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A Brief History of Smallpox and
Vaccination in New South Wales
from the Foundation of the
Colony to the Present Day.

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1898.

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A Brief History of SMALLPOX and VACCINATION in New South Wales, from the Foundation of the Colony to the Present Day.

At a time when the history of smallpox and vaccination throughout the world is being discussed in scientific circles, I may be permitted to describe briefly the various epidemics of smallpox in New South Wales, and also to record some facts connected with the practice of vaccination since its introduction over ninety years ago.

I.—THE EARLIEST EPIDEMIC OF SMALLPOX.

There appears to be some considerable doubt among scientific men as to the exact time of the first appearance of smallpox in Australia. Hirsch* states that "the Continent of Australia up to 1838 had enjoyed an absolute immunity from smallpox. Towards the end of that year the disease appeared at Sydney, having been imported, probably, from China. It lasted, however, only a short time, and remained absent from the continent until 1868." The Royal Vaccination Commission, whose final report was published in September, 1896, assumes this to be correct, and adds: "Australia, by virtue of its geographical position, and the consequent separation by long sea voyage from infected ports, enjoyed for a long time a sort of natural isolation." There can be little doubt, however, that both these statements are inaccurate.

Wentworth† tells us that some few years before the foundation of the colony the smallpox committed the most frightful ravages among the aborigines. It was said to have been introduced by Captain Cook. Many of the contemporaries of those who fell victims to the scourge were still living when Wentworth wrote his account. "The deep furrows," he says, "which remain in some of their countenances show how narrowly they escaped the same premature destiny. The recollection of this dreadful malady will long survive in the traditionary songs of this simple people. The consternation which it excited is still as fresh in their minds as if it had been an occurrence of but yesterday, although the generation which

witnessed its horrors has almost passed away. The moment one of them was seized with it was the signal for abandoning him to his fate. Brothers deserted their brothers, children their parents, and parents their children; and, in some of the cases on the coast, heaps of decayed bones still indicate the spots where the helpless sufferers were left to expire, not so much, perhaps from the violence of the disease as from want of sustenance." I cannot find any other record of the disease having been observed in Australia before 1788, and I am therefore disposed to think that Wentworth's account may refer to the epidemic of 1789.

Davidson‡ asserts that smallpox broke out among the natives shortly after the settlement of New South Wales in 1788, but this is manifestly an error.

There can be no doubt, however, that smallpox in a virulent form attacked the aborigines in 1789. Collins§ gives the following description of this visitation:—

"Early in the month of April, and throughout its continuance, the people whose business called them down the harbour daily reported that they found, either in excavations of the rocks, or lying upon the beaches and points of the different coves, the bodies of many of the wretched natives of the country. The cause of this mortality remained unknown until a family was brought into the settlement, and the disorder pronounced to have been smallpox. It was not a desirable circumstance to introduce a disorder into the colony which was raging with such fatal violence among the natives of the country; but the saving the lives of any of these people was an object of no small importance, as the knowledge of our humanity, and the benefits which might be tendered them, would, it was hoped, do away with the evil impressions which they had received. Two elderly men, a boy, and a girl were received, and placed in a separate hut in the hospital. The men were too far overcome by the disease to derive any benefit from the exertions of the medical gentlemen who attended them, but the children

* Geographical and Historical Pathology, Vol. I., p. 133 (1881).

† Statistical, Historical, and Political Description of the Colony of N.S.W., 2nd ed., London, 1829, p. 55.

‡ Geographical Pathology, 1892, p. 562.

§ An account of the English colony of N.S.W., 2nd. ed., 1804, p. 57.

did well. From the native who resided in the settlement it was understood that many families had been swept off by this scourge of the human race, and that others, to avoid it, had fled into the interior parts of the country. Whether it had ever appeared among them before could not be discovered, but it was certain that they gave it a name (*gal-gal-la*), a circumstance which seemed to indicate a pre-acquaintance with it.

Phillip[‡], in a letter to Lord Sydney (1790), said he had been unable to determine whether smallpox was a disease to which the natives were subject before any Europeans visited the country, or whether it was brought by the French ships in 1788. It never appeared on board of any of the English ships during their passage, nor in the settlement, until several of the natives had been seen dead with the disorder in various parts of the harbour, and the blacks above referred to had been brought in to the hospital. It was estimated that one-half of those inhabiting the district died during this epidemic.

Mrs. Macarthur[¶], in a letter written March 7th, 1791, and Daniel Southwell[¶] (an officer of H.M.S. *Sirius*), in a letter to the Rev. W. Butler, dated April 14th, 1790, confirm these accounts.

Collins continues his narrative as follows :—“While the eruptions of this disorder continued upon the children, a seaman belonging to the *Supply* was seized with it and died, but its baneful effects were not experienced by any white person of the settlement, although there were several very young children in it at the time. It had been greatly feared, from the first introduction of the boy and girl into the settlement, that the native who had been for some time there, and whose attention to them during their illness excited the admiration of everyone that witnessed it, would take the disorder, as on his person were found none of those traces of its ravages which are frequently left behind. It happened as had been predicted. He fell a victim to the disease in eight days after he was seized with it, to the infinite regret of everyone who had witnessed how little of the savage was found in his manner, and how quickly he was substituting in its place a docile, affable, and truly amiable deportment.”

A most pathetic incident is reported by Collins in the work quoted (p. 383). A native, who at that time resided at Sydney, on going

down the harbour to look for his former companions, was described by those who witnessed his emotions as suffering the extreme of agony. He looked anxiously into the different coves that they visited. Not a vestige on the sand was to be found of human foot; the excavations in the rocks were filled with putrid bodies of those who had fallen victims to the disorder; not a living person was anywhere to be met with. It seemed as if, flying from the contagion, they had left the dead to bury the dead. He lifted up his hands and eyes in silent agony for some time. At length he exclaimed, “All dead! all dead!” And then he hung his head in mournful silence, which he preserved during the remainder of the excursion. No white person took the infection during the epidemic, though many of them were exposed to it, but a North American Indian, a seaman on H.M.S. *Supply*, died of it. There can be little doubt that the disease was smallpox, for many of those who recovered from it bore the characteristic marks in after life.

Hunter* and Flanagan† also describe the disease in such a manner as to leave no doubt as to its having been smallpox in a virulent form.

The question then arises :—Was smallpox introduced into Australia by Captain Cook, or by the First Fleet, or by the French ships, or, on the other hand, was it an endemic disease? I must confess my inability to answer this in a satisfactory manner at present.

II.—THE INTRODUCTION OF VACCINATION.

In the year 1803 the Royal Jennerian Society, which had just been established in England, forwarded to the Governor of New South Wales a “*Pacquet of the Vaccine Matter for Inoculation*.” This supply of lymph arrived in Sydney by the transport *Coromandel* on Monday, May 7, 1804. By the same vessel there also arrived a small quantity, which had been forwarded by Mr. John Ring, member of the Medical Council, to Mr. Savage, the Assistant Colonial Surgeon. This latter was said to have been “put up in a different manner to that sent by the Royal Jennerian Society.” Immediately on its receipt the Governor (Captain P. G. King, R.N.) directed the principal surgeon, Mr. Thomas Jamison, to make instant use of it on three orphan children. Mr. Harris, surgeon of the

[‡] Historical Records of N.S.W., Sydney, 1892, Vol. I., part 2, p. 299.

[¶] Historical Records of N.S.W., Sydney, 1893, Vol. II., pp. 502 and 709.

* Historical Journal of the Transactions at Port Jackson and Norfolk Island, London, p. 124.

† History of N.S.W., London, 1862, Vol. I., p. 46.

New South Wales Corps, also vaccinated several children belonging to the military, and Mr. Savage performed the operation on a number of other children. I am unable to state positively the exact day on which the first vaccination was performed, but it was certainly between the 8th and 12th of May, 1804. To Messrs. Jamison, Savage and Harris belongs the honour of performing the first vaccinations in Australia.

Mr. Harris's experiments did not meet with the desired success, so that gentleman repeated the trial upon four others, "in a manner not before tried," on Thursday, May 17, 1804, and this time with the happiest effect. Messrs. Jamison and Savage were probably rewarded for their efforts, for on June 3 the following notice appeared in the *Sydney Gazette* :—

"NOTICE.

"As the cowpox is now fully established in the colony, it is hoped no parent or guardian of any children will omit availing themselves of so great a blessing, which, as has been shown in the *Gazette* of the 13th of May last, is an infallible preventative against that generally fatal distemper, the smallpox."

The account referred to (of May 13) was an elaborate table of statistics published by the Royal Jennerian Society, showing the efficacy of vaccination.

In the issue of June 3 there also appeared the following under the heading of "General Orders" :—

"Such children as the parents or guardians may wish to have inoculated are to attend at Parramatta on Tuesday and Wednesday next, after which a permanent attendance will be directed at Sydney, Parramatta, and Hawkesbury."

On June 24 a further notice appeared :—
"All parents who wish their children to be inoculated with the cowpox are desired to attend the *Principal Surgeon* at the General Hospital on Saturday next with their children ; and after that day they are to attend every Wednesday and Saturday from eight to ten o'clock in the morning, during which hours regular attendance will be given to all descriptions of persons desirous of availing themselves of so great a blessing as that which now offers in the happy introduction of the vaccine virus."

On October 14, 1804, Mr. Thomas Jamison, the principal surgeon, published a paper entitled *General Observations on the Smallpox*, in the *Sydney Gazette*. In this interesting communication the author states that it was

"generally accredited by the medical gentlemen of the colony on its first establishment that the smallpox had been introduced among the natives by the crews of the French ships then lying in Botany Bay ; but since that period on vestige of that disease has ever appeared." He concludes his paper as follows :—"I shall only remark that the preventative qualities of the cowpox are incontrovertibly established ; no preparatory regimen or extraordinary care are requisite in its application or progress ; it is attended by no sort of danger or external blemish ; wherefore, should parents delay to embrace the salutary benefit now tendered gratuitously, and the vaccine infection be lost, the most distressing reprehensibility may accrue to them from their remissness in the preservation of their offspring, whose destruction hereafter may be reasonably apprehended to ensue from the smallpox, should it ever visit this colony in a natural state." This article has a further interest in the fact that it was the first medical paper ever published in Australia.

There does not appear to have been any active opposition on the part of parents to the operation of vaccination, but owing to negligence many of the children remained unvaccinated. Mr. Jamison and Mr. Savage, who were enthusiasts on the subject, did their best to reach all classes of the community, fearing lest smallpox should break out when there was no vaccine lymph in the colony. They visited the various districts in the settlement, spreading abroad the virtues of vaccination, and induced a very large number of the inhabitants to submit their children for the operation.

Mr. Jamison's fears that the supply of lymph would run short were eventually realised.

Wentworth*, in speaking of the epidemic of smallpox, already referred to, says, "This fatal inveteracy of the disorder, when once introduced into the colony, has not been without its counterpoising benefit. It has induced the local Government to adopt proper measures for avoiding the propagation of a similar contagion among the colonists. The vaccine matter was introduced with this object many years back, but, as all the children in the colony were immediately inoculated, it was again lost from the want of a sufficient number of subjects to afford a supply of fresh virus, and, for many years afterwards, every effort that was made for its re-introduction proved abortive."

How it was re-introduced will form matter for consideration in future chapters.

*Description of N.S.W., p. 55.

III.—MR. THOMAS JAMISON'S WORK, 1804-1809.

It is quite evident that, owing to the exertions of the medical men in charge of the settlement, a large number of children were vaccinated within the first half of the year 1804. On Sunday, July 1, 1804, the *Sydney Gazette* contained the following paragraph:—

“On Monday a number of children were inoculated for the Vaccine Pox by J. HARRIS, Esq., Surgeon to the New South Wales Corps: and the operation was on Saturday performed on many others by THOMAS JAMISON, Esq., Principal Surgeon: and no doubt can be entertained that every parent desirous of preserving their children from that most dreadful scourge to humanity, the Small Pox, and of promoting its extermination, will readily embrace the present favourable opportunities.”

On Sunday, October 14, 1804, the *Sydney Gazette* published Mr. Jamison's paper, *General Observations on the Small Pox*, to which I have already alluded. As this paper is of considerable historical and scientific interest I reproduce it here in full.

“An erroneous opinion, in relation to the *Small Pox*, being generally received, and as an inference deduced therefrom equally fallacious with the principle upon which it is founded, I conceive it a duty incumbent on me as Principal Surgeon of this Colony, to remove prepossessions which, if adhered to, must be productive of the most calamitous consequences to the Rising Generation of these Colonies.

“First, it is conceived by a number of parents and others having the care of children, that they have had the small-pox in a natural way: and secondly, that little danger is to be apprehended from its effects in this climate. In refutation of a conjecture fatal to be indulged, I must observe, the disease by some considered as the smallpox, is no other than an eruptive appearance on the skin, proceeding from climate and other constitutional causes:—Others may be deceived by the chicken pox—an error that may be readily imbibed by those who are not conversant in the natural smallpox; for I most positively affirm, on my own personal knowledge for ten years past, that not a single instance of the latter disease has occurred in this country.

“It is generally accredited by the medical gentlemen of the colony on its first establishment that the smallpox had been introduced among the natives by the crews of the French ships then lying in Botany Bay; but since that period no vestige of that disease has ever appeared.

“In contradiction to so ridiculous an idea as that the natural smallpox should not carry with

it, and be productive of effects baneful and destructive in the extreme, I have here to observe that at the Cape of Good Hope (the latitude being nearly the same with this place) the inhabitants dread the appearance of the smallpox as in other countries they do a plague, from the fatal malignity of its tendency and effects; and I have no doubt, that should the disease ever visit this colony in a natural state, and particularly in the Summer Season, it would carry off nine-tenths of those who might receive the infection.

“From the foregoing facts and circumstances, I would earnestly recommend Parents to avail themselves of the blessing held out to them by the provident care of the Parent Country, by having their children inoculated with the *Vaccine* or *Cow Pock*—an infallible Preventative of that loathsome, disgusting, and too-often fatal disease, when taken in the natural way.

“It is almost needless to remark further on the particular virtues and properties of a discovery, announced and recommended to public notice, for the general benefit, from such high and indisputable authority: I shall only remark that the preventative qualities of the *Cow Pock* are incontrovertibly established: no preparatory regimen or extraordinary care are requisite in its application or progress: it is attended by no sort of danger or external blemish; wherefore, should parents delay to embrace the salutary benefit now tendered gratuitously, and the Vaccine Infection be lost, the most distressing reprehensibility may accrue to them from their remissness in the preservation of their Offspring, whose destruction hereafter may be reasonably apprehended to ensue from the smallpox, should it ever visit this Colony in a natural state.”

The *Sydney Gazette*, in referring to this paper, said:—

“There was every reason to hope, that upon the happy introduction into the Colony of the *Vaccine Virus*, every parent would have availed themselves of so inestimable a blessing without the necessity of repeated solicitation. The several medical gentlemen have sedulously adopted the conduct of the British Faculty, whose benignant labours extending over the whole surface of the globe, reflect eternal honour to the Country which to the discovery gave birth and although in numerous inoculations that have been made the innocency of the operation has incontestably proved itself, yet indolence or thoughtlessness prevents many from taking advantage of the opportunities that have long offered, and even still continue. If any specious or any plausible argument can be set up against the necessity of Vaccination,

they must give way to the unanswerable remarks of the Surgeon-General of this Colony, Contained in the preceding page : and any objection to so innocent an operation in which the very existence of our children is deeply interested must hereafter be considered as a flimsy absurdity, only started with a view to saving trouble. Parents are by that gentleman again exhorted to attend to this material point of duty ; and possibly many who regretted having delayed the object until it was now thought too late, will recover from the inconsolable reflection, and promptly prevent the possibility of a funeral pang."

The supply of vaccine lymph appears to have become exhausted soon after this, for there is no mention of any further vaccination until December 8, 1805, when it was announced in the *Sydney Gazette* that "Mr. McMILLAN, Acting-Surgeon of His Majesty's ship Buffalo, procured some of the vaccine matter of Mr. WENTWORTH, Surgeon at Norfolk Island : and having bestowed every care and attention in inoculating several children and others on the passage from thence to Hobart Town, he had the satisfaction to be assured before he left that settlement of his having fully succeeded in communicating so inestimable a blessing ; and as Mr. McMillan has been so fortunate as to succeed in bringing the virus here, it is hoped an attention to Mr. JAMISON'S Advertisement will secure a continuance of its benefits to these settlements."

The advertisement referred to, which appeared in the *Gazette* on December 8 and 15, was as follows :—"Inoculation for the Cow Pox.—THOS. JAMISON, Esq., Principal Surgeon, desirous of promoting the benevolent design of Vaccination throughout the Colony, requests that Settlers and other distant inhabitants who have children that have not yet received the benefit, will forward a list to him at Sydney, specifying with their names and places of abode the number of children for Inoculation, in order that convenient places of attendance may be chosen in each neighbourhood, and a time for performing the operation appointed, of which timely information will be given in the *Gazette*."

Apparently, even this did not produce the desired effect, for Mr. Jamison published an appeal to the public on January 19, 1806 :—"I finally address the parents of children in this Colony, on a subject which is of much more importance than they seem to conceive it.—It is an object of the first importance, as it has no less in view than the preservation of the lives of the rising generation of this Colony. In adopting the measures held out of inoculating their

Children with the Cow Pock, in order to prevent the fatality which must attend their having the natural Small Pox ; it being ascertained beyond a doubt, that the inoculation with the vaccine virus is an effectual preventative against that dreadful and loathsome malady ; I conceive it ought to be one of the most serious considerations that can well occupy the mind of a tender parent, who has the well-being of his infant offspring at heart, and wishes to discharge that Christian duty which is incumbent on them, in adopting every measure to preserve their health and prolong their days. Let me again impress on your minds the serious tendency of neglecting so favourable an opportunity, as I have formerly tendered you my services, gratuitously ; notwithstanding, parents have been so remiss in coming forward with their children, that I now consider it necessary to inform them that the vaccine virus must be inevitably lost if they do not permit their children to be inoculated :—If they do not embrace the present opportunity they may repent hereafter, when too late, of the great injustice they have done to their children. Should ever the natural smallpox ever break out in this Colony, I fear few who are seized with that disease will escape with their lives ; and I can take it on myself to assure the inhabitants of this settlement that the vaccine inoculation has been attended with the greatest success : out of *One Thousand & upwards* who have been inoculated in the Colony with cow pock, I can affirm that not one has died, nor has it left behind the smallest blemish. I again beg parents to turn this circumstance over in their minds, and give it due consideration, which I trust will operate so forcibly as to induce them to adopt a measure so truly beneficial to their infant families in protecting them from the baneful effects of a disease, which in its natural state and tendency has frequently been little more in mortality to the Plague itself. Should all the evils I have pointed out occur one day or other I trust the Public will allow that no reprehensibility can attach to me, as I have used every persuasion and exertion in my power, to carry such a laudable system into effect, as far as my ability extends. If frustrated by those designed to benefit thereby, I can only lament their obstinacy, and express my sorrow for the injury done their infant families."

(Signed)

"T. JAMISON."

It would appear from this that in one year and eight months over one thousand vaccinations were performed in the colony. The total population of the settlement in September, 1805, was 6,954 ; therefore over one-seventh of the

inhabitants had been vaccinated, and this happy result was undoubtedly due to Jamison's exertions. Would that he were a Government Vaccinator in a populous district of the colony at the present time!

Mr. Jamison left Sydney for England, by the ship *Admiral Gambier*, on March 29, 1809.

IV.—MR. REDFERN'S REPORT, 1809.

Mr. W. Redfern, a medical man, was apparently the next to interest himself in this subject. Mr. Redfern, on October 16, 1809, sent the following communication to the Lieutenant-Governor, Colonel William Patterson:—
“SIR, It is with extreme pleasure I at length feel myself enabled to state, with a degree of certainty, that my endeavours to establish the vaccine Inoculation with the VIRUS I had the honor of receiving from you, have perfectly succeeded. The re-introduction of so great a blessing to the rising generation, as an infallible, safe, and mild Preventive of one of the most fatal diseases to which the Human Species is liable, the SMALL POX; and which, fortunately for the Inhabitants of this Colony, has not yet made its appearance among them, will, I am confident, afford the most heartfelt satisfaction and highest gratification to your benevolent and philanthropic mind.

“That this communication was not made at an earlier period, I trust you, Sir, will not impute to negligence or disinclination, as it was with the utmost pain and difficulty, I was able to carry on my experiments, from a very severe inflammation in my right hand, which commenced the very day after I had received the VIRUS, and totally incapacitated me from writing: and, indeed, I was also unwilling to hazard a report of its success until I had established it beyond the possibility of doubt, which, I am happy to say, is now the case.

“I have enclosed, Sir, for your information a list of those who have been VACCINATED, with the success attending it.

“It now remains, Sir, for such measures to be adopted as your wisdom may suggest, that may appear best calculated to carry your benevolent intentions into effect, in order to diffuse it as generally as possible:—From those in the Superior Ranks of Life, we may, I presume, calculate upon every support that example and precept can furnish; but it becomes highly necessary to impress on the minds of the poorer orders of people, whose ignorance renders

them but too susceptible of the grossest and most unfounded prejudices, the usefulness, safety, and superior advantages of this new plan of Inoculation. At the same time, I hope it will be managed with such judgment and discretion as will tend to keep it constantly alive: for there will always be a considerable risque of the VIRUS becoming effete from the length of time that must necessarily elapse in conveying it either from EUROPE or INDIA. This object can only, in my humble opinion, be obtained by Inoculating but a few at a time.

“I remain, Sir,

“With the greatest respect,

“Your HONOR's most obedient Servant,

“W. REDFERN.”

Mr. Redfern, who was evidently an enthusiast, appears to have received considerable encouragement in his good work, for the *Sydney Gazette* contained the following paragraph on October 29, 1809:—

“MR. REDFERN has already made considerable progress in the Vaccine Inoculation, having performed the operation upon a number of young persons in Sydney. Its success in for ever after preventing the small pox from taking place is universally established. No pain attends the operation; no danger, and no possibility of future blemish. What then would be the sensation of a parent, whose obstinacy had exempted their children from so great a blessing, should that most dreadful of all human scourges, the small pox, unhappily here be introduced, and the Vaccine Inoculation at the time extinct! It is the design of Mr. Redfern to visit the different settlements alternately, and thus to extend its benefits throughout the Colony. His exertions are liberally patronised; and it is sincerely to be hoped will meet with no impediment, as humanity, and more immediately the preservation of our children is its great and only object.”

Mr. Redfern acted for some time as Assistant Surgeon on the Civil Medical Establishment of the Colony.

V.—SMALLPOX AND VACCINATION BETWEEN 1809 AND 1830.

FROM the year 1809 until 1830 I can find very few references either to smallpox or vaccination in the colony. It would appear from the literature of the period, however, that the colonial surgeons succeeded to a marked degree in inducing the people to submit themselves

and their children for vaccination. Wentworth* tells us that after many failures to re-introduce the vaccine lymph, success at last crowned their efforts. "Through the indefatigable exertions of Dr. Burke, of the Mauritius," he says, "the colonists are again in possession of this inestimable blessing, and there can be no doubt that proper precautions will be taken to prevent them from being again deprived of it."

Smallpox does not appear to have caused any trouble among the inhabitants during this period. Heaton† says that the disease made its appearance in Sydney, July 25, 1825. I am unable, however, to verify this statement, and am inclined to think the date is inaccurate.

Cunningham,‡ a surgeon in the navy, who made four voyages to New South Wales, and who resided two years, at occasional intervals, in the colony, and travelled over a considerable portion of it, declared in 1827 that smallpox was then unknown in Australia.

Dr. John Frazer§ quotes a friend as saying, "When I arrived at Dungog, in 1840, I observed several oldish men deeply marked with traces of smallpox, and, on questioning them, I found that when they were young a fearful epidemic of this complaint had raged in the district and carried off great numbers of the aboriginal population. I was informed that, when the disease first appeared, they were camped at a place now called by the whites 'Black Camp Creek.' Here the disease was of a very virulent type, and, after a week or so, they were unable to bury their dead, and day by day kept moving onwards, leaving their dead on the ground. Before this the district was populous, but after it the blacks never recovered their numerical strength." These may have been some of the survivors of the epidemic of 1789, fifty years before. I am, however, inclined to believe that smallpox was, in the early days of the colony, an endemic disease among the aborigines.

VI.—THE EPIDEMIC OF 1830-31.

In the early part of 1830, Mr. Brown, of Wallerawang, heard of the existence of smallpox among the northern tribes, but he saw no cases until August, when he found five blacks near the Castlereagh River who were suffering from the disease. Two of these were in the early stages, and three were more advanced. One of these men was afterwards seen by Mr. Brown with

pits, like those of smallpox, on different parts of his body; and he ascertained that the others had died of the disease. Mr. Brown did not meet with any more cases of the disease till the beginning of August, 1831, when it manifested itself in three blacks who had been in close communication with some others, recently arrived from the Lachlan, and who had but a short time recovered sufficiently to be able to travel. These men stated that the disease had been raging in their part of the country, and that several had died of it. Some of the Wallerawang blacks, convinced of its contagious nature, had fled to the Emu Plains to escape infection. Three of their number, who afterwards returned, were seized with it.

The late Dr. George Bennett,|| writing about 1832, tells us that:—"About two years previous an eruptive febrile disease made its appearance among the natives of the Wellington Valley, resembling the smallpox in its principal characters. Some alarm was experienced in consequence among the Europeans, to whose children the disease had as yet been fortunately unknown. About a year after I was informed it prevailed among the aborigines of the Lachlan, Burragorang, and Cox's River, and I remarked that several of the blacks at Goulburn Plains, and also at other parts of the colony, had pits on their faces resembling those produced by smallpox, and which, they informed me, were caused by the disease in question. The name that this disease is known by among the aborigines is "Thunna, thunna," or Túna, túnna," and they describe it as being attended by sore throat, headache, and high febrile symptoms upon the day previous to the appearance of the eruptions; the latter were described to me as commencing in a similar manner, and passing through the same stages as is usual in smallpox, covering the face and all parts of the body, even to the soles of the feet and palms of the hands: it was also stated that adults were more covered with eruptions and suffered more severely from the disease than children, and the aggravation of the symptoms caused much mortality among them. Among the children it often occurred that only a few scattered eruptions would appear, and the febrile symptoms also assume a very mild character. No deaths occurred in these cases."

Dr. Bennett states that the blacks in the Wellington Valley did not regard the disease as of foreign introduction. They considered it contagious, and when one party was attacked by this formidable disease the others deserted them to avoid being infected. None of the children of the soldiers stationed at Wellington Valley

* "Description of N.S.W.," p. 57.

† "Australian Dictionary of Dates," 1879, p. 259.

‡ "Two Years in New South Wales," 3rd Edition, 1828, Vol. I., p. 171.

§ "The Aborigines of New South Wales," 1892, p. 62.

|| "Wanderings in New South Wales."

took the disorder, although the blacks about the settlement were suffering from it. These children had never had the smallpox, but they probably had been vaccinated.

Owing to the excitement produced by the prevalence of the disease, the Government appointed Dr. Mair, Assistant Surgeon of the 39th Regiment, to go into the interior and report upon the outbreak. Dr. Mair, unfortunately, arrived upon the scene too late to observe the progress of the disease through the different stages, but the information he procured has been quite sufficient to place the nature of the disease beyond doubt. Dr. Mair's report was substantially as follows:—At Wellington Valley the disease was first noticed in October, 1830, and continued to affect the blacks in that district until December. A convict, named George Clark, who had resided with the native tribes, far in the interior, for several years, stated that the disorder proceeded from the north-west coast, and spared none of the tribes as far as Liverpool Plains, attacking 20 or 30 at a time. The King, or chief, of the tribe among whom Clark had been naturalised, was first seized with it, and died. The plan of treatment followed in the case of the King was immersion in cold water. Four persons of less note underwent the same, and only one survived. The consequence was, that other medicinal measures were thought of, and the cold bath was abandoned. Scorching the hair from the head, pricking the pustules with a sharp-pointed fish bone, then squeezing out the fluid contained in them with the flat part of the instrument, was the next mode of cure adopted by the *Kradjee*, or physician. This operation is said to have suggested itself to him from the observation that the pustules burst spontaneously, and discharged whitish matter, in the first case of recovery.

Dr. Mair continues that the disease appears to have assumed a considerable variety of forms in different individuals, but the following symptoms may be taken as common to all of them:—For several successive days the patient felt languid, indolent, and oppressed, lost his appetite, suffered from headache, pain in chest or abdomen, and feverish symptoms. The usual duration of this incipient stage was from two to eight days. It was followed by an eruption of small red spots, resembling flea-bites, which generally commenced on the face, and gradually spread, more or less thickly, over the head, breast, and extremities. The tongue and lips were also involved in the eruption, and also, in many instances, the soles of the feet. When the eruption had fully developed itself, which gener-

ally occurred in 24 hours, a remission was observed to take place in the febrile symptoms, but the patient then complained of pain in the throat, and could only swallow liquids. The small red spots, or papules, were converted into vesicles or pustules, in periods varying from three to seven or eight days; the fluid contained in these vesicles or pustules was milky or straw-coloured. Scabs formed and fell off at different periods, according to the length of time occupied by the maturation of the vesicles or pustules. These were, occasionally, confluent on the nose and cheeks, and frequently left permanent marks or indentations on the skin. The usual duration of the disease was a fortnight or three weeks, but there was often extreme weakness after this. Death was said to happen generally about the third day after the appearance of the eruption. The tongue became much swollen and covered with livid spots, the breathing greatly oppressed, and deglutition impracticable. Secondary fever was seldom observed, but this is easily explained by the early fatality of the disease in the severe cases. Among the tribes to the north-west of the Liverpool Plains, the disease appears to have approached more nearly to the description of confluent smallpox, as met with in Europe.

There was some difference of opinion at the time as to whether the disease was smallpox or chickenpox. Dr. George Busby* in a letter dated Bathurst, 19th October, 1831, in referring to this epidemic, says: "I am, upon the whole, at present disposed to regard the eruptive disease lately prevalent among the black natives in this district as varicella, manifesting itself in a more aggravated form than it is known usually to assume, but possessing by no means a malignant character, nor likely, under ordinary circumstances of comfort and attention attainable in civilised society, to prove fatal in more than a few instances; the mortality it has occasioned among the blacks being sufficiently accounted for by the unfavourable circumstances in which they are placed." Dr. Mair, however, stated that the greater number of persons who had watched its progress, and who had also seen smallpox in England, pronounced it to be that disorder.

The epidemic of 1830-31 appears to have been felt in different parts of the colony.

Flanagan† says that "Towards the close of the year (1831) a cutaneous disease, similar to the smallpox, was prevalent among the aborigines in the northern parts of the colony. In October, a runaway prisoner of the Crown, from Moreton

* "New South Wales Medical Gazette," October, 1874, p. 26.

† "History of New South Wales," London, 1862, Vol. I., p. 364.

Bay, was brought, by some blacks, to Port Macquarie, and there delivered up to the authorities, a species of voluntary service which the aborigines frequently performed, for the Government, influenced, probably, by the feeling that to get rid of such persons was also a service rendered to their own tribes. It was observed that the skin of the man thus restored was much disfigured, bearing the marks of a recent disease of an eruptive nature. The blacks, having fulfilled their mission, went away, but after a few days' absence returned to the settlement, saying that they came from Trial Bay. They were now affected by the same disease which had produced such an alteration in the white man, two of them being covered from head to foot with an eruption having, in all respects, the appearance of smallpox. The infectious nature of the disease was soon placed beyond all doubt, for it spread with frightful rapidity among the Port Macquarie blacks, until scarcely an individual was free from the scourge, and in a very brief period large numbers died, while many of the warriors presented a hideous aspect. Every attention was paid to the sufferers, by order of the Commandant, Captain Smyth, at whose instance they removed from the settlement to the north side of the River Hastings, where they were supplied with such comforts as their pitiable state required, and the means of the settlement afforded. When questioned as to the origin of their affliction the natives insisted that the disease was introduced among their tribe by the white man whom they restored to custody; but, if this were true, it was strange—as, indeed, it was otherwise strange—that not one instance occurred wherein the infection communicated itself to the white population at the settlement. As far as possible, to prevent the spread of the disease, the Governor directed the surgeons of the colony to vaccinate, gratis, all who applied for that purpose, and the settlers were requested to induce the blacks to submit to the operation."

VII.—SMALLPOX IN 1830-1840.

Dr. John Fraser, to whom I have already alluded, has been kind enough to send me further particulars of smallpox in the Dungog district. He says: "The information you quote was given me many years ago by the late Dr. Mackinlay, of Dungog, who went there in 1840. He said that shortly before his coming there the blacks had been visited by a fierce wave of smallpox which so reduced their numbers that the tribe was never afterwards able to recover itself. The people died in such heaps that the survivors left the dead unburied

and moved on day by day, hoping to escape from the plague. Like the natives of India, under an epidemic of smallpox, they thought that a demon was destroying them, and so they fled from it. From another source I afterwards learned that the blacks on the east coast rivers—the Manning, the Macleay and others—suffered severely from smallpox about 1835. This probably was the same epidemic. The contagion may have come from the white people in this country, but it is also possible that these waves of destruction may have spread over our black tribes from north to south, taking their origin from the islands of the Malay Archipelago."

In the year 1877 smallpox broke out in Sydney and gained a footing on the shore. The alarm created by this outbreak was the occasion for a lengthy correspondence in the columns of the *Melbourne Argus*. That journal stated on January 19, 1877, that the natives of the Murray River suffered from the disease about forty years before. Mr. G. W. Rusden admitted that smallpox appeared among the Sydney blacks in 1788, and wrote as follows: "It was ascertained afterwards that the disease committed ravages in the interior to which the alarmed natives had fled. But it seems to have died out in the uncongenial atmosphere of Australia. It is not so plain that the disease was at the Murray 'some forty years or more ago.' It is true that in 1835 Sir Thomas Mitchell said of natives whom he saw near Fort Bourke, on the Darling, 'Most of them had had the smallpox, but the marks were not larger than pin-heads. I found that they had either seen or heard of Captain Sturt's party. It seemed to me that the disease which it was understood had raged among them (probably from the bad water) had almost depopulated the Darling, and that these people were but the remains of a tribe.' But Mitchell was mistaken as to the nature of the disease, as can be proved from Sturt's narrative, which was published in England in 1834, and was probably unknown to Sir Thomas Mitchell in 1835. Sturt saw the natives suffering from a cutaneous disease which was decimating the tribe, but he did not call it smallpox. On the 5th February, 1829, he and Hamilton Hume pitied the grief of an old chief who showed them 'several young men who had been attacked by this singular malady.' . . . 'It was evident their population had been thinned.' . . . 'Several of them carried fire-sticks under the influence of the disease, I have already noticed, while others were remarked to have violent cutaneous eruptions all over the body.' We cannot suppose that Sturt would

describe smallpox as a 'singular malady.' Again, in 1830, Sturt followed the course of the Murrumbidgee and Murray. He described the filthiness of the natives and their loathsome diseases, but he saw nothing like smallpox, and he and his companions were continually 'obliged to submit to an examination, and to be pulled about and fingered all over.' There was evidently no smallpox on the Murray 'some forty years or more ago,' though Sir Thomas Mitchell's book would lead a careless inquirer to think that there was."

Mr. Peter Beveridge quoted the following extract from a work published by him on Colonial Ethnology: "All the very old aboriginals in the colony show very distinct traces of smallpox, and in speaking of the scourge which has so indelibly left the marks of its foul presence, they say that it came with the waters, that is, it followed down the rivers in the early flood season (about July or August), laying its death-clutch on every tribe in its progress, until the whole country became perfectly decimated by the fell scourge. During the earlier stages of its ravages, the natives gave proper sepulture to its victims. At last, however, the death-rate assumed such immense proportions, and the panic grew so great, that burying the bodies was no longer attempted. The survivors who were strong enough merely moved their camps daily, leaving the sick behind to die unattended, and the dead to fester in the sun, or as food for the wild dogs and carrion birds, which battened to their hearts' content thereon.

"Ere long the whole atmosphere became impregnated with the fœtid odours arising from the multitude of decomposing bodies; and the poor natives began to think that not one would escape the dreadful air of dreaded death. At last, however, they became perfectly reckless, and cared but little whether they lived or died, that is, if death came to them by any other means than the pestilential scourge, but that manner of death was indeed a terror to them; and as self-destruction is not an aboriginal trait, they had to meet the King of Terrors in this his most filthy guise as best they could. From what we have been able to glean in our conversations with the natives on this scourge, we are inclined to think that it must have come from Sydney. And if about forty or fifty years since the inhabitants of that city passed through the ordeal of this plague,* there cannot be any doubt remaining on the subject of its origin.

"When the bright torrid summer displaced the moister weather of spring, the disease gradually died out, or had run its fatal course, leaving but a sorry remnant of the once numerous tribes behind; and it was many years before the panic then created was even partially forgotten. To this day old men of the tribes speak of the disease shudderingly, and with such an amount of loathing and horror as it is impossible for any other aboriginal evil to elicit from their inherent stolidity.

"This smallpox infliction seems to be the only occasion (at least they do not retain any record of others) upon which great numbers died together from the same cause; it is therefore small wonder if the survivors do look back on the abominable scourge with feelings of the intensest dread. The natives attribute the pestilence to the malign and magical machinations of tribes with whom they were not on terms of amity. This, however, is only a matter of course, since they ascribe all the ills with which Dame Nature smites them to the same source."

A correspondent signing himself "M.D." expresses his surprise that Mr. Rusden denies the existence of the disease on the Murray forty years or more before. "Of my own knowledge," he says, "I can testify there were two blacks who died on the Edwards River about six years ago—one of these (Charlie), the king of his tribe, was much marked by the disease; the other (Jamie Bogie) was not only much scarred by the disease, but blind also—both of whom said they had the disease upwards of forty years ago. Jamie Bogie, though blind, was one of the best divers and climbers in the tribe. Charlie always said that many black-fellows 'tumbled down' at that time. Had these men been alive now they would have been from about 54 to 57 years of age. From the above fact there can be no doubt the cutaneous disease Captain Sturt saw the blacks suffering from was smallpox, though he did not name it.

"The decimation the Murray river tribes suffered about forty years ago shows that this climate is not more antagonistic to the spread of this disease than any other climate. I believe the reason why the disease became extinct must be attributed to the fact that the blacks always shift camp on a death taking place, and never use the opossum rugs or weapons of the deceased."

Mr. Thomas Moulden wrote as follows:—"That smallpox decimated the aborigines dwelling below the great north-west bend of the Murray I can say positively, and I believe that the period of about forty years since is

*A note appended to this stated that since this was written Mr. Beveridge had learned that smallpox raged in Sydney about 18 or 1810.

correct. I have seen many natives whose faces were as deeply pitted as those so frequently met with in England sixty years ago.

"On the banks of the Murray, nearly opposite to Blanche Town, there was, about thirty-two years since, a native cemetery containing hundreds of graves of various sizes, and these it was said were the victims of a disease brought from Encounter Bay, a place much frequented by whaling ships long before the colonisation of South Australia, the distance from the one place to the other being about one hundred miles. The cemetery was on a large sandy flat, abounding with rare and beautiful blossoming shrubs. Each grave was enclosed by boughs, forming a rustic arbor, the sandy soil being heaped to a height of about eighteen inches over each body. There were at that time many natives living who had recovered from the epidemic and related the occurrence, but as there is an unsurmountable barrier to all native traditions from the inviolable rule of never speaking of the dead, all corroborative information must come from trustworthy white men."

Mr. Rusden, replying to "M.D.," stated that he had seen scores of natives pitted with what was called in the bush "native pock," and he had known its effects to be mistaken even by experts for smallpox. He did not think that Sturt and his party had seen smallpox without recognising it.

An anonymous correspondent, "W.," said that about thirteen years before, when on the Upper Dawson River, in Queensland, he saw many blacks whose appearance would lead any one to think they had had the smallpox. They were pitted all over with good-sized marks, and one of the tribe was deaf and dumb, from some cause said or understood to be the result of this disease. Again, when in charge of Barrow Creek Station, on the overland telegraph line, he had occasion to visit Tennent's Creek—a station 175 miles north—and there he saw many blacks, whose skin showed all the appearances of smallpox; and as the natives there wore no clothing whatever, the multitude of marks on some of them was astonishing. Here, again, he saw a deaf and dumb black man, whose skin was marked all over as if he had suffered from smallpox, but as he was not a professional man, and for the further reason that converse with the Tennent's Creek blacks was out of the question, perhaps these marks were caused by something else. In any case, the marks were precisely like those left on the skin after recovery from the disease, and as far as "W." could ascertain, were caused by smallpox, or something very like it.

Mr. Rusden, steadily holding the opinion that the disease referred to was not smallpox, replied to the former correspondents: "The place referred to by Mr. Moulden is below the great north-west bend of the Murray. Of that locality we have an intimate knowledge from the works of Captain Sturt and Mr. Eyre. Sturt, forty-seven years ago, saw much of the aborigines in that region, and was handled by them over and over again. I am resolute in believing that he and his companion, Sir George McLeay, would not have endured such treatment if smallpox had existed then amongst the natives."

"The acquaintance of Eyre with the aborigines has been equalled by very few persons indeed. Thirty-seven years ago he became an explorer in South Australia. In 1841 he was appointed resident magistrate of the Murray district, where he resided about three years with great advantage to the natives, to the colonists, and to science. His report was as follows: 'A disease very similar to the smallpox, and leaving similar marks upon the face, appears formerly to have been very prevalent, but I have never met with an existing case, nor has Mr. Moorhouse (Protector of Aborigines in Adelaide) ever fallen in with one. It is said to have come from the eastward originally, and very probably may have been derived in the first instance from the Europeans, and the infection passed along from one tribe to another. It has not been experienced now for many years.'" In a further letter Mr. Rusden says: "Mr. Eyre says it (smallpox) went to South Australia from the eastward. Mr. Beveridge says it descended the rivers from the East Coast Range. That it was not in existence on the Upper Murrumbidgee forty or even fifty years ago is well known. There were cattle stations on that river near Gundagai nearly fifty years ago. Hume passed through the district in 1824, Sturt in 1830. The very old blacks, seen when Mr. Beveridge commenced his researches thirty-two years ago, would easily remember the plague they saw in the end of the last century. It was in 1789 that smallpox was carried across the mountains. Introduced by the French in January, 1788, its ravages did not prostrate the Sydney tribe until early in 1789. It would therefore be expected that not till towards the end of the century would distant tribes in the interior suffer in like manner. I think Mr. Beveridge has been misinformed as to the raging of smallpox in Sydney in 1829-30. It was not among the aborigines then. They had been almost all improved off the face of the earth by other marks of civilisation. Newspapers of the day

will prove whether it came at that time by ship, and was arrested (as it was here some years ago) by vigorous measures."

VIII.—ON THE MURRAY RIVER AND ITS TRIBUTARIES.

Mr. E. M. Curr, a well-known student of the aborigines and their customs, at this stage of the correspondence wrote an interesting letter to the *Argus*. Speaking of the epidemic of 1789, he said: "In addition to Collins, Hunter, Barrington, and Wentworth give more or less full accounts of the horrors which occurred on the occasion, and of how such of the blacks as had not yet been stricken down fled to the interior to escape the destroyer, bearing about them inevitably the seeds of a wider destruction. With the flight of the survivors, however, we lose for the time all traces of them and the disease, our countrymen at the period not having yet left the margin of Sydney Bay. The immediate result to the whites, however, of whom only one had succumbed,* was the importation of vaccine matter from England.

"The next record we have of smallpox, though it was not recognised as such, was in 1829, when Sturt relates that the blacks on the Darling, a tributary of the Murray, were suffering from what he terms a 'singular malady, which showed itself in the form of a violent eruption all over the body.' Sir Thomas Mitchell, however, who followed Sturt to the Darling in 1835, recognised by its traces as smallpox the disease which had puzzled Sturt in its active form. Both authors agree, however, as to the great mortality which it had occasioned among the tribes, as Mitchell says, 'almost depopulating the Darling.' In 1831 Sturt made his celebrated exploration of the river Murray, and in his account of the trip refers on several occasions to certain virulent diseases from which the numerous tribes he met were suffering. On one occasion he says 'leprosy of the most loathsome description, the most virulent cutaneous eruptions and glandular affections, absolutely raged through the whole of them.' Now what was this leprosy, this virulent cutaneous disease of which no one has ever heard since? Would Sturt have known leprosy if he had seen it? What has become of it? All that we know is that ten years after Sturt's gallant whaleboat voyage, Eyre resided on the Lower Murray, and recorded the facts that a 'disease very

similar to the smallpox, and leaving similar marks upon the face, appears formerly to have been very prevalent, but I have never met with an existing case. . . . It is said to have come from the eastward originally.' Here we have a second instance of Sturt's failure to recognise smallpox, and of another who came after him doing so. In confirmation of Eyre's statement we have also that of Taplin, who, speaking of some of the Lower Murray tribes, says: 'They have a tradition that some sixty years ago a terrible disease came down the Murray and carried off the natives by hundreds. This must have been smallpox, as many of the old people now have their faces pitted, who suffered from the disease in childhood. The destruction of life was so great as seriously to diminish the tribes.' Hence we see that in one direction at least, smallpox found its way from sea to sea. That such was the case I have never known anyone to gainsay, except Mr. Rusden, who reiterates that at that time smallpox did not exist on the Murray, his argument being that had it existed, Sturt and McLeay would not have allowed the sufferers as they did, 'to pull them about and finger them all over.' Setting aside an argument which can have no force whatever until it has been shown that Sturt was acquainted with the appearance of smallpox, which there is every reason to believe he was not, it may be remarked that Mr. Rusden invites us to believe that though the explorers 'would not have endured such treatment (*i.e.*, pulling about and fingering) if smallpox had existed among the natives,' the explorers had no objection to the friendly hug of mere leprous savages, a peculiarity of taste which it is strange to see extending to a whole party.*

"In conclusion, I beg to remark that towards the close of 1841, or the beginning of 1842, being then resident with one of my brothers close to the junction of the Goulburn and Murray, we saw a blackfellow absolutely suffering from smallpox. I need hardly add that a large number of blacks in the neighbourhood had faces pitted, furrowed and distorted with smallpox. A few of these probably yet remain. As regards 'native pock,' unless a sort of pustular itch from which both the blacks and their dogs used to suffer, be indicated by the term, I may frankly confess that I never saw during my thirty-five years' experience anything among them to which I can suppose it to refer."

There were several other letters published

*This is undoubtedly an error. A seaman on H.M.S. Supply died of smallpox in 1789, but he was a North American Indian, not a white man.—G. L. M.

*Dr. Ashburton Thompson (*History of Leprosy in Australia*, 1897), is of opinion that the "leprosy" mentioned by Sturt was not true leprosy. He remarks (p. 26-26), "I suppose the probability is that the writer had *lepra vulgaris*, or merely some repulsive disease of the skin, in mind."

in the Melbourne *Argus* during January and February, 1877, on this subject, but I think I have quoted sufficient to prove that smallpox was rife among the aborigines on the Murray River between 1830 and 1840.

The blacks were undoubtedly familiar with smallpox, as the following extracts from works published about this time show:—

"Darawirgal, a brother of Baiamai, lives in the far west; it is he who lately sent the smallpox among the natives for no better reason than that he was vexed for want of a tomahawk."^{*}

"Mahroot, a native of Cook's River, says, 'Dibble-dibble is all over smallpox like.'"[†]

IX.—SMALLPOX IN RECENT YEARS.

Smallpox seems to have entirely disappeared from the Australian Continent between the years 1840-1877. Contemporary literature does not refer to the disease, so far as I am aware.

On December 12, 1876, a case of smallpox was discovered on board the s.s. *Brisbane* after her arrival in the port of Sydney. The vessel was immediately taken charge of by the police, and as soon as possible removed to the Quarantine Station at Spring Cove. The patient was landed on December 13, and died the following day. On the 18th December another case appeared on the boat. This was landed and isolated. All communication between the ship and the shore had ceased on the vessel being placed in quarantine. On the 30th of the month a case of smallpox appeared in a house on the wharf, almost immediately adjoining the wharf where the s.s. *Brisbane* had been berthed. The whole of the wharf, with all the buildings upon it, and those in the immediate neighbourhood, were immediately declared to be in quarantine.

On January 10, 1877, two girls named Holden, residing at Miller's Point, near the wharf where the *Brisbane* had berthed, showed symptoms of the disease. All the occupants of this house were removed to the hospital-ship *Faraway*. These two girls died, as did two more members of the same family, who were subsequently attacked.

During January, 1877, some cases of smallpox appeared on board H.M.S. *Wolverine* and *Sappho*. These were placed on board the hospital-schooner *Conflict*. In speaking of these cases, the *Sydney Morning Herald* of January 25, 1877, said: "With regard to the appearance of the disease on board the ships of

war, it is said the War Authorities have obtained information which leads to the opinion that the sailor first attacked on board the *Wolverine* had been in contact with the Holden family at Miller's Point. All the other seamen who have got the disease are supposed to have taken the contagion from this man. There is, however, another theory to account for the sudden appearance of the disease. The *Wolverine* left England with a clean bill of health, but it is suggested that the disease may have been conveyed by some of the shore clothing of the men, packed by persons who were unfortunately infected with smallpox. There is said to be a well-authenticated case on record where smallpox broke out on board an immigrant ship after she arrived in port, and the boxes that had been stowed in the hold were brought up and unpacked. It is stated that the seeds of contagion might remain dormant under such circumstances for several months, and then at last break out."

No further cases appear to have broken out, and the epidemic was soon at an end.

On the 25th May, 1881, a child named On Chong, living in Lower George-street, Sydney, was reported to be suffering from smallpox. The source of infection was obscure. The house and premises were placed in strict quarantine, and no further case was notified for a period of twenty days, when the disease appeared simultaneously in Surry Hills, Cumberland-street, Waterloo, and Circular Quay. A second period of twenty days then elapsed before the disease again showed itself, when between July 5 and 15 it appeared in seven houses, each situated in a different locality. From the middle of July, 1881, to the end of January, 1882—a period of about 200 days—121 cases occurred in different parts of Sydney and suburbs. Between May 25, and September 2, 1881, the disease occurred in the following localities:—Lower George-street, Surry Hills, Cumberland-street, Waterloo, Queen's-place, Druitt Town, Glebe, Sussex-street, Fowler-street, Macquarie-street South, Ultimo, Croydon, Woolloomooloo, Alexandria, Clarence-street, Barker's-lane, and Pyrmont. The disease principally attacked the labouring classes, including two Chinamen. There were in all during this epidemic no less than 154 cases of variola. Of these 114 recovered, and 40 died.

In the year 1881, the Infectious Disease Supervision Act (45 Victoria, No. 25) was passed. Power was given to the Governor to appoint a Board of Health, consisting of not less than six persons, to carry out the provisions of the Act. The first Board was composed as follows:—The Mayor of Sydney (Alderman

^{*} U.S. Exploring Expedition, 1838-42.

[†] Report of Select Committee of Council, 1845.

John Harris), Chairman ; Drs. C. K. Mackellar, Alfred Roberts, and A. A. West, Mr. J. Barnett (Colonial Architect), Mr. E. Fosbery (Inspector-General of Police), the Hon. Geoffrey Eagar (Under-Secretary for Finance and Trade), with Mr. R. M. Ross as Secretary of the Board. About this time the Sanatorium at Little Bay was proclaimed a smallpox hospital, under the charge of Dr. J. A. Beattie.

The *Australasian Medical Gazette*, January, 1882, reported that a case of smallpox had occurred at Bega, 255 miles south of Sydney. It was supposed that a relative of the patient, only recently returned from Sydney, where she had resided next to an infected house, had carried the infection to the district.

In 1883 the disease again made its appearance. The first case showed itself on August 23, and from that date to September 16 fourteen cases were removed and isolated from time to time. An interval of six weeks then ensued, but on October 25 another case was reported. An infant ten months old, in the same house, then developed the disease on November 1. The disease was not recognised, and in consequence the other members of the family were allowed to continue their usual occupations. The result was as follows :—“ Two of the patient's sisters and a brother attended the Crown-street Public School, which is the largest in the colony, during the whole of his illness, ceasing their attendance only on the twentieth day of it. These three children were in three different classes, and in each class cases of smallpox arose, namely, in one class two girls, in another (infants) a girl and a boy, and in the third one boy, were seized ; and in addition a girl was attacked who was not in any of these classes, but who was exposed to contact with J. C.'s (the infant) sisters during play hours. The adult members of J. C.'s family carried the infection to five other households, a member of one of which fell sick while at Moss Vale, a hundred miles from Sydney, and there infected the resident whom she was visiting. Yet two other families were infected by this child, but under slightly different circumstances ; one, residing at Leichhardt, was infected through the father, who was summoned to J. C.'s to pursue his trade in the very room in which the latter lay sick ; and two persons fell ill in the house next door to J. C.'s. Thus from this single case were infected no less than thirteen distinct households, and nineteen different persons, of whom one died.”*

I believe that the cases enumerated above are the only ones which have ever appeared within

the metropolis. Cases have entered the Heads on shipboard at various times, but they have been immediately quarantined at North Head, and the disease did not gain a footing on shore.

X.—VACCINATION STATISTICS.

Among the Parliamentary Papers for 1868-69 is to be found a despatch from the Duke of Buckingham, Secretary of State for the Colonies, transmitting the Imperial Vaccination Act, 1867, and suggesting that it might seem desirable that a like measure should be enacted for New South Wales. For some reason this suggestion has never been acted upon to the present day, probably owing to the fact that smallpox has never become a scourge in our midst.

The following table shows the number of births during thirty-six years from 1861 to 1896, and the number of vaccinations performed by Government Vaccinators during the same period :—

Year.	Births.	Vaccinations.	Proportion of Vaccinations to every 100 Births registered.
1861	14,681	2,349	16·00
1862	15,434	3,155	20·44
1863	15,679	12,970	82·72
1864	16,881	10,696	63·36
1865	17,283	8,367	48·41
1866	16,950	7,606	44·87
1867	18,317	6,931	37·83
1868	18,485	11,237	60·79
1869	19,243	21,507	111·76
1870	19,648	7,084	36·54
1871	20,143	6,482	32·16
1872	20,250	17,565	86·74
1873	21,444	3,152	14·69
1874	22,178	4,832	21·78
1875	22,528	3,111	13·80
1876	23,298	4,361	18·71
1877	23,851	16,881	70·77
1878	25,328	3,512	13·86
1879	26,933	5,569	20·67
1880	28,162	5,029	17·85
1881	28,993	61,239	211·21
1882	29,702	2,188	7·36
1883	31,281	882	2·81
1884	33,946	7,055	20·78
1885	35,043	2,230	6·36
1886	36,284	1,763	4·85
1887	37,236	3,230	8·67
1888	38,525	2,186	5·67
1889	37,295	2,404	6·45
1890	38,960	2,197	5·64
1891	39,458	1,567	3·97
1892	40,041	4,014	10·02
1893	40,342	2,547	6·31
1894	38,952	1,957	5·02
1895	38,715	2,437	6·29
1896	36,613	945	2·59
Total ...	988,102	258,821	—

*Report of Medical Adviser to the Government on Vaccination, 1884.

There is reason to believe that the number of vaccinations made by private practitioners would not materially alter the above figures.

New South Wales is the only Australian colony in which a Compulsory Vaccination Act has never been put upon the Statute Book.

XI.—CONCLUSION.

In writing this short history of smallpox and vaccination in New South Wales, I have di-

rected attention chiefly to the early appearances of the disease, and to the introduction of vaccination. I have not attempted to write a complete history, but if my articles have been the means of creating an interest in the origin of Australian diseases I shall feel that my work has not been in vain.

Further information on the events of the past fifteen or sixteen years is to be found in the Annual Reports of the N.S.W. Board of Health.

