

agree with this statement as I have often seen typical results with bovine virus. Further, the anomalous results in the cases I have seen is not due to asepticism of the lymph for I have seen glycerized lymph which was aseptic on ordinary culture, give typical "arms" in the usual course of time. The atypical results noted in connection with these lymphs are to me an evidence not of asepticism but of marked *attenuation of virulence on the part of the vaccine*. It acts in the manner of an attenuated virus i.e. has a delayed onset and an anomalous course. That it is attenuated (or is not vaccine at all) is borne out by the history of some cases occurring within the last two years in Essex county where small-pox was spreading among individuals shortly before vaccinated with lymph of the character just described, A large number who had been so 'vaccinated' were again operated on with other lymph and practically all took and the vaccine vesicle ran its usual course. The second vaccination was performed in from 2 to 4 weeks after the first. What then can be the protective power of such lymph? Is it not greatly weakened? I have not sufficient data at hand to be positive but the Essex county results show that there at least, such vaccine was not protective against either fresh vaccine nor against the small-pox.

English authorities, particularly, insist on the high protective value of good active lymph and multiple marks. What protection is afforded by a single mark and a probably attenuated lymph? Then there is another serious aspect of this question *i.e.* that we could not use such vaccine on persons who have been exposed to small-pox with the idea of developing in them some measure of immunity. By vaccinating with good lymph immediately after exposure to small-pox we have at least 3 full days' start of the small-pox—a valuable period. But with this lymph we have no time. Its development would be synchronous with that of the small-pox and no protection whatever would be afforded. In a paper read in May before a meeting of the Kingston Medical and Surgical Society on this subject I brought this matter before the members and after a lengthy discussion the following resolution was unanimously adopted:—

"That whereas there are now many cases of small-pox in