

success is met with. When the vesicles have a bluish-white, shining appearance they are at their fullest degree of perfection. I trust a Government allowance may yet be granted to enable ample provision to be made for carrying out successfully the details of this process of production of animal lymph, and that the profession will avail themselves fully of its unquestionable advantages offered.

*Animal vaccination* is the national method in France and Belgium, and has been introduced in Berlin, Vienna and St. Petersburg in Europe; and for some time past in Boston, New York, and Philadelphia, in America;—an adoption in a number of widely separate and influential points difficult to account for on other than the real advantages which attach to it. The two most prominent of these seem to be: 1st, the absolute security which it affords against all kinds of human blood contaminations; avoiding all possibility of syphilization, that standing menace of every vaccinator who ventures the use of humanized virus; and, 2nd, the greater degree of protection which it affords as a prophylactic against the contagion of variola; respecting which M. Lanoix says: "For twenty years past epidemics of small-pox in Naples have never acquired any great severity; and it is an opinion held by the inhabitants that persons vaccinated with animal virus are not now exposed to danger from small-pox, like those who in their infancy were vaccinated from arm to arm."

I confess I should be glad to see animal vaccination established on a firm basis in this country,—where we have the reputation of nursing small-pox, as Cleopatra did the serpent, in our bosoms, in order that it may have a fair opportunity of striking its deadly infection into our very vitals or those of our children,—as a preventive against small-pox. I am convinced there is none equal to it; and I believe that such good would flow from it that practitioners desirous of imparting the fullest protection to their patients could have recourse to the vaccinated heifer for their supply. If the public and private vaccination of the City of Montreal were done with animal vaccine only for a few years, I believe the insusceptibility that would be created would result in the effectual riddance if the city of this foul pestilence altogether; for it is my implicit belief that the great susceptibility of our population to small-pox, shewn during the past few years, can only be justly attributed to the insufficient protection afforded by the long humanized and deteriorated vaccine matter, which has been used for so many years; and

which, by repeated transmission through thousands of systems, had become enfeebled and virtually worthless as a prophylactic agent. Having obtained lymph from the animal, it is well to understand its peculiarities and wherein it differs from humanized lymph, or the lymph from the human subject, to the end that we may have an intelligent appreciation of the precautions necessary to ensure successful results in its use. It is more *plastic* than the human; in fact, animal vaccine is contained in animal albumen, or is so mixed with it as to give a viscid glairy fluid which dries upon the ivory point as a thin film or varnish like isinglass; which is not readily soluble in the serum or blood which exudes upon the arm in vaccinating; but requires that the precaution be observed to dip the point in cold water previous to use, to soften the albuminous film thereon; after which, it may be rubbed thoroughly over the scratches with the certainty that it will be rubbed into the wounds, that the wounds will be infected thereby, and the infection become absorbed into the system and produce its characteristic results. 80 per cent. is a good proportion of success with this lymph. Humanized lymph is more readily soluble, hence fewer failures follow its use in general practice. Success here should not be less than 90 per cent., but the difference in the character of the lymph being known, I am satisfied my colleagues will become as successful in its use as elsewhere. The earlier any lymph is used, the more certain the results and the more satisfactory. Failure with properly collected animal virus of a proper degree of freshness is a very rare circumstance indeed; always supposing it is *used properly and with due care*. Herein all the merit lies; the fault is not with the *animal virus*, but with *the men that use it, and the manner of its use*. Although a lack of knowledge on the part of a propagator of the *peculiar state* of the vesicle in the heifer, and period at which virus exists in its most perfect condition, has no doubt caused the issue of virus at times which did not possess the necessary degree of activity; this defect a propagator will very soon become painfully aware of by having his lymph returned as *inert*.

One word in reference to the Longue Pointe stock of vaccine virus and I have done.

Owing to Professor McEachran's prognostication, that an epidemic of cow-pox would probably follow that on the horses in the spring of 1877, I was on the lookout for it, and made known my object to some of my colleagues, among others Dr. Hingston. Learning from Mrs. Leney of Longue Pointe of