary proceedings for nuisance; the council assuring the Government of giving all the assistance in its power in any proceedings which may be adopted.

"The committee further recommend that a copy of the report be forwarded to the Central Board of Health, with the like assurances, and with samples collected by or for the committee of the impurities which are being discharged into the river, with a view to such samples being analysed for purposes of evidence, or otherwise dealt with as the board may think best."

The report having been read,

Dr. Cutts moved the first resolution, which was as follows:—

"That the Health Committee of the city of Melbourne, and the Central Board of Health have, after careful investigation, demonstrated the existence of extensive pollution of the river Yarra, by allowing offensive matters to flow into the stream, and as it can be shown that the law as it stands at present is practically inoperative to prevent such pollution, the Medical Society desires to express its opinion that it is desirable to obtain another and more stringent act, which shall deal effectually with the whole subject."

He thought the report which had just been read fully disclosed the serious fact that the only river available for the use of this city had discharged into it an infinity of foulness, and it could not therefore fail to become dangerous to health. There was, however, some difference of opinion as to the inoperativeness of the present law, some persons being disposed to regard it as efficient if properly worked. It was proposed to remedy one deficiency in the Act by the appointment of a special officer, whose business it should be to conduct prosecutions. There was difficulty in obtaining convictions, in consequence of the premises on the banks of the Yarra having had allowed to them permission to remain as they existed in 1856, and it was impossible to say what portions of these were new and what were not. Moreover, the penalty was not sufficiently high, and it was worth the while of manufacturers and others to pay the highest penalty, and therefore virtually to defy the law. There was no doubt that the cry of vested interests would be raised on any attempt to obtain a new prohibitory act, but this possibility ought
not to deter us from making the attempt to obtain it, for it was intolerable that mere pecuniary interests should be preferred to the higher interests of the public health. It was possible, however, for new industries to be established and encouraged without polluting the river. Speaking of the Central Board of Health, he deprecated generally large committees and boards, and urged the necessity of their being rendered independent of government.

The Rev. Dr. Bleasdale, in seconding the resolution, regretted as a member of the Central Board of Health that the Act gave them no power to enforce its provisions. There was needed a workable act for efficiently and promptly removing all existing nuisances. As to the exact machinery for doing this, it was another question.

The Town Clerk, at the request of the President, placed upon the table twelve samples of water taken from the Yarra and its tributaries. They were all extremely foul, though in varying degrees of intensity. One of them was perfectly black and treacly. He quite concurred with Dr. Cutts as to the difficulty of enforcing the law. The great difficulty had been to keep the law at all on the statute-book, so many attempts having been made to repeal the Yarra Pollution Clauses. It was indeed an offence to extend any of the offensive manufactories, but the persons who owned them were quite ready to incur the penalty, so that they might retain their position. Action, however, was being taken to obtain legal proof of the extension of these works. It was to be remembered that when these manufactories were first established there was no Yan Yean, and the establishment of the Yan Yean rendered unnecessary their position on the banks of the river. He regarded the Yarra as the property of all the public, and that anyone polluting it committed a wrong to all the rest of the community. He thought there should be no difficulty in remedying this evil. The real remedy, however, was a system of drainage, so as to render Yarra pollution unnecessary.

Mr. Wooldridge quite concurred with Mr. Fitzgibbon in the necessity of drainage as the true remedy for Yarra Pollution, for he hardly saw how the evil could be avoided so long as large districts bordering upon the Yarra had no other means of getting rid of their liquid refuse than by allowing it to flow into the river.

Dr. Neil proposed the second resolution:—"That an offensive condition of the river Yarra, such as at present exists, is fraught with great danger to the population of Melbourne." It could not be doubted that the contamination of running streams was a certain source of disease in many ways. The negative deterioration of the atmosphere which resulted, and the consequent lessening of its proportion of oxygen whereby the arterialization of the blood was imperfectly effected, was one mode in which the evil manifested itself. The emanation of poisonous gases, such as phosphuretted and sulphuretted hydrogen was another mode in which it operated. The dissemination of putrid matter in a highly comminuted form, and capable of setting up the putrefactive ferment in the blood, was a further possible manifestation of the evil. If even direct in-
jury did not come about, it was certain that the general tone of the system would be lowered and the function of assimilation arrested. But the positive demonstration that the specific poisons of cholera, fever, and other zymotic diseases could be carried by streams used as the vehicles of sewage was a grave reason for urging the necessity of prompt action. He had lived in Leeds, Sheffield, and Rochdale—thickly-populated manufacturing towns—and had had actual experience of the fact of fever being rendered endemic on the borders of the Aire, the Wharfe, and the Roch, which were the receptacles of sewage. He thought, too, it was not from the purpose for the Society to consider how the pollution of the Yarra negatived the aesthetic requirements of the community, and thus indirectly was a source of bodily ill-health. The permanent fouling of the Yarra could not but destroy it for recreative purposes, and the profession was bound to look as carefully to the maintenance of those agencies by means of which a cheerful condition of mind is preserved, as to those which belong to the more obvious sanitary requirements. It was almost superfluous to endeavour to show the danger of foul streams, but as, even in this enlightened age, there were those who disputed the truth, it became necessary for a Society like the Medical Society continually to make a protest like the present.

MR. GIRDLESTONE seconded the resolution. He was glad the society had taken up this question as it had formerly done two years ago. The profession ought particularly to urge the necessity of Yarra improvement as the public generally were not aware of the danger resulting from its pollution.

The motion was carried.

DR. BOWEN proposed the third resolution—

"That the society consider it its imperative duty to express its opinion to the Government on this important subject."

He referred to the greater necessity of action being taken in Victoria being as it was, a warm country, and there being as a consequence, more extensive evaporation. Our possible dependence upon the Yarra occasionally for drinking uses was too an important point to be considered. Referring to the recent poisoning of fish in the Yarra he mentioned an instance of the establishment of a paper mill at Inspurct, resulting in the destruction of large numbers of fish in the river. The society, as a body was in the best position for taking action in the matter, and of urging upon the Government the necessity of immediate legislation.

DR. HUNT seconded the resolution which was thereupon carried.

MR. GILBEE proposed the fourth resolution—

"That a memorial containing the foregoing resolutions be forwarded to the Government."

He thought that if the specimens presented by Mr. Fitzgibbon that evening were so offensive it was an alarming thing to consider what the whole river represented, and what it might become if the evil were not checked. It was horrifying to think what would
happen in the event of a serious epidemic arising. He urged the strictest and most decisive measures in legislating on the subject. The public health was the first consideration. It was not the place of the society to indicate how the evil should be particularly dealt with in the necessary process of legislation, but it was imperative that the society should draw attention to it.

Dr. Nicholls having seconded, and Dr. McCarthy having supported the motion, it was carried.

Mr. Blair proposed the fifth resolution—

“That a sub-committee, consisting of the president, vice-president, hon. secretary, and the movers of the foregoing resolutions be appointed to draw up and forward the memorial.”

So much had been said on the subject that but little remained for him to say. He had been struck with alarm at the rapidity with which the various sources of impurity had grown up on the bank of the Yarra. In the old country it was an increasing source of regret that the power of remedy was almost impossible. In the case of those rivers however, which by incredible expense had been purified, the gratification had been extreme. He referred to the recreative uses of the Yarra, and thought this was a very important sanitary agency which the society should encourage as an adjunct to health.

Dr. Martin seconded the resolution. He thought the society was imperatively bound to draw attention to this matter. The public were not sufficiently aware of the danger. If the Yarra were not cleansed it would become as dangerous to this community as the Ganges, the “Maelstrom of Cholera,” was to the people of Calcutta. It required no argument to demonstrate that the pollution of the Yarra was a source of disease. At a temperature of 60° the putrid matter in a running stream commenced to give off deleterious gases, and, considering how excessive the heat occasionally was in this city, the danger was increasingly great.

The motion was carried.

The President then read an extract from Dr. Pickford’s work on “Hygiene,” and showed how the evil he predicted with reference to the Thames had been averted. The President drew attention also to the possible evils arising from future floods, by which the putrid matter would be distributed over a large surface of land. There had been cases of marsh fever in the Immigrants’ Home after the great flood of 1863, distinctly traceable to the malaria arising from the flooded land.

Mr. Fitzgibbon mentioned that the City Council had been so sensible of the compliment paid the Council by the invitation forwarded to him to be present that they had thought the mayor himself should have responded to it. Referring to a suggestion that the City Council should call a meeting of the citizens to consider the question of Yarra pollution, he begged to remind the gentleman
who made the suggestion that as the City Council represented the whole of the citizens such an act would be clearly superfluous.

On the motion of Dr. Neill, seconded by Mr. Gillbee, the thanks of the Society were given to Mr. Fitzgibbon, the town clerk, for having attended and furnished the society with such valuable information.

The Petition subsequently framed by the Committee is as follows:

"To the Honourable the Speaker and Members of the Legislative Assembly in Parliament assembled:

"The Petition of the Members of the Medical Society of Victoria humbly showeth:

"That your Petitioners view with alarm the extremely polluted condition of the river Yarra, and desire to draw the attention of your honourable House to the necessity of some statutory enactment prohibiting absolutely and for ever the fouling of this stream by any noxious matter whatsoever.

"Your Petitioners are informed that the clauses of the Health Act relating to Yarra pollution are practically inoperative, and that therefore there is no efficient means of punishing those who permit offensive matter to flow into the river.

"Your Petitioners have made themselves acquainted with the nature and extent of these sources of impurity, and find them to be both numerous and dangerous, and would remind your honourable House that a polluted condition of running streams constitutes one of the most active agencies in the propagation of many deadly diseases. The history of epidemics is conclusive on this point.

"In the thickly-populated towns and cities of Europe, where the rivers have been permitted to become the receptacles of sewage, disease has largely increased from this cause, and the most strenuous efforts are now being made and large sums of money expended to repair the mischief thus occasioned.

"Your Petitioners desire to point out to your honourable House that the reasons which many years ago existed for establishing manufactories on the banks of the Yarra, namely, the facility for obtaining water, now no longer exist—the Yan Yean supply being available throughout the whole metropolitan district.

"Your Petitioners respectfully, but strongly, urge the certainty of a large increase in the mortality of the City if the sources of Yarra impurity be not unconditionally abolished by means of a stringent and easily-workable enactment."
FOULNESS AND DISEASE.

The subject of consideration at the last meeting of the Medical Society was Yarra Pollution. As a conservator of the public health the Medical Society very properly considered it its duty to draw attention to a dangerously increasing source of disease. The public it would seem have not for some time been aware of the horrible foulness which characterises the stream upon which this vast city stands. A legislative enactment presumably sufficient to deter or to punish those who are indifferent to its purity, has been supposed to exist, and a belief has prevailed that the waters of the stream were unfouled, inasmuch as a clause in the Health Act somewhat vaguely threatens those who should cast foulness into them. A recent tour of inspection, however, made by the Health Committee of the City Council has revealed the existence of the most disgusting impurities from Dight's Falls downwards; and it is this new revelation which the Society took as the basis of the discussion at its last meeting. Among the medical profession it would be impossible of course for there to be the semblance of a difference of opinion upon the question of whether foul streams are dangerous or not to health. It is a subject upon which even doctors must agree. There may be a question as to the exact degree of danger to be anticipated from river pollution, but as to the general danger to be looked for from such sources of impurity, there should be no controversy. We may be told perhaps by the selfish advocates of manufacturing interests as against sanitary advantages, that the specific germs of disease are not created in the course of the putrefactive fermentation, but that zymotic poisons are multiples of almost infinitesimal portions of like matter, themselves derived from previous results of the multiplying process. But even leaving out the certain lethal influence of some of the common products of putrefaction, it is certain that decomposing animal and vegetable matter serves as a favourable nidus for many specific poisons, and that the running water acts as a means of conveying these from place to place. It will be remembered how certainly the spread of cholera has been constantly traced to the contamination of water, and when it is borne in mind that an accident to the
Yan Yean main may any day render the whole of this vast community dependent upon the Yarra for water supply, the results may easily be foreseen.

It is manifest that as our social system in this colony becomes more highly organized and complicated we shall be increasingly liable to the advent of epidemics of the old countries. The present incursion of small-pox and the mystery as to the origin of some of the cases show tolerably conclusively that influences beyond those of mere contagion are at work. An unsewered city, with all the daily-created mass of liquid filth flowing open through the streets and invading the limpid waters of the river in a hundred filthy tributaries can be healthy only by a sort of miracle and the certainty of an increase of epidemic disease is as absolute as the simplest chemical combination. The necessity of continual recurrence to this subject, indeed, becomes almost wearisome, but the imminence of the risk we run more than justifies even wearisome appeals to those in authority to commence the work of town-drainage, and to prohibit Yarra pollution.

In the furtherance of such a work the medical profession may be of infinite use. Their social influence is undoubtedly very great, more so than that of any other section of the community, for they know so much more of the inner life of those with whom they come in contact. It will be their duty then never to omit an opportunity of impressing upon their patients the importance of sanitary precautions and especially such precautions as prevent the fouling of streams. A religious horror of river-pollution should be encouraged, especially in the minds of the young, and a determination of making common cause against the ignorant and selfish minority, who, for the sake of a little pecuniary advantage to be gained by themselves would rob a whole city of its health.

It is satisfactory, however, to know that the more intelligent part of the inhabitants of this widely-spread district are both alarmed and indignant at the recklessness with which the spirit of the Health Act has been disregarded in respect of the Yarra. In addition to the protest raised by the Medical Society, and which should have some influence the Central Board of Health had an interview on the 11th inst. with the Attorney-General, the particular object of the deputation being to urge the modification of the clauses of the Health Act relating to Yarra Pollution with a view to their enforcement. On this occasion an interesting report (confirmatory of that issued by the City Council), prepared
by Mr. T. R. Wilson, secretary to the Board, was presented. It showed very conclusively how virtually inoperative the clauses of the Act are, and contained some valuable suggestions for their improvement, which it is to be hoped will be promptly carried out.

The Alfred Hospital.

The University of Melbourne.

FEBRUARY TERM, 1869.

ORDINARY EXAMINATIONS IN MEDICINE.

Second Year: C. Browning, M.A., has qualified himself for proceeding with the third year of the course for the degree of M.B.

HONOUR EXAMINATION.

Fifth Year: O. V. Lawrence, M.B., who has also obtained the scholarship in this class.

MATRICULATION.

The annual matriculation took place on Saturday, the 6th inst., the Vice-Chancellor, Dr. Brownless, presiding. Forty-nine students matriculated, seven having passed with credit. Besides these there were twenty who had passed the examination and did not present themselves, and two who could not do so, being below the required age of fifteen years. No address was delivered on the occasion.

THE ALFRED HOSPITAL.

The first stone of this institution was laid on Saturday, March 6th, by His Royal Highness the Duke of Edinburgh. A large number of spectators were present, and the following members of the Provisional Committee:—Mr. Butters, the Rev. Dr. Bleasdale, the Hon. James Service, Mr. G. Rolfe, Mr. Mackenzie, Mr. Ellery, Mr. Sherrard, Mr. J. B. Payne, the Rev. D. Rees, Mr. Blair, and Mr. Girdlestone.

About half-past one o'clock, his Royal Highness, accompanied by his Excellency Sir J. H. T. Manners-Sutton, the Hon. Eliot Yorke and Lieutenant Rothwell, arrived in one of his Excellency's carriages and were formally received by the Executive Committee. Mr. Butters informed his Royal Highness that the hospital, which was to be known as the Prince Alfred Hospital, was founded to commemorate the former visit of his Royal Highness to Victoria, and his escape on that occasion from an assassin's bullet. Such great undertakings as the erection of public institutions (Mr. Butters observed) unmistakably showed how deeply rooted in the Victorian
The Alfred Hospital.

1869.

heart was the cause of charity. The building, when completed, would accommodate 250 patients, whose pain and suffering would be alleviated by the recollection of his Royal Highness's name, together with that of his royal and beloved mother. Mr. Blair (hon. secretary) then handed the following address to the Prince:—

"To His Royal Highness Alfred Ernest Albert, Duke of Edinburgh, Knight of the Most Noble Order of the Garter, Knight of the Most Ancient Order of the Thistle,—May it please your Royal Highness,—We, the executive committee of the new hospital about to be erected, take leave to submit to your Royal Highness a brief statement of the circumstances in which this enterprise originated. Owing to the rapid increase of the population of the city of Melbourne and suburbs, a growing conviction had been felt for some years of the necessity of additional hospital accommodation; and the welcome visit of your Royal Highness to our colony last year, together with the providential and merciful deliverance which you experienced in a season of imminent danger, naturally suggested the desirableness of affording an opportunity to the people of Victoria to give expression to their grateful and loyal sentiments in some substantial and permanent form. A preliminary meeting was convened on the 31st March, 1868, to consider the matter, when the proposition to erect a public hospital, to be called Prince Alfred Hospital, met with hearty approval. This appeared to the gentlemen present to be one of the most fitting and appropriate forms by which they could testify their loyal appreciation of your Royal Highness's appearance among them, as the first member of the royal family who had honoured these distant parts of Her Majesty's dominions with a personal visit. By this action they are permitted at once to express their grateful remembrance of your Royal Highness, their loyalty to the throne, and their devoted attachment to your august mother the Queen of Great Britain, while they accomplish an object which had been ardently desired by many of the citizens of Melbourne and suburbs. It is, moreover, our pleasing duty to inform your Royal Highness that the executive committee in this undertaking have been greatly encouraged by warm expressions of approval and promises of support from all parts of the colony. In conclusion, permit us to express our grateful sense of your Royal Highness's kindness in consenting to lay the memorial-stone of the building which is intended to perpetuate the recollection of your visit to future generations. And permit us further to say that it will be our most earnest desire and prayer to Almighty God, who controls the winds and the waves, that it may please Him ever to guide and protect your Royal Highness in all your voyages and travels, by sea and by land. J. S. Butters, chairman; James Service, vice-chairman; George Rolfe, and John Mackenzie, treasurers; J. Blair, L.R.C.S., Ed., hon. secretary; J. J. Bleasdale, D.D., J. Curtayne, H. England, R. L. J. Ellery, T. M. Girdlestone, F.R.C.S., G. B. Hairford, M.D., W. G. Murray, Thomas Budds Payne, D. Rees, G. Vallentine, George Young, Leslie J. Sherrard. Melbourne, 6th March, 1869."
The stone was then raised, and a vessel containing copies of the several daily and weekly journals published in Melbourne, with a copy of the Prahran Telegraph and a number of current coins, was placed in the cavity. The stone was immediately lowered, and his Royal Highness, having placed some mortar upon it, pronounced it to be well and truly laid. Cheers were given for the Prince, after which the distinguished party visited an adjoining refreshment pavilion, where the Duke inspected a plan of the building, and afterwards expressed himself much pleased with the design. The trowel used by the Prince during the ceremony was presented to the committee by Mr. Edwards, jeweller, Collins-street. The handle was of gold, and the blade was of silver, chased, and bore the following inscription:—"Presented to His Royal Highness the Duke of Edinburgh on his laying the first stone of the Prince Alfred Hospital, Melbourne, 6th March, 1869."

SMALL-POX IN VICTORIA.

Cases of variola and of varioloid have continued to be reported to the Chief Medical Officer since our last issue. Instances of varicella have also occurred coincidently. On the 28th ult. a case of genuine variola was removed from the Melbourne Hospital to the Royal Park, and on the 12th instant two similar cases from Latrobe street and Queensberry street were taken there. Of these one death is reported to have occurred.

The following report from the Chief Medical Officer, has been presented to the Assembly on this subject:—

"Medical Department, Melbourne, Feb. 25, 1869.

"SIR—Since my last report on the epidemic of small-pox or chicken-pox in Melbourne and its vicinity, two other cases have occurred which are in many respects very remarkable as bearing on the origin of the disease, and as supporting the idea expressed in my last report that it was a disease of varioloid type arising independently of the small-pox which was brought to Melbourne by the mate of the 'Avon Vale.'"

"The first of these cases is thus reported by Dr. Grant, the health officer of the Local Board of Health of Tarnagulla, a township in the Loddon district:—"

"Wm. Kimpton, a farmer's son, aged eighteen months, residing at Laanecoorie, has been ill with gastric fever about three months. About one week previous to the 4th of February was in a state of great fever, and on the 4th of the same month an eruption made its appearance, which has now all the characteristics of veritable small-pox. The pocks are shotty to the feel, depressed in the centre, containing pus, and having a black spot; also peculiarly offensive at times; the tongue and fauces ulcerated. The patient was vaccinated about four months back, and has two well-defined marks of vaccination. The eruption appeared first on abdomen, next face
and seat, lastly on back. I find that a sister of the child, aged twelve years, arrived on a visit from Mr. William Kimpton, grocer, &c., Brunswick street, Fitzroy, the Monday before New Year's Day, and returned to Melbourne three weeks since.'

"If this description be correct, this is an undoubted case of small-pox arising without any source of contagion. The sister who came from Fitzroy had no disease. There was no disease at Fitzroy at the time, and she could not have carried any disease of the kind with her in any way; yet in this farm-house, a quarter of a mile from any other habitation, near a small town 117 miles from Melbourne, arises a case of disease so similar to small-pox that the signs of the disease cannot be distinguished from it.

"The next case was that of a gentleman living in one of the principal streets of Fitzroy. He was taken ill on the 18th of February with symptoms of premonitory fever. On the 20th, the eruption came out on the face, head, arms, and breast. I saw him on the evening of the 22nd, and the next morning he was removed to the Royal Park Hospital. The eruption has been gradually increasing since Saturday the 20th, and is now very extensive over the head, breast, trunk, and limbs, many of the vesicles showing the indications of true but modified small-pox. There is also a good deal of the peculiar smell of small-pox about this patient.

"He had been for some time previously in the habit of going about between Fitzroy and Swanston street. He has not been near the Royal Park nor the west end of Melbourne for many months. Allowing fourteen days for the incubation stage in this disease, the 5th of February was the day on which he took the disease. At this time there was not a case of the disease in either Melbourne or Greensborough, except one that had been removed to the Royal Park Hospital on the 19th January, and who has been convalescent for more than a fortnight.

"I think the proof in these cases is quite clear that the subjects of the disease could not have contracted it by contagion, and the conclusion seems to me to be irresistible that the disease has arisen from some atmospheric or telluric influence, which has been epidemic for some months, affecting individuals in a very irregular way, selecting them here and there, and sometimes becoming endemic, as at Greensborough, in a similar way to that in which scarlatina, which is never absent from this colony, becomes epidemic and endemic occasionally.

"I have the honor to be, Sir,

"Your most obedient servant,

"W. M'Crea, C.M.O."

"To the Hon. the Chief Secretary."

A further case of genuine variola at South Yarra having been reported on the 12th, the Chief Medical Officer addressed the following communication to the daily papers:—

"Sir,—I shall feel obliged if you will permit me through your columns to recommend the adoption of a few specific precautions by
the public, to aid in checking the spread of the present epidemic of varioloid disease.

"The primary and most powerful means to this end is universal vaccination, and I would recommend every one—young and old—to be vaccinated or re-vaccinated immediately. There is no doubt whatever that vaccination, when properly performed, affords a complete protection against small-pox. All the medical men, attendants, nurses, and others, who have been brought into close contact with cases of the present disease, have been re-vaccinated, and been protected by this re-vaccination, which has in every one of them succeeded, and thus demonstrated their previous liability to take small-pox.

"My own case affords a good illustration of the manner in which the protective effects of vaccination die out after a lapse of time. I was vaccinated in infancy, the operation leaving several very deep marks on my arms. Since then I have been in the midst of five epidemics of small-pox, and have been re-vaccinated above twenty times without success; at the beginning of this present epidemic I was again re-vaccinated, and this last time successfully. I have no doubt I should have taken the varioloid disease now, if I had not taken the precaution of being again re-vaccinated.

"Regarding the alleged danger attending re-vaccination, a great deal has been said about the death of Sir Culling Eardley, and a great deal too much has been made of it. In their unreasonable alarm at this one death, people altogether forget or ignore the fact that millions of persons have been re-vaccinated in England and other places, without any fatal effects following. It is a well-known fact that a mere scratch of a pin will, in some constitutions, when the system is disordered, produce such violent effects, as often to cause death from lock-jaw, erysipelas, pyaemia, or similar diseases. I have no doubt whatever that Sir Culling Eardley's was a case of this kind, and that the introduction of vaccine into the circulation had nothing to do with his death. There ought to be no hesitation in the mind of any sensible person in admitting the fact that the amount of danger to which the human body is exposed in an epidemic of varioloid disease is a million times as great from the disease itself as it is from re-vaccination. I would, therefore, urge every person to be vaccinated. If they are sufficiently protected from small-pox by previous vaccination, the re-vaccination will not take effect; if it should, the fact of its taking effect will show that they were liable to take small-pox, and no man has any moral right to omit this simple precaution against a disease which is fraught with danger to either his own life or the lives of his fellow-citizens.

"The next precaution I would recommend is, the frequent purification of houses and premises by means of disinfectants. The best disinfectants are the fumes of burning sulphur and carbolic acid, and it has been clearly proved, by experiments made during the inquiry into the cattle plague disease, that these substances, when freely used, unquestionably destroy the germs of contagion. Of
these two the former is the cheapest and most effective for most purposes. A few live coals on a shovel, or a stove, or in a flower-pot, placed in a room, with the doors and windows closed, and a few grains of sulphur sprinkled on them, will fill the apartment with a light vapour which will penetrate to every part of it, and utterly destroy any germs of contagion in it. Bedding, bed-clothes, and textile fabrics of all kinds, if spread out or hung up in a room thus treated, will be thoroughly disinfected without any injury to the articles. This simple process, repeated twice a day, is the most destructive means against contagion.

"Carbolic acid, without having as much penetrative power as the fumes of burning sulphur, has the advantage of being constant in its action. A little carbolic acid poured on a couple of plates will be sufficient to disinfect a room 16 feet square, but it should be renewed as often as the smell of it ceases to be perceived. Carbolic acid is also applicable to the purification of drains and gutters, and though sulphurous acid (i.e., water thoroughly saturated with the fumes of sulphur) is just as effective, it is more volatile, and not so lasting.

"The free use of these two disinfectants will effectually destroy contagious germs, and materially purify the atmosphere in and around those houses and premises where they are applied.

"I need only allude to cleanliness and ventilation. With the ample supply of water possessed by the inhabitants of Melbourne there is no excuse for dirt, and though many, indeed most of the houses are deficient in ventilation, especially in the sleeping rooms, there are the windows and doors to remedy this; and in this climate there is little excuse for not keeping these open. I cannot too emphatically impress on every one how much vitality—the power of resisting disease—is lowered by want of cleanliness and want of ventilation.

"Lastly, if the disease should appear in any house, in addition to the abovenamed precautions, the further one should be taken, of immediately isolating the diseased person to the greatest possible extent. To persons who, from living in dense localities, or other causes, are unable to thoroughly isolate the person attacked, the Government hospital in the Royal Park is available, where medical aid, good nursing, and all other requisites for their treatment are liberally provided. Any persons desirous of availing themselves of these advantages will, on application to the nearest policeman, be directed to me, and as time is doubly valuable in the treatment of this disease, and in preventing its communication to others, not a moment should be lost in adopting every precaution.

"In every locality in which these precautions have been adopted the disease has been arrested. In the densely crowded and insalubrious district of West Melbourne, in Greensborough, at the Diamond Creek, and in Collingwood, wherever it has yet appeared, its spread has been stopped by these means; and if the suggestions here given are thoroughly and earnestly carried out by all classes, I have no doubt the disease will soon be extinguished in the colony, as it was in the former invasion of 1857."
"One word more. Too much alarm has already been created. The only deaths which have occurred were confined to those cases in which these precautions were neglected. I would therefore say to every one—be not alarmed, but be vaccinated."

"I have the honour to be, Sir,
"Your most obedient servant,
"W. M'Crea, Chief Medical Officer."

March 14.

The case above alluded to terminated fatally on the 16th. It was stated that the patient had not been in any way exposed to the liability of contagion. Another case, that of a butcher, was reported on the 15th, at Richmond. He was removed to the Royal Park, and by the last accounts was doing well. Other cases have subsequently been reported, and there seems to be now no doubt that the disease is unfortunately spreading among us.

A COMMON CASE.

As an example of the way in which the services of the profession are undervalued, and remuneration withheld from them the following little history may be instructive. In a civil action tried in the Supreme Court a few months ago, a medical man of this city, whom we will describe as Dr. A. was applied to by the solicitor for the plaintiff for his opinion upon the whole case, and a series of queries submitted to him to which he was requested to append categorical replies. This he did, and a correspondence of further interrogatory and reply ensued. The subject of the action was moreover submitted to him, and he made a careful examination of the case. Dr. A., however, particularly desired that he might not be subpoenaed as a witness, the defendant being a member of his own profession, and there being more than a probability of some strong personal feeling arising out of the case. In fact he was undesirous of being mixed up with it in any way, and he gave a written opinion only on the understanding that he should not be brought into court. He was nevertheless subpoenaed; gave his testimony; was subjected to a most offensive cross-examination, and was subsequently the object of some very coarse abuse by the defendant.

A week or two ago, thinking the time had arrived when he might reasonably urge his claim for remuneration for all the trouble and annoyance to which he had been put, he wrote to the solicitor to that effect, and received the following reply:—

Sir,—I am in receipt of yours of the 5th inst. I have no funds at present of the plaintiffs in my hands, and therefore I cannot comply with your demand. An attorney is in no case responsible for witnesses' expenses unless he makes himself personally responsible. I have to acknowledge your kindness in communicating to me the information you did afford me, in replying to my communications.
from time to time, and should I still be fortunate in getting a verdict for my clients I will bear you in mind; but as far as your expenses go as a witness at the trial, I may inform you that the rules of the Supreme Court do not treat medical men with much liberality as the fee payable thereby for a witness resident in town is only £1 1s. per diem: you had £1 1s. delivered with your subpoena, and if you attended the second day of trial you would be entitled to another, which I shall gladly pay when put in funds.

I am, Sir, your obedient servant,

Dr. A., however, has perhaps got the value of his labour in the excellent lesson he has learnt by this little experience. Next time when he is applied to in such a case he will get paid before hand, or at any rate take the hint volunteered him by this legal gentleman, and cause the solicitor to make himself personally responsible."

MR. FITZGERALD AND DR. MOLONEY.

At the meeting of the Melbourne Hospital Committee, on the 16th inst., a question of medical etiquette and official discipline was discussed. The subjoined letters will explain the circumstances of the case:—

"Lonsdale-street, March 9, 1869.

"To the Committee of Management of the Melbourne Hospital.

"Gentlemen,—Deeming it my duty to report for your consideration a case which lately occurred in the Hospital, I do so with very much regret, as it obliges me to complain of the conduct of my resident surgeon. The particulars of the case in short are as follows:—Having, a few days ago, a consultation in the country with Dr. Bird, I was solicited at the same time to see a poor lad who met with a serious accident by which he fractured both forearms and dislocated his left elbow joint. Having reduced the dislocation with Dr. Bird's kind assistance, and set the fractured arms as well as I could by the aid of shingles for temporary splints, and torn sheets for bandages, I advised his removal to the Hospital as his parents were poor. Judge, then, gentlemen, what was my astonishment to learn that my house surgeon (Dr. Moloney), when being told that I had applied the splints and sent the case to the Hospital, coolly took off the splints and bandage, &c., and treated the case as a simple sprain, thus directly ignoring my opinion. Had I not seen the poor boy shortly afterwards, and directed proper splints to be applied, the results would have been disastrous to him and injurious to the reputation of the institution. I do not for a moment mean to say that every surgeon is not occasionally liable to make mistakes, but in the present instance Dr. Moloney being before instructed by his surgeon, and directly ignoring his senior's opinion, acted not only ungentlemanly and unprofessionally,
but also ignorantly. I regret much to be obliged to use so strong language with reference to any medical man, but in the present case I feel that the conduct of Dr. Moloney richly deserves it.

"I have the honour to be, Gentlemen,

"Your obedient servant,

"THOMAS N. FITZGERALD."

To this the following reply was forwarded to the committee by Dr. Moloney:—

"Melbourne Hospital, March 16th, 1869.

"Gentlemen,—With reference to the charge brought against me last week by Mr. Fitzgerald, I beg respectfully to submit to you the following particulars:—The patient in question (Michael Kennedy, aged 13), came to the Hospital on Friday week, before noon, without a subscriber's form or any letter of recommendation. He obtained a casualty ticket, and as it was a day on which the Committee sits, received a book and card and was made according to usual rule an out-patient under Dr. Thomas, whose receiving day it was. I saw the patient alone in the casualty-room that afternoon, with improvised splints and bandages on both arms, I learnt from him that he had that day fallen from a tree, and had been treated by Mr. Fitzgerald. I asked particularly as to the nature of the accident, and made special inquiry whether Mr. Fitzgerald had said his arms were broken or not; but could elicit no information. I removed the splints, of course, and found both wrists much swollen. Whilst examining the patient Dr. Thomas came into the casualty-room; I called his attention to the case as it was his, and asked his opinion. After examination he stated his belief that there was no fracture, and instructed me to place one arm at rest in a pasteboard trough, bandage the other at the wrist, and prescribe cold lotions, adding that that treatment (even supposing fracture existed) would not be improper for a day or two, till the swelling, which was then considerable, should have subsided, and the existence, or non-existence, of fracture thus rendered easily and almost painlessly diagnosible. I need hardly remind you when there is fracture attended with much swelling and pain, that it is a common practice to leave the fracture unset for some days. The boy was instructed to come to the Hospital next morning, so that the case might be carefully watched, and daily examination made; and as Saturday is Mr. Fitzgerald's out-patient day, I intended to ask of him the whole previous history of the case. I did not see Mr. Fitzgerald that day, and when the boy came he brought a note from him, stating that the case was one of dislocation of the left elbow, and dislocation and fracture of both wrist-joints, and directing me to place the patient in a bed of Mr. Fitzgerald's, and put up the arms in side splints. This was the first time I learnt Mr. Fitzgerald's opinion, and these were his first instructions, which of course it was my duty to obey. I would respectfully remind you that when one of the honorary staff wishes a patient to be placed under his care who is sent to the hospi-
tal out of his receiving days, a note is sent to that effect, which is also usually descriptive of the nature of the complaint. I may add that the dislocations which would continue considerably to complicate the diagnosis, were reduced before the patient came to the hospital, and could not possibly be post-diagnosed, and if Mr. Fitzgerald wished the case placed under his care from the first, an accompanying note expressing that wish, and descriptive of the injuries would be necessary. I trust, gentlemen, you will see from my explanation that in the whole conduct of this case, I had no opinion of my own to act upon, and merely followed by instructions.

"I have the honour to be, Gentlemen,

"Your obedient servant,

"P. MOLONEY."

Dr. Thomas also forwarded a letter supporting Dr. Moloney's statement. Mr. James then moved—"That Dr. Moloney's explanation on the subject of Mr. Fitzgerald's communication is deemed by this committee perfectly satisfactory, but they consider Dr. Moloney acted incorrectly in placing the patient (who was really Dr. Thomas' patient) under Mr. Fitzgerald without Dr. Thomas' permission. Mr. Knaggs seconded the resolution, which was carried unanimously.

LOCAL TOPICS.

The following vaccinators have been appointed:—Henry Hervé Woolhouse, M.R.C.S., for the district of Cheltenham, vice Mr. Crooke, resigned; Thomas Hoskins, L.R.C.S., and L.R.C.P. Ed., for the district of Linton, vice Dr. Hooper, resigned; Harry Leigh Atkinson, M.D., for Sandhurst, vice Mr. Pounds, resigned; Edwin S. Maxwell, M.R.C.S., for the district of Spring Creek.

Dr. Tracy and Mr. James have been appointed physician and surgeon respectively of the Freemasons' Charitable Institution of Victoria.

Mr. John Blair, L.R.C.S.E., of Collins-street, Melbourne, was on the 2nd December last, elected a member of the Obstetrical Society of London.

The salary of the City Health Officer (Mr. Girdlestone) has been raised to £300 per annum.

A public dispensary has been opened in Richmond. Mr. George Coppin has been elected president. The medical staff consists of Mr. Stewart, Dr. Graham, Mr. Wilson, Mr. Stillman, and Mr. Gregory. A subscriber of 5s. annually is to have the privilege of recommending one out-door patient; a subscriber of 10s., two out-door patients; and a subscriber of 20s., three out-door patients and one patient at his own residence.

The Hon. Robert Officer, M.R.C.S, of New Norfolk, Tasmania, has received the honour of knighthood.

Dr. Von Mueller, Director of the Botanic-gardens of this city, has had the companionship of the newly-organised Order of St. Michael and St. George conferred upon him.
The case of Barnett versus Reid came before the Supreme Court again on the 1st instant, and as before occupied a period of three days. The jury again failed to agree in a verdict, and were discharged. The case in this instance was tried before the Chief Justice, who in his charge delivered himself of the extraordinary opinion that for a resident hospital surgeon to engage in private practice was not only excusable but desirable, inasmuch as he thereby extended his opportunities of becoming competent for his duties! By this mode of reasoning it is obvious that the less a resident attends to his duties the more perfectly he performs them. The case is again to come before the court, and this time it is said the defendant will not employ counsel.

We regret to have to record the death of Mr. Henry Gilbert Jackson, M.R.C.S., late resident surgeon at the Collingwood Lunatic Asylum, of phthisis. Mr. Jackson was a native of Leeds, Yorkshire, and was only twenty-eight years of age. He had been about three years in the colony, and his genial kindly disposition had secured for him many personal friends.

The Medical Association met on the 19th ult. Mr. Stewart in the chair. Mr. Stewart observed that coroners ought to be elected by boroughs, so as to prevent so many post-mortem examinations being made. The other four members present concurred in this sentiment. Dr. M'Carthy read a paper on Small-pox, and Mr. Moore read one on Re-vaccination. Dr. M'Carthy and Mr. Moore had votes of thanks accorded them, and the chairman informed the meeting that he considered re-vaccination to be dangerous. The Association met again at the Port Phillip Club Hotel on the 12th instant. Mr. Stewart in the chair. Dr. Berncastle offered some remarks on "Snake Poisoning." Mr. Stewart read a paper on "The Introduction of the Hand into the Uterus before the Sixth Month of Pregnancy." Mr. Moore made mention of two cases of small-pox which had occurred in his practice. A miscellaneous discussion took place, in the course of which the rate of payment by friendly societies to their medical attendants was considered, and the evil tendency denounced.

Mr. Snelgren, a native of Sweden, was appointed Assistant Dispenser to the Melbourne Hospital on the 2nd inst.

The subject of medical comforts to the inmates of the Kilmore Hospital was discussed at the board-meeting a few days ago. It appeared, from the consumption account, that upwards of 300 glasses of brandy were used during the month of February by about six patients under treatment, besides a quantity of wine and 60 pints of ale or porter.

A discussion took place in the Assembly on the 3rd inst. upon the item of £750 for visitors to the Lunatic Asylum. The opinion was freely expressed that Dr. Barker, Dr. Thomas, and Mr. Greeves, ought to be glad to perform the duties without remuneration. It was the old story of underrating medical services. The item, however, was passed by seventeen votes to nine against it.

The Age of the 3rd inst. has the following:—"Dr. James P. Murray has requested us to state that he has given up his connection with the Australian Medical Gazette. We are requested to state, on the other hand, that the Medical Association dispensed with his services after his connection with the first number." The Daily Telegraph of the same date contains the sub-
joined letter:—"To the Editor of the Daily Telegraph.—Sir,—Will you permit me, through your columns, to ask the secretary of the Medical Association, if Dr. J. P. Murray, mentioned in your to-day's issue, is the same individual who became somewhat notorious by his connection with the McIntyre search expedition? If this be so, has the association sustained a serious loss by his retirement?—Yours, H. B. Footscray, March 2, 1869."

In the Report of the Inspector of Asylums (Mr. E. Paley) on the Hospitals for the Insane in Victoria, we learn that during the past year the proportion of recoveries has been greater, and the mortality less, than the English average. The second table in Appendix A shows the percentage of cases recovered and relieved on admissions, in the year 1868, to be 41.22 per cent., the average percentage in English asylums for the year 1867 being 34.05. Statistical conclusions cannot safely be drawn from the records of an asylum until its numbers reach at least 100—a point which was attained by the Melbourne Asylum in 1853. Since that date the highest percentage of cures is 58.97, in 1866; the lowest, 31.93 in 1865. The greatest mortality was 16.81 per cent., in 1855; the lowest, 4.89, in 1867. The very low mortality of the past three years contrasts remarkably with that of the English asylums.

Dr. Frederick Beer, of Sydney, who was convicted of unlawfully administering belladonna to Mrs. Brown, some years ago, and sentenced to a severe punishment, is making an endeavour to be declared by a select committee of the Legislative Assembly to be innocent of the crime of which he was then convicted.

Dr. Neild has been appointed Honorary Physician to the Society for the Relief of the Educated Poor.

The Grafton Observer of recent date, states that a young man who went to the Clarence River from the Hunter by the Grafton steamer, was so seasick on the way, and strained so much, that he dislocated his jaw. On arrival Dr. Howison was called in, and he reduced the luxation.

The Age of the 15th report:—"At the meeting of the City Council yesterday, it was decided to fill up the drains communicating from the Melbourne and Lying-in Hospitals with the street channels, in consequence of sewage matter being still allowed to pass through them. A deputation was appointed to wait upon the Commissioner of Public Works to request that, on account of the polluted state of the Yarra, the works for temporary water supply be removed to a more suitable site above Dight's Falls. A letter was read from the Attorney-General stating that he would adopt measures to prevent the recurrence of a nuisance from the Collingwood Gasworks, but intimating that he could not proceed under the Public Health Statute against persons guilty of polluting the Yarra. He added, however, that he would be ready to assist the council in preventing pollution of the river whenever an opportunity offered."

It is to be hoped that the following puff in the Kyneton Observer was inserted contrary to the wishes of the gentlemen whose names are mentioned:—"A very intricate and dangerous operation was performed yesterday in the Kyneton Hospital, by Dr. Smith, assisted by Drs. Pestal, Rigby and Langford, the nature of it being the excision of the breast of a female patient—Mrs. Pavey, of Newham. The operation was highly successful, and was carried out with consummate skill. Mrs. Pavey is progressing favourably."
The action against Dr. Barker, one of the honorary surgeons of the Melbourne Hospital, brought by a man named Donaldson, lately an inmate of that charity, was commenced in the Supreme Court on the 18th instant. The case it will be remembered, was one of fracture of the patella, which resulted in gangrene of the leg and necessitated amputation. The damages were laid at £500.

Mr. Wigg the acting Senior Dispenser to the Melbourne Hospital, respecting whose competency some unpleasant discussion has recently arisen, and the circumstances of which were brought before parliament, resigned his appointment on the 16th instant.

BIRTH.

FORD.—On the 4th inst., at 182 Collins-street east, the wife of F. T. West Ford, M.R.C.S., of a son.

DEATH.

JACKSON.—On the 8th instant, Henry Gilbert Jackson, M.R.C.S., Resident Medical Officer of the Collingwood Lunatic Asylum, late of Leeds, Yorkshire, aged 28 years.

NOTICES TO CORRESPONDENTS.

Communications have been received from the following gentlemen; Dr. Jamieson, Dr. Pringle, Dr. Clutterbuck, Mr. Blair, Dr. Potter (St. Louis, U.S.) and Mr. J. Winter Jones, Librarian of the British Museum.
