later blood samples were obtained by intracardiac puncture and C′ was determined (left-hand values). Five hours after the intradermal injections, four animals of the first group were injected intravenously with 0.5 mg pepsin-digested anti-HuGG and the remaining four, as well as the three previously injected with diluent, with 0.5 mg native anti-HuGG. A second sample of blood was obtained 10 minutes after the intravenous injection and C′ was redetermined (right-hand values). The serum from animals injected intradermally with diluent showed only slight changes after injection with native antibodies (negative control). Those sera from animals injected intradermally with HuGG and intravenously with native anti-HuGG showed marked drops (positive control). The sera from the experimental group, injected intradermally with HuGG and intravenously with pepsin-digested anti-HuGG showed only insignificant changes.

The experiments reported indicate that equivalent weights of pepsin-digested and native antibodies have equal capacities to produce the reverse PCA phenomenon in the guinea pig. In contrast, these studies do not demonstrate in vitro or in vivo C′ fixation by the pepsin-digested anti-HuGG-HuGG system. Splitting bivalent 5*S* antibody fragments into 3.5*S* monovalent fragments sharply decreases reverse PCA activity. Hence, the valence or the molecular weight of an antibody molecule or both appear to be of critical importance in the mechanism of the reverse passive cutaneous anaphylaxis reaction (*14*). Since this paper was submitted, a paper has been published which questions the role of naturally occurring nonprecipitating or "univalent" antibodies in immediate hypersensitivity (*15; 16*).

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Lingual Vein Injection in the Rat

Abstract. *The difficulties encountered with repeated intravenous injections in rodents limit many experiments. A method is described which employs the lingual veins of anesthetized rats and which allows for repeated intravenous administration of fluids and cells in young rats and hamsters.*

The difficulties of surgery on small animals limit many experiments. In particular, the low number of repeated intravenous injections that can be given to small laboratory animals is a common restriction forced upon experimentalists by the fragility and paucity of superficial veins. The advantages of making injections into the lingual veins of the rat have been demonstrated and the technique is now described, since it is neither used commonly nor presented in standard works (*1*).

The anesthetized rat is placed on its back and the tongue is drawn out with fine-toothed forceps to one side of the incisor teeth. The body of the tongue is wiped dry with gauze and held between the left thumb and forefinger. Traction is applied without hindrance to respiration, so that the pair of veins on the under surface are exposed near the root of the tongue. If open ether anesthesia is used, it can be maintained by inserting the upper jaw and nostrils of the rat into a narrow glass or metal anesthesia cone; at the same time the injection is made easier by the stabilization of the head and neck. A sharp, 25-gauge needle easily enters even the small lingual veins of young 50- or 60-g rats. The point of the needle and the entering injection fluid can be seen readily through the thin wall of the vein. With the animal suitably placed on a small operating board and the operator's hands comfortable, the position can be held for 15 to 20 minutes while large volumes or slow infusions are given. Finger and thumb pressure is applied over the puncture as the needle is withdrawn and for 2 or 3 minutes thereafter. This prevents the formation of a perivenous hematoma which would jeopardize repeated venipunctures.

In one series of experiments, courses of intravenous injections were given to 45 rats by the lingual route. At least six injections were given to each rat on alternate days and into alternate lingual veins. All the injections were successful. The method is applicable to hamsters and to other small animals used in the laboratory (*2*).

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Reaction Time as a Function of the Cardiac Cycle in Young Adults

Abstract. *Simple reaction times to auditory stimuli varied with the phase of the cardiac cycle in which the stimuli were presented, tending to be fastest to stimuli presented during the P-phase of the electrocardiogram. One hundred reaction times obtained from each of 56 men and women between the ages of 20 and 30 years were analyzed.*

Reaction time in human subjects is related to certain aspects of cardiovascular functioning, pulse rate (*1*), variation in pulse rate (*2*), and blood pressure (*3*). Also, earlier work has shown a relationship between reaction time and the electroencephalogram (EEG) (*4*). Arterial pressure fluctuations, by affecting the baroreceptors of