to think of the events occurring in tissue culture as counterparts of what might happen in human infections but it is obvious that such is not the case; more study is necessary.

Summary. Human tonsil and liver cells and human monocytes and lymphocytes were inoculated with hemolytic streptococci belonging to serological groups A, C, and G. A large inoculum of bacteria invariably resulted in complete destruction of the above tissue cells. Smaller inocula of bacteria gave variable results ranging from complete destruction of tissue cells to complete destruction of the streptococci and in some cases apparently a symbiotic relationship in which both tissue cells and bacteria survived. Human heart cells were susceptible to damage by a larger number of strains of streptococci than were monkey kidney cells. Used medium in which streptococci and tissue cells had grown had no observable effect on human heart, human tonsil, monkey kidney, or monkey heart cells. Streptolysin O (reduced and non-reduced), streptolysin S, streptococcal hyaluronidase, and Todd-Hewitt broth in which streptococci had grown had no observable effect on the above tissue cells.

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A Simple Method for Obtaining Blood from Ducks. (29155)

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Special technics have been developed for obtaining blood from guinea pigs(1), mice (2), rats(3), rabbits(4), chickens(5), etc. Recently we were faced with the problem of obtaining repeated blood samples from Pekin ducks. Initially, the usual method for obtaining blood from fowls was used, *i.e.,* cutting down to the brachial vein in the wing. After this was repeated several times, scar tissue formed which made the procedure difficult. This report concerns a method for obtaining blood from ducks which requires no surgery, is time saving and reliable.

Method. The duck is laid on its side on a narrow laboratory table, such as is used for animal surgery, the hindquarters covered with a towel, the neck and head held down by a strap, and the legs extended away from the person holding them.

The vein is located along the medial aspect of the shank of the duck's leg. Usually a pulse can be felt and the outline of the vein can be observed in the area of the pulsation. Washing the hard scaly skin over the area with saline sometimes helps to make the vein more visible when it is difficult to see. Fig. 1-a shows the location of the vein as it circles around the hallux (which corresponds to the spur of the rooster), and goes up the shank of the leg until is disappears in the flesh and feathers at the hock joint.

A 20 gauge needle attached to a 10 ml syringe is inserted into the vein in the region of the hallux. Care should be taken not to get the needle too high or it might injure the hock joint. If withdrawn fairly slowly so as not to collapse the vein, 30 to 40 ml of blood can be withdrawn without difficulty. Vacuum blood collecting tubes should not be used for drawing the blood as they cause the vein to collapse.

Fig. 1-b shows the location of a vein in the lateral aspect of the leg. This vein is just as satisfactory as the other, but it is a little

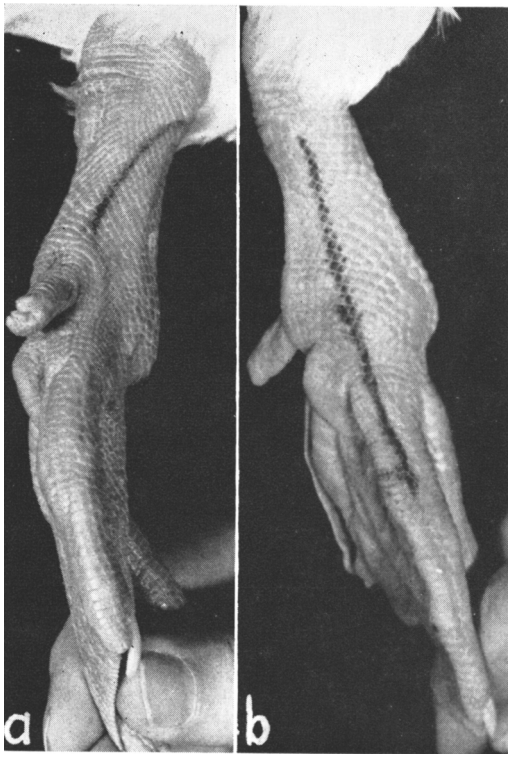

FIG. 1. a. Photograph showing location of vein on the medial aspect of duck's leg. Area over the vein shaded so it will show more clearly. b. Photograph showing location of vein on the lateral aspect of duck's leg. Area over the vein shaded so it will show more clearly.

more difficult to see its outline on the skin, and more awkward to use.

After the desired amount of blood has been obtained, the needle is withdrawn. Bleeding can easily be controlled by applying pressure for a few minutes over the site. Occasionally, the artery alongside the vein may be punctured accidentally, and the blood will squirt out through this puncture wound for a distance of several inches but this too can be easily controlled by pressure.

Since duck blood clots very rapidly it is advisable, when more than one or two ml of blood is needed, to inject the duck with about 2 mg of heparin 15 to 20 minutes before collecting the blood. The syringe should also be rinsed with a solution containing heparin, citrate, or EDTA to further prevent clotting.

If the vein collapses before sufficient blood is withdrawn, one of the veins in the other leg can be used. It is usually advisable to release the duck and allow it to stand for a few minutes which seems to restore circulation to the legs. Ducks can tolerate loss of blood very readily with no apparent ill effect. We have withdrawn at least 30 ml of blood every other week for several weeks before the duck showed any signs of weakness.

Summary. A simplified method is described for obtaining blood from the duck. The veins along the lateral and medial aspect of the shank of the leg are used. Up to 40 ml of blood can be obtained easily by this method. It is much less time-consuming and easier than using the brachial vein in the wing.

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An Improved Light Source for Transilluminating Solid Organs *in vivo*.* (29156)

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The light source may be a limiting factor in viewing and photographing microcirculatory changes in solid parenchymal organs *in vivo*. Knisely(1) has developed a water-cooled hollow quartz rod for this purpose.

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