

## Section of the History of Medicine

President Richard Hunter MD

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### Papers

#### The Long Reach Hospital Ships and Miss Willis

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In 1884 the Metropolitan Asylums Board (MAB) moored 3 converted ships, the *Atlas*, *Endymion* and *Castalia*, in the Thames to serve as a floating hospital for the isolation of smallpox patients. The *Atlas* and *Endymion* were old ships of the line and the *Castalia*, a double-hulled vessel, was originally built for the cross-channel service (Figs 1–4). Erith in Kent was the port nearest the Long Reach where the ships were moored, and it was natural that the crew should go there for entertainment when off duty.

Smallpox cases had been rare in the district hitherto, and so it is not surprising that the local inhabitants were fearful lest the disease spread to them. The death of Miss Willis in March 1885, about 2 weeks after dancing with Stores Porter Davidson, one of the ships' crew, provided the

Erith Local Board with the opportunity they wanted, for the doctor attending her certified that she died of 'malignant smallpox'. The matter was clearly one of great importance to the MAB, for they were only too familiar with local hostility to their smallpox hospitals which had hitherto been on land in populous areas. In a letter to the MAB dated 16 April, the Clerk of the Erith Local Board opened their campaign as follows.

'On Friday evening, the 13th March last, the Erith Quadrille Assemblies gave a Tradesman's Ball in the Erith Public Hall. At this Ball a Mr. Davidson, an officer from one of the Smallpox Hospital Ships belonging to your Board, attended. One of the visitors at the ball with whom Mr. Davidson came in contact was Miss Willis, of Avenue Road, Erith. On the 27th March Miss Willis developed a very bad form of Smallpox, and died within a few hours of being attacked. Complaint has reached my Board before of the frequency of the visits to this neighbourhood of officers and men from the Smallpox Hospital Ships, and my Board having investigated the case of Miss Willis are quite unable to trace its origin except as coming from the contact with Mr. Davidson. They therefore ask that you will make a searching enquiry into this matter.'



Fig 1 General view of the ships *Atlas*, *Endymion* and *Castalia* (nearest the camera), together with dummy pier, and laundry on shore. Note the double hull of the *Castalia*

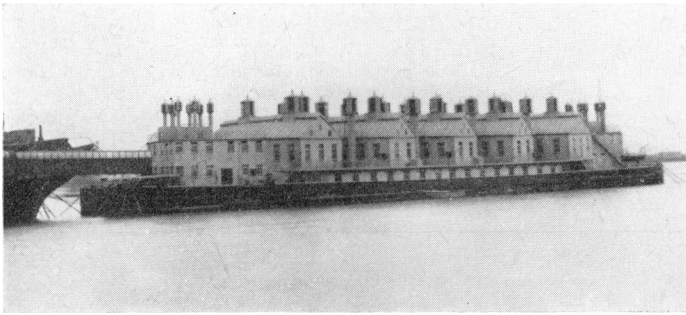


Fig 2 *The Castalia*, whose wards were arranged in echelon to improve ventilation and lighting. Even so the lower wards, with only 7½ ft (2.3 m) headroom, must have been rather dark and gloomy

In his reply Dr R A Birdwood, the Medical Superintendent of the Hospital Ships, challenged the diagnosis, having discovered by making enquiries that Miss Willis did not have an eruption and that she died after 3 hours' illness, bringing up blood. He said that several of her relatives saw her after death and noticed that her body was extremely blanched. He assured the Erith Local Board that members of the staff attending the dance had observed the precautions imposed to prevent carrying infection. He wrote:

'Before going out they are required to take a bath and change their clothes. The clothes they wear *outside* the Hospital Ships are kept separate from the clothes they wear *in* the Hospital. It is impracticable to place any restriction on the staff after they leave the Hospitals. The members of the staff present at the dance *observed the rules respecting the bathing and changing of their clothes.*'

Dr Birdwood sincerely hoped that the medical men were mistaken in their diagnosis.

However, the Erith Local Board were not to be put off so easily and they got in touch with the medical man, Dr J Clarkson Maynard, who defended his diagnosis with vigour. His letter to the Erith Local Board is dated the 27th April.

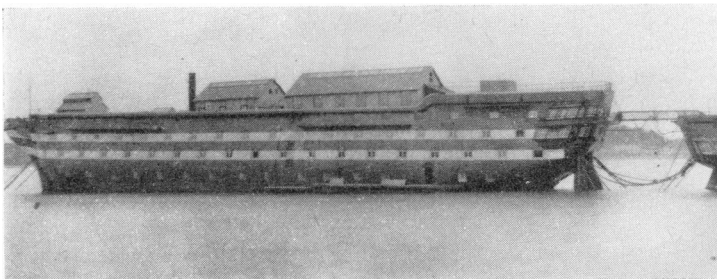


Fig 3 *The Atlas* with the gangway leading to the *Endymion*. The three deck wards of the *Atlas* officially held about 100 beds but at epidemic times many more patients were squeezed in

'Dear Mr. Parrish,

The "extract" to which you draw my attention is an extraordinary effusion, especially emanating from the pen of a professional man upon hearsay evidence only. I do not know who furnished the Medical Superintendent with the data from which he draws his conclusions, but they are misstatements and inaccuracies from beginning to end. I do not know the date of the dance, but if that given by Dr. Birdwood is correct, I can only say it is *painfully suggestive*, as the period of incubation in Smallpox is from 12–14 days. Miss Willis was taken ill on the 24th or 25th, became much worse on the 27th, was seen by me for the first and last time alive at 7.0 p.m. on that day; she died at 8.30 p.m. Dr. Birdwood says she had no eruption. The eruption in this species of smallpox is nearly always irregular, but in Miss Willis's case there was a well-defined, and a considerable amount of eruption, principally on the lower parts of the body and inner parts of the thighs, in the shape of large and small black spots, beside hæmorrhage into the skin in numerous places.

I need not trouble you with more details or symptoms of the case, beyond saying that it was an unmistakable and well-marked case of "Variola Hæmorrhagica" or "Black Smallpox", a form that is always fatal from the third to the fifth day, and then suddenly; fortunately it is very rare in this country, and probably Dr. Birdwood has never come across a case, but I have now and then met with cases in the East.

I am, dear Mr. Parrish,  
Very faithfully yours,  
J. Clarkson Maynard.'

The MAB countered this with a statement from Mrs Willis as to the death of her daughter, taken on 3 May.

'My daughter was taken ill with a very bad cold on Tuesday the 24th March. She made herself a basin of gruel and went to bed. On Wednesday she was rather worse, and kept on writhing the whole of the day. Thursday she still complained of sickness and pains in stomach. Friday she was much better, though her eyes were very much blood shot and her tongue was covered with blood and a large quantity of blood passed through her. Her stomach was very much disfigured, looked as if the blood was forcing its way through the skin. I began to feel alarmed, and sent for Dr. Maynard. About 5 o'clock he came and he told me it was a ruptured blood vessel, but where he could not tell. He said if she was not better in the morning did I mind him calling another doctor in to see her. I sent down to his house for the medicine and gave her one dose, after which she never look up again, but died about  $\frac{1}{2}$  an hour afterwards. Dr. Maynard was sent for, he came and brought Dr. Barnes with him. They asked me several questions, as, if she had a fit or been away from home. I told them no. I asked Dr. Maynard what I was to do, he told me to send for a woman, and he would call and see me in the morning. Instead of which he went home and came back one hour and a half afterwards, and said he had been home and read it in a book, it was a very bad case of smallpox. He advised us all to be revaccinated. This was Friday evening, but we were not done till Sunday afternoon. When he told me it was smallpox, I asked him why he told me it was a ruptured blood vessel. He said he told me anything. I told him he could have his opinion, and that I should have mine and that she never died with smallpox. He said it was a case that never happened in England, but he had seen plenty of it abroad. If he had seen it abroad why did he not tell me at once, it was smallpox. I might have had all my children down with it, for they one and all went in the room to her, and they are all quite well, and I firmly believe that he did not know what it was and that my daughter died of a ruptured blood vessel, not smallpox.  
(Signed) E. Willis.'

There seems to have been no meeting between the two doctors to discuss the case in a cold clinical atmosphere; both were advocates for the cause they represented and, whilst Mrs Willis's statement diminishes the credibility of Dr Maynard, we must agree with Dr Maynard that Dr Birdwood's statement was made on hearsay evidence.

The MAB were clearly most anxious to allay the fears and allegations of the Erith Local Board, for in their eyes the smallpox ships were a success and they planned to bring all cases of smallpox there, and they did not wish to be forced to abandon the scheme. The Erith Local Board thought otherwise and on 30 April they wrote to the Local Government Board (LGB) asking for their support.

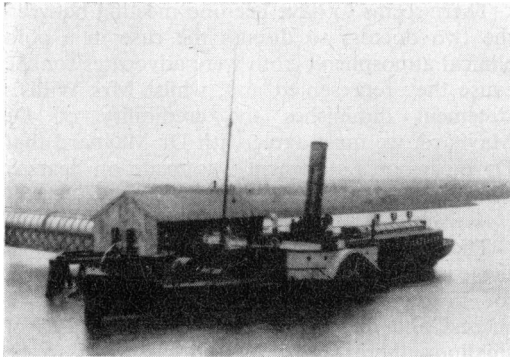
'My Board have on a previous occasion made complaint to the last mentioned Board [MAB] on the inefficiency of the precautions taken with the workmen employed on the vessels, and although they have not been able, until now, to establish what is in their opinion a proof of the officers and other attendants from the Ships causing the spread of the disease into this district, they have a strong conviction that the death of Miss Willis was traceable to the presence of Mr. Davidson or other officers at the ball in question.

So long as the Hospital Ships are continued at their moorings my Board feel that the strictest precautions should be taken by the Asylums Board, and rules made, if necessary, and enforced, for preventing altogether the visits of officers and others into a populous district.'

They followed this up in July with a request that the ships be moved downstream, having by now learnt that the MAB proposed to abandon the use of the smallpox hospitals in the metropolis and bring all cases to the vessels. The Erith Local Board's letter continues:



Fig 4 Ward deck on the Atlas.  
The rings for the gun chains can be seen above the beds.  
Headroom is 7 ft (2.13 m)



**Fig 5** *Ambulance steamer, Geneva Cross, at the dummy pier at Long Reach. The Geneva Cross was the pride of the fleet and was built for MAB in 1894*

'My Board have noted with much concern this proposed addition to the number of patients to be carried to the Hospital Ships, and feel that the importation of these additional cases makes it the more necessary that the vessels should be removed from their present moorings down the river to a point more remote from large towns like Erith; and . . . it would appear just as easy for patients to be carried to the Hospital Vessels if they were down nearer the mouth of the Thames as it will be to carry them to the vessels in their present position. My Board urgently trust that they will have the support of the LGB in their appeal for the removal of these ships from their District.'

Poor MAB! Nobody wanted them and their smallpox, and now the Erith Local Board wished to consign them to a mooring where, at the best, patients and staff would have sea-sickness as well as smallpox to contend with and, at the worst,

they might founder with all hands. Fortunately for the MAB the LGB ignored the Erith Local Board's suggestion that the ships should be moved downstream, nor did they express an opinion as to whether Miss Willis died of smallpox or not. Their letter, dated 12 August 1885, reads as follows.

'The Board concur with the Local Board in thinking that the existence of rules as to bathing and change of clothing in the case of the officers and men employed on the ships is no sufficient safeguard against infection being conveyed into the neighbouring districts, unless the rules in question are carefully and rigidly enforced. The Board trust, therefore, that the Managers will lose no opportunity of seeing that this is done.

'I am at the same time to forward to the Managers the accompanying extract from a further letter from the Erith Local Board, suggesting that the necessary stores should be conveyed to the ships in the Ambulance steamers, instead of by railway. I am to add that the Board think that this proposal deserves the careful consideration of the Managers.'

This letter was clearly far less than the Erith Local Board hoped for and the MAB for their part must have heaved a sigh of relief. As their minutes of 26 September show, they were only too ready to agree to the suggestion that the ambulance steamers (Figs 5 & 6) should be used for the conveyance of stores, and also for visitors and staff; and they gave instructions for the following works to be carried out: (1) the supply of two enamelled baths, the provision of hot and cold water, and certain structural alterations to the laundry, at a cost not exceeding £37; (2) the repair of the boiler of the *Castalia* at a cost not



**Fig 6** *One side of the upper hospital deck of the Geneva Cross, with a full complement of patients. The lower deck had 36 berths in two tiers so, in all, 52 patients could be carried. Between the forecabin and the foremast bulkhead of the engine room there was a cabin for about 40 visitors and staff*

exceeding £25; and (3) the covering of the deck of the *Castalia* underneath the water tanks at a cost of £10. From this one suspects that bathing conditions had hitherto been far from ideal and that, on a cold day in winter, Stores Porter Davidson and his friends might have succumbed to the temptation to dodge that bath and its carbolized soap.

What happened subsequently? The answer seems to be nothing much, for the epidemic died away and with it fear. The ships, with a skeleton staff, stayed where they were, awaiting the next epidemic, and the memory of Miss Willis faded into the background. Did she have smallpox? Sometimes I doubt it, sometimes I think she did, but we will never know, for she was born 100 years too soon to benefit from the diagnostic precision of modern virology. But whatever she died of, the debate surrounding her death caused many people to think hard and long about the problems of strict isolation.

How would we, I wonder, react to the situation that faced the chief actors in the drama if we were cooped up with 100 smallpox patients on 3 ships moored end-to-end in a remote reach of the River Thames?

## History on the Shelf [*Abridged*]

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All over the world, medical schools with old-style pathological museums are finding the changing emphasis in the teaching of pathology to be reason, or excuse, for reducing or closing these storehouses of physical morbidity. Often the decimation of each such collection, or its transformation into photographs, results in the total loss of what is discarded, or at best its part removal to other lands where any material that can be of use in teaching medical students is so helpful and welcome. It needed the initiative and enthusiasm of the late Professor K R Hill to save specimens from older universities for distribution among the new medical schools in many developing countries where the education of doctors owes so much to the wide range of his interests.

It was through the need to reaccommodate an old museum of human pathology in a tithe of its former compass that several of the specimens described in this paper came to light. Following the advice of a former Curator of the Pathology Museum in Charing Cross Hospital Medical School, London, the late Dr W E D Evans, who taught me never to dispose of any pathological specimen until its nature has been identified, each piece was reassessed. How some of them had stood misdiagnosed before generations of students and candidates in pathology is evident in the following notes. The interest of these cases is as much historical as pathological. I hope that even these short notes about them may encourage others to glean comparable or greater treasures elsewhere.

### *Summary of Cases*

(1) *Cryptococcal mastitis masquerading as 'colloid cancer'* (Symmers 1970, Case 12): Mastectomy at Charing Cross Hospital in 1894 on the day after Buschke and Busse reported the first case of cryptococcosis ever to be recognized (at a meeting of the Medical Association of Greifswald, Germany, 7 July, 1894). While cryptococcal mastitis is well known in cattle, this specimen was the first recognized example of the disease in man.

(2) *Chromomycotic meningoencephalitis masquerading as tuberculous meningitis*: The specimen was re-examined in a search for histological material from cases of untreated tuberculous meningitis. It had been in a museum since 1871. The first published account of chromomycosis of the central nervous system appeared 40 years later (Banti 1911).

(3) *Primary amebic meningoencephalitis masquerading as 'meningitis carcinomatosa'* (Symmers 1969, Case 1): The specimen, from a post-mortem in England in 1909, antedates the first published account of infection by free-living amebæ by 56 years (Fowler & Carter 1965).

(4) *Mycetoma of a hand* (Symmers 1970, Case 13): An original Vandyke Carter specimen, illustrated in his monograph (Carter 1874) and thought lost.

(5) *Aspergilloma*: Described as 'a pneumolith from a chronic phthisical cavern', the dried specimen was shown after careful decalcification to be a tangle of identifiable aspergillus mycelium. The specimen jar was dated 1848. The present-day interest in pulmonary aspergilloma (intracavitary fungal ball-colony) mainly dates from the description of 'intra-bronchiectatic megamycetoma' by Dévé (1938). Early references are equivocal, but none is earlier than 1856 (Virchow).

(6) *Thrombotic thrombocytopenic purpura*: A composite specimen of heart, skin, kidney and adrenal, catalogued as 'purpura hæmorrhagica generalisata idiopathica acutissima mortiferissima' but with no other information. Histological preparations show the