3rd. A vesicle without an areola.

None of these afford any security against small-pox.

Three causes were suggested to account for the failures: 1st. From matter having been taken from a spurious vesicle, or from a genuine vesicle at too late a period. 2nd. From a patient being seized soon after vaccination with some contagious fever, as measles, scarlatina, &c. 3rd. From the patient having been affected at the time of inoculation with some chronic skin disease, as tinea, lepra, &c. These eruptions always disappear after vaccination. And.

4th. It has been supposed that in arm-to arm vaccination puncturing the vesicle in order to take lymph from it, by disturbing the process of development, may destroy its prophylactic influence.

It must, therefore, be manifest that some test should be adopted whereby we can ascertain whether the system be protected.

Two have been proposed: *First Boyce's test* or a re-vaccination on the tenth or twelfth day after first. If the system be protected no regular vesicle can be produced, only a vaccinal sore will result.

Second, variolation, or inoculation with small-pox virus. If the system is protected this may produce a small pustule, wholly unattended with constitutional fever; sometimes a slight febrile action may be excited, attended with an efflorescence of the skin, which rapidly disappears, but without any pustule. If performed nine days after vaccination it will not be a fair test, its action then being nil.

Another objection to the use of humanized lymph of any remove is its liability to convey syphilis. This is no myth, but a reality against whch we must guard.

In large cities and more densely populated rural towns, it is impossible to be certain that any given child is free from the taint of syphilis, in view of the frequency with which young men become syphilized, and at a later period become fathers o families. No treatment can eradicate the tain from the system, and therefore no such person can propagate a perfectly healthy offspring.

In large cities and more densely populated rural towns it is impossible to be certain that any given child is free from any taint of syphilis, seeing the frequency with which young men (who later become fathers of families) become syphilized, and, after undergoing a course of treatment, more or less effective, marry, reproduce themselves, and inevitably impart to the offspring whatever blood taints were lurking in the parent constitution.

This, by means of vaccine lymph, may be spread to large numbers, if proper precaution be not taken to avoid it, and no amount of care can guard against such a danger where humanized lymph is made use of for public or extensive vaccination.

My friend, Dr. Robillard of Montreal, relates an experience of his with some tubes of lymphs obtained from a druggist in Liverpool purporting to be from the Royal Vaccine Institution, England, by which two or more children were syphilized and required subsequent constitutional treatment to restore them to health again.

Mr. Hutchison publishes illustrated plates of *Vaccinal Syphilis* occurring in eleven out of fourteen *Vaccinces*, vaccinated from a child carefully selected at one of the stations of the English National Vaccine Institute. Ten had chancre on both arms, one on a single arm, and three escaped.

I was once called upon to treat a case of syphilitic lepra on a child which a senior practitioner had vaccinated a year previous, since which time the child had never been well. I treated it constitutionally and the symptoms entirely disappeared.

The Lombardy *Gazette*, Feb. 2, '78, narrates 26 cases. The *Rivalta* calamity will also be fresh in the minds of professional readers.

We are all liable to convey some blood contamination or septic poison of more or less import by the use of humanized lymph, no matter how carefully it may have been selected, and an action of damages for malpractice would be liable to follow, much to our detriment at the same time, by using a sample of vaccine from which perfect protection cannot be secured and from which many serious accidents are liable to follow.

It seems to one alive to the advantages of vaccination with bovine lymph, almost criminal culpability to use humanized lymph for the purpose of vaccination when animal lymph—from which no bad result can follow and perfect protection may be guaranteed—can be obtained.

The advantages to be derived from the use of *heifer-transmitted lymph* may be briefly enumerated as follows:

1st. Animal vaccine guarantees against the possibility of transmitting any diseased contamination. Cutaneous disease, syphilitic or septic contamination are quite unknown as a sequence.

2nd. It enables a constant supply of pure lymph