

*Summary.* Moderate massage or trauma causes an increase in the total platelet count. After prolonged trauma, the count drops to normal. These phenomena occur locally in the traumatized ear. The counting chamber method of enumerating blood platelets gives values which are 2.8 greater than the smear estimation values. The platelet count, from the same pipette after increasing intervals of time, rises at first and then falls. Anders Kristenson fluid is undesirable for counting blood platelets because it dissolves erythrocytes.

### 7008 P

#### The Fixation of Certain Viruses on the Cells of Susceptible Animals and Protection Afforded by Such Cells.

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Rabbit embryo tissue was grown in a thin plasma clot and after some days the cultures were submitted to a trypsin solution strong enough to digest the clot and free the cells that had extended into it.<sup>1</sup> By repeated pipettings and filtrations through lens paper, alternated with differential washings in gelatin-Tyrode solution, suspensions were obtained of the living cells as individuals. They were mixed at room temperature with suspensions of virus, and after an interval the cells were recovered with the centrifuge, again washed repeatedly, treated in various ways and inoculated into rabbits. The viruses used were vaccinia and the filterable agent causing the rabbit fibroma described by Shope.<sup>2</sup>

Cells exposed to virus and repeatedly washed invariably gave rise to lesions in susceptible animals. The briefest exposure at room temperature permitted by the conditions resulted in an association of the virus with the cells, which withstood many washings of the latter. The fixation thus indicated took place not only upon living cells but upon those killed by heat, ultraviolet light, and water respectively, and often was as considerable. Incubation of the material with immune serum *in vitro*, followed by repeated washings prior to infection, resulted in neutralization of the virus associated with dead cells, whereas these procedures were without effect when

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<sup>1</sup> Rous, Peyton, and Jones, F. S., *J. Exp. Med.*, 1916, **23**, 549.

<sup>2</sup> Shope, R. E., *J. Exp. Med.*, 1932, **56**, 793.

the cells were alive. The possibility that serum antibodies accumulated on the dead cells and were carried into the final inoculum was ruled out by appropriate tests.

Suspensions of individual, washed cells procured from cultures of Shope tumor tissue, or from rabbit embryo cultures inoculated with vaccinia, were found to carry the virus. When the cells were alive incubation with immune serum had no effect on the associated virus, whereas when they had been killed in one of the ways mentioned the virus was more or less completely neutralized by the serum. In cultures of Shope tumor tissue the virus seems to be strictly localized to the cells.

The experiments would appear to throw light on the process of infection with the viruses studied and they offer an explanation of some of the difficulties of serum treatment. A protection of bacteria by living cells has been demonstrated in a previous paper from this laboratory and its implications have been pointed out.<sup>3</sup> The cells of a chicken sarcoma protect the associated causative agent so well that growths frequently develop when they are transplanted to fowls having immune principles in circulation that are capable of neutralizing the agent as such.<sup>4</sup>

## 7009 P

### Observations on Life History of a Gregarine of the Striped Shore Crab, *Pachygrapsus crassipes*.\*

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The common striped shore crab, *Pachygrapsus crassipes*, of the Pacific Coast is frequently infected by a Cephaline gregarine which inhabits the mid- and hind-gut, the infection rate sometimes running from 70% to 100%. No correlation is apparent between the extent of infection and the locality or ecological habitat of the host, nor does there seem to be seasonal distribution of the infection.

Apparently, the entire life history of this gregarine takes place in

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<sup>3</sup> Rous, Peyton, and Jones, F. S., *J. Exp. Med.*, 1916, **23**, 603.

<sup>4</sup> Fischer, A., *Z. Krebsforsch.*, 1927, **14**, 580.

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