EPIPHARYGEAL RECEPTORS Action potentials were recorded from 21 afferent nerve fibers from receptors in the epipharynx in anesthetized paralyzed cats. Sixteen of the fibers had no spontaneous discharge. Gentle mechanical stimulation of the epithelium of the epipharynx with a nylon fiber caused all 21 receptors to discharge with rapidly-adapting bursts of impulses at a mean peak frequency of 197 impulses/sec. Stimulation with a stream of air through the epipharynx sufficient to distend the whole pharynx caused seven of 12 receptors to discharge in rapidly-adapting bursts. Stimulation with a jet of air directly on to the epithelium of the epipharynx caused seven of nine to discharge. Chemical stimulation of the epipharynx with ammonia vapor caused an increased discharge in only three of 20 receptors, and intravenous histamine had no effect on the four units tested. The conclusion is that the receptors mediate the "aspiration reflex" elicited by mechanical stimulation of the epipharyngeal mucosa. (*Nail, B. S., Sterling, G. M., and Widdicombe, J. G.: Epipharyngeal Receptors Responding to Mechanical Stimulation, J. Physiol. (London) 204: 91 (Sept.) 1969.*)

COMPOSITION OF ALVEOLAR LIQUID Experiments were performed on fetal lambs at gestations between 125 days and term. Samples of liquid from alveoli were withdrawn through a tracheal cannula and samples of pulmonary lymph, plasma and amniotic fluid were also obtained. Measurements of total osmolality, concentrations of electrolytes and urea, *p*H, and P_{CO_2} were made. Titrations were carried out with N/10 HCl and N/10 NaOH. Hydrogen, potassium, and chloride were higher, and calcium, phosphates, and bicarbonates were lower in alveolar liquid than in plasma or lymph. In amniotic fluid, osmolality, sodium, chloride and calcium were lower and phosphates higher than in plasma or lymph. Alveolar liquid /plasma ratios of bicarbonate, calcium, chloride and potassium differed from ultrafiltrate /plasma ratios of these ions. Titration curves demonstrated a very small amount of buffering in alveolar liquid at its *in vivo* *p*H of 6.27, primarily due to the low bicarbonate values. Fetal alveolar liquid is not an ultrafiltrate of plasma nor a mixture of amniotic fluid and plasma ultrafiltrate, but a special material elaborated by the fetal lung. (*Adamson, T. M., and others: Composition of Alveolar Liquid in the Foetal Lamb, J. Physiol. (London) 204: 159 (Sept.) 1969.*)

LUNG SURFACE FORCES The individual effects of changes in ventilation, blood flow, gas tensions and *p*H on surface and mechanical properties of the lungs were evaluated. The left lower lobes of dogs' lungs were isolated and ventilated separately from the remainder of the lungs. These lobes subsequently were excised so that deflation pressure–volume curves and stability of expressed bubbles could be determined. Decreases in pulmonary blood flow, hypoxia, hypercapnia and nonrespiratory acidosis did not alter the pressure–volume characteristics. Ventilation of nonperfused lobes with large tidal volumes, perfusion with hypoxic-hypercarbic blood, and ventilation with 4 to 10 per cent CO_2 increased lung retractive force, lung weight and surface activity. These changes were reversible by perfusion of lobes with normal mixed venous blood or by eliminating CO_2 from inspired gas. Increases in lung retractive forces may be related to interstitial pulmonary edema or plasma inhibitors of pulmonary surfactant activity. (*Faridy, E. E.: Effect of Alterations in P_{O_2}, P_{CO_2}, pH and Blood Flow on Elastic Behavior of Dogs' Lungs, J. Appl. Physiol. 27: 342 (Sept.) 1969.*)

SEQUENCE OF EMPTYING OF THE LUNG REGION The effect of varying the expiratory flow rate on the sequence of emptying of the lung region was studied in healthy man. Distribution of ^{133}Xe was greatest in apices of the lungs. If the subsequent exhalation was slow, a sloped alveolar plateau occurred, with the terminal concentration approaching that in the apices. An essentially flat alveolar plateau was produced by rapid exhalation. Thus, the lung empties more homogeneously during rapid exhalations. The observed results might be due to regional differences in intrapleural pressure and compliance. (*Millette, B., and others: Effect of Expiratory Flow Data on Emptying of Lung Regions, J. Appl. Physiol. 27: 587 (Nov.) 1969.*)