itself. The case teaches us, especially where there has been great loss of blood, to try and prevent anything like the excitement of talking, laughing, or any movement on the part of a patient until a thorough consciousness and recovery has taken place.

I was mentioning this case to my friend Dr. Squarey, and he called to my recollection an instance where he administered chloroform for me, and where a dangerous syncope came on during the operation and alarmed us much. It appears that in this case I was very late with my appointment, and the patient had been walking up and down the room for an hour previously in a state of great mental excitement. In both of these cases the conditions which led to the alarming syncope could be prevented; and, from what I have myself observed, I cannot help thinking that in most instances the deaths from chloroform may equally be prevented by due preparation and care in connexion with its administration, and it is especially important to exercise this caution now that efforts are being made to create alarm both with the profession and the public in respect to chloroform as an anæsthetic.

Wimpole-street.

ANIMAL VACCINATION.

BY HENRY BLANC, M.D., F.R.G.S.,
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SOME three years ago I was allowed the privilege of laying before the numerous readers of THE LANCET the results of my experiments on the vaccination of heifers with spontaneous cow-pox. I venture again to claim the impartial hospitality of THE LANCET to record what experience has since then taught us, and with this view I will simply narrate what has taken place in India, and leave it to the medical public to judge for themselves. I have no intention nor desire to open again a discussion on the grounds which, according to my views, made animal vaccination a necessity in a land where vaccination is compulsory. I will only notice that one of the points on which I claimed the acceptance of this mode of vaccination—namely, the possibility of the transmission of disease through humanised vaccine lymph—has since that date been decided in my favour. The facts laid before the Royal Medical and Chirurgical Society have proved that, in England also, syphilis can be transmitted by arm-to-arm vaccination, and although an exceptional occurrence, it can but speak in favour of a system free from this very serious objection.

In October, 1869, I returned to my duty in India. From the last heifer I had inoculated in London (September, 1869) I charged some tubes and some large ivory points. Both tubes and points were packed in a small wooden box, and the box itself wrapped up in several layers of cotton and placed in the centre of a large trunk. In December, 1869, assisted by Dr. Pinkerton, the able Superintendent-General of Vaccination, Bombay Presidency, and by Dr. Anunta Chaudroba, the local Superintendent of Vaccination, Bombay, I inoculated carefully a heifer from the points and tubes I had brought with me. All the inoculations made with the lymph in tubes failed; fortunately almost all the points gave a successful result. From this heifer I inoculated a second one, and, finding the result highly successful, I made over the work to Dr. Anunta Chaudroba, as my official duties called me elsewhere.

I must say, that in Bombay no man could have succeeded so well as Dr. Anunta. He is a well-educated native gentleman, and by birth a high caste Brahmin; this position gave him a considerable influence over his countrymen, and any objections that might possibly have been raised by the natives against this use of their sacred cow were at once silenced when the sanction to this practice was publicly given by one of the most esteemed of the leaders of the Hindoo community.

The following extracts are taken from Dr. Anunta Chaudroba's report for the year 1871-72. It is the latest issued. Some delay must have taken place in its publication, as the Government resolution on the Vaccination Report for 1871-72 is dated the 17th January, 1873.

Dr. Anunta Chaudroba says:—"At the commencement of the past year an epidemic of small-pox was raging with some severity all over the island. Two European officers in high position died from the virulence of the poison. This circumstance frightened the European community into getting themselves revaccinated. Very many from amongst them were accordingly operated upon, for the most part successfully. The *employés* of the dockyard, the officers and crews of the *Magpie*, *Tamnd*, *Dalhousie*, and others, were also revaccinated. Altogether the number of revaccinations amounted during the year to 3543, of which 1510, or a percentage of 50.16, were successful, 1500 failures, and in 533 the results could not be ascertained. In the instance of the *Magpie*, the officers and crew were operated upon in two batches. The first batch consisted of 51 persons; of these some 42 took the disease, and in many of them the vesicles were almost as good as of primary operations. Before the result of the second batch could be ascertained the vessel sailed away to its destination, the Persian Gulf.

"The lymph in use throughout the year was of the best quality. Animal vaccination does not only give us an abundant supply of excellent lymph, but has made us quite independent of any assistance from the mofussil, which formerly was always indispensably necessary during every hot and monsoon season. Several tubes of English lymph were supplied by the Superintendent-General of Vaccination. With one exception they all proved successful; but as our own lymph was good and genuine enough not to require any replacement, no care was taken about it.

"We have been singularly successful with our animal vaccination during the past year. Some 130 heifers were inoculated, and, with two or three exceptions only, they were all successful. Of the two failures one occurred in a heifer inoculated on Wednesday, the 12th of April, 1871. The heifer was healthy-looking, the skin was pretty clean and clear, and the lymph used to inoculate with was partly fresh and partly preserved in capillary tubes. The other failure occurred in a small heifer inoculated on the 8th day of May, 1871. In this, however, the skin was much irritated and abraded, and, consequently, the lymph, though fresh, could not have any effect. With these two exceptions, all the operations proved successful, not in the animals alone, but their lymph took well in the human subject. The following table shows the number of heifers inoculated in each month, with the result of the operations:—

	1871.										1872.			
	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	Total	
No. of heifers inoculated	16	16	14	8	6	7	6	10	8	8	11	20	130	
Operations:														
Successful	15	15	14	8	6	7	6	10	8	8	11	20	128	
Unsuccessful	1	1	0	0	0	0	0	0	0	0	0	0	2	

"Out of the 12,094 primary operations, 8200, and almost all the revaccinations, were performed with animal lymph. Of the 8200 primary operations, 7324 were successful, giving as a percentage of success 89.3. The amount of success I can consider to be fair for the time that animal vaccination is carried on. I have no doubt, however, that with increasing knowledge of, and acquaintance with, the subject, the results would go on improving. The lymph, however, continues to be as capricious in its effects as before. What appears to be excellent lymph, and derived from a genuine-looking vesicle, often fails. Not that this failure is complete. Out of some 10 or 12 vaccinated, perhaps one or two only take, and then only in one or two places; but the lymph from these vesicles is as effective as could be desired. In other instances, what appears to be indifferent lymph, from dried-looking vesicles, proves successful in every case in which it is used. Why this is so I have not been able to ascertain, nor would I be in a position to do so satisfactorily till I shall have had an opportunity of personally seeing and watching every case operated on with this lymph. Then only can any deductions be drawn, and any systematic rules of practice, based on scientific principles, be framed for future guidance. Compulsory vaccination and inspection alone can assist us in this respect. In the meantime it is enough for the authorities to know that an experience of twenty-eight months has fully convinced me that animal vaccination has done a great amount of good to Bombay

and is capable of doing the same, almost to an unlimited extent, in future, and that it has become a necessity which cannot at all be dispensed with.

"All opposition to the use of animal vaccine lymph, from every quarter, has completely ceased, and all receive it not quietly, but eagerly — a tacit acknowledgment of its superiority. Scarcely a single European child is vaccinated except with animal lymph.

"During the year under report Dr. Warlomont, of Brussels, was kind enough to send me three supplies of animal lymph, of 12 charged points each. I am sorry to say that, unfortunately, none of them proved successful; though all the three supplies that were received from him through Dr. Blanc, in the year preceding the one under report, had proved successful. The comparative smallness and insufficiency of the municipal grant for animal vaccination compelled me to use this lymph in heifers, a part of whom was inoculated at the time with fresh lymph, as it was difficult to spare separate ones for this lymph alone. I do not, however, believe that this circumstance had anything to do with the failure. I have, however, carefully secured some points, and, as soon as the small-pox season is over, mean to use this lymph in a heifer by itself."

From the above extracts we may conclude that, to some extent, animal vaccination is expensive, and may offer some difficulties in its application; but these very trifling drawbacks are largely compensated by its many and great advantages. Applied to large cities, it is an admirable system of vaccination; and I am convinced that, if encouraged in London and supported by Government, as it has been by the Bombay municipality, it would be much appreciated, and remove any prejudice that still exists against the glorious discovery of Jenner.

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SIX CASES OF NON-IMPACTED COLLES FRACTURE; WITH REMARKS.

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I SHOULD not have ventured to add to the already extensive literature on the subject of Colles' fracture but that I hope the following cases may contain some points of interest. They are selected from many cases of this fracture that I have attended at St. George's Hospital during the last twelve months, and my excuse for the scantiness of the notes must be the hurry and want of leisure attendant on the practice of a large hospital.

CASE 1.—Ann R——, aged sixty-nine, was admitted into St. George's Hospital on Oct. 21st, 1872, with an injury to the head and double Colles' fracture, the result of a fall downstairs. Crepitus and preternatural mobility were present in both radii. There was no displacement of the bones at either wrist. In the left wrist much blood was extravasated. An anterior and posterior straight splint was applied to each wrist. The patient, however, died of the head injuries on Oct. 27th. Post-mortem examination showed comminuted fractures of the lower end of both radii.

CASE 2.—Ann S——, aged seventy, applied at the hospital Dec. 13th, having fallen down some stone stairs. There was preternatural mobility and crepitus at the lower end of the right radius; no displacement, but a good deal of swelling. The forearm was put up in two straight splints.

Jan. 11th.—Union is firm; all four movements of wrist easy. To leave off splints.

March 12th.—Movements free; wrist rather swelled, with a prominence of the lower end of the ulna inwards.

CASE 3.—Honora C——, aged forty-two, came to the hospital Feb. 14th, 1873, having fallen down on to her right hand. She had a fracture of the lower end of the right radius, apparently one-half or three-quarters of an inch above the joint. The characteristic curve was very well marked, and crepitus could be easily produced. Was treated with two straight splints, the hand being adducted. In March there was good movement, the wrist being only slightly swelled.

CASE 4.—Ann W——, aged sixty-three, presented herself for treatment on Feb. 17th, also having fallen on to her hand. There was fracture of the right radius about three-quarters of an inch up. The characteristic curve was very slightly marked, and crepitus could be easily produced. Treated with two straight splints.

March 17th.—Union firm; motions free; no displacement; some thickening about the joint.

CASE 5.—Rose R——, aged sixty-three, fell on to her left hand, and applied April 15th with a fracture of the left radius about three-quarters of an inch above the wrist-joint. There was distinct crepitus and mobility, but no distortion. It was treated as the preceding, but no further note was made.

CASE 6.—Elizabeth H——, aged sixty-three, came to the hospital on June 4th, 1873, with the history of having fallen downstairs. She had a fracture of the lower end of the right radius, accompanied with crepitus and well-marked curve. The distortion was easily reduced and put up in two straight splints with the hand adducted.

Remarks.—The following points may be noticed in the above cases.

1. The patients were all women, and, with one exception, over sixty years of age.

2. In all, crepitus was produced without any force being used, showing the absence of impaction.

3. The characteristic displacement was well marked in Cases 3 and 6, very slightly so in Case 4, and was absent in the rest.

Here, then, we have six cases of non-impacted Colles' fracture occurring, five of them in women over sixty, and one at the age of forty-two; of the five, one accompanied by marked, and one by slight, distortion; there being in the younger patient well-marked displacement. There was nothing peculiar about the causes of the injuries. Colles' fracture is well known to be very common in old women (Holmes's System of Surgery, last edition, vol. ii., p. 795), neither is non-impacted fracture of the lower end of the radius of itself an uncommon occurrence. The point, however, to which I wish to draw attention, having regard to the above cases, is the not unfrequent occurrence in women at an advanced age of non-impacted Colles' fracture, frequently without, but sometimes with, displacement of the bones. From the comminution seen after death in Case 1, it may be conjectured that the fracture was of a similar nature to some of the other cases; and how far this would influence the bones, as regards displacement or not, I am unable to say. The notes of the cases are not sufficiently full to justify any conclusion as to the results of the treatment; but, as far as I have seen, the termination is in these cases more favourable, as a rule, than in ordinary impacted Colles' fracture.

P.S.—Throughout this article the term "Colles' fracture" is used simply to designate a fracture of the lower end of the radius, whether this application of the term be strictly correct or not.

APHASIA THE SEQUENCE OF TYPHOID FEVER.

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IN a recent paper on Aphasia published in THE LANCET the writer states: "Among English authors I have been unable to find any observations on transient aphasia, or on aphasia unaccompanied by paralysis; nor in treatises on fever and on diseases of the nervous system, as far as I have been able to ascertain, is this condition mentioned as one of the results either of enteric fever or any other acute disease." The following is a complete answer, as it is a condensed history of a case of aphasia occurring during the latter stage of enteric fever. The particulars of the case were published by me at the time, but not the result.

A fine intelligent girl contracted, in common with other members of the family, enteric fever. The fever commenced in the ordinary way, but on the seventh day her speech left her entirely. She lay like a statue, taking food and medi-