Tuberculous guinea pigs inoculated with glycerin broth by the way of the basal cisterns showed no clinical manifestations, but in some there was found a slight meningeal exudate on microscopic examination. Similarly, the nontuberculous animals inoculated with tuberculin and glycerin broth showed no response either clinically or microscopically. All animals inoculated in the neck muscles and other parts of the body with tuberculin revealed no evidence of activity in the meninges.

These experiments demonstrate that the meninges of tuberculous animals react to tuberculin, as well as dead and living tubercle bacilli, by an exudative response suggesting an allergic phenomenon. Other experiments are in progress.

5539

Fate of the Active Agent in the Chicken Sarcoma in Mixtures Containing Inhibiting Substances.

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We have previously described[1] the presence of a tumor inhibiting substance in the filtrate of the Rous chicken sarcoma and in normal chicken sera. It was found that this inhibiting substance is retained in the supernatant fluid when the tumor filtrate is brought to pH 4, while the active agent is carried down in the precipitate. In a more recent report, Murphy[2] and his associates report results that would seem to confirm these observations.

The fact that the activity of the agent can be inhibited by the supernatant fluid and sera made it of interest to ascertain whether the agent was actually destroyed in such mixtures or whether its tumor producing properties were merely inactivated. In order to answer this question it became necessary to determine if it is possible to recover the agent in an active state from these non-infective mixtures. The supernatant fluid used was prepared by adding an equal amount of a phthalate buffer solution at pH 4 to a 20% filtrate

[1] Sittenfield, M. J., Johnson, B. A., Jobling, James W., PROC. SOC. EXP. BIOL. AND MED., 1931, **28**, 517.

[2] Murphy, James B., Helmer, O. M., Claude, Albert, Sturm, Ernest, *Science*, 1921, **73**, 266.

of the Rous chicken sarcoma. After standing for 30 minutes, the mixture was centrifuged, and the supernatant fluid decanted, neutralized and concentrated *in vacuo* to ½ its original volume. To 2 cc. of the concentrated supernatant fluid was added 0.5 cc. of filtrate, and the mixture allowed to stand for 30 minutes at room temperature. Such a mixture when injected into chickens fails to produce tumors in 75% of the inoculations. If, however, the mixture is brought to pH 4, and the precipitate extracted at pH 8, the active agent is recovered, for the extract is now able to induce tumor growth. Similar results were obtained when blood was used instead of the supernatant fluid.

This experiment has been repeated several times, and the agent has been recovered in almost every instance. It is evident then that the tumor producing agent in these mixtures is not destroyed *in vitro* by the inhibitory substance. That we should fail to recover it in every instance is not strange, since the amount of the agent used in each mixture is not large, and we have never been able to extract all of it from the precipitate.

5540

Effect of Sulfhydryl Compounds on Regeneration in Podarke Obscura.

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From his studies on the toxicity of Pb ions in cell division in onion root tips, which he explained on the basis of the binding and eliminating of a SH-group, and from his experiments designed to show the effect of SH-groups on rate of growth depending on cell multiplication, as in growing onion root tips, Paramecia cultures, and healing of wounds, Hammett[1] postulates his theory that the SH is the "mitotic hormone" and the wound hormone or essential chemical factor in cell proliferation following trauma.

With the thought that a specific mitotic hormone would at least accelerate, if not also actually increase, regeneration since the latter depends on cell division and proliferation in its earlier stages, we performed a series of experiments on regeneration of the polychaete

[1] Hammett, F. S., *Protoplasma*, 1929, **7**, 297.