stants $k_1, k_2 \cdots k_n$:

$$k_1 = \frac{(PA_1)}{(P)(H)}$$

$$k_2 = \frac{(PA_2)}{(PA_1)(H)}$$

$$k_n = \frac{(PA_n)}{(PA_2)(H)}$$

where A_1, A_2, A_n represent adsorption sites of the anesthetic on macromolecule P, and (H) represents the concentration of the smaller molecule. Hence,

$$(H) = \frac{(PA_1)}{k_1(P)} = \frac{(PA_2)}{k_2(PA_1)} \cdots = \frac{(PA_n)}{k_n(PA_2)}$$

The above relations merely say that the ratio of occupied-to-unoccupied sites on the macromolecule is proportional to (H), provided no site is saturated. Since the measured solubility includes the adsorbed molecules as well as those in solution, if the number of small molecules adsorbed is proportional to the pressure, the sum of small molecules added per unit pressure will be constant. In other words, so long as no site is saturated with the anesthetic the solubility of the vapor in the system will appear constant.

The matter is easily put to a test. Applying the present technique, it is necessary only to measure the solubility of the anesthetic in blood at two differential partial pressures, within or above the clinical range. If the two measured solubilities are the same, the correction is validated. Table 1 shows the results of a series of such tests carried out with halothane. Different quantities of halothane or of a solution of halothane in isotonic sodium chloride were added to two aliquots of blood. The partial pressure and solubility of the halothane in the two mixtures were measured using equilibrations (4) and (6). Results with 11 different bloods are shown in the table, after correcting for the volume of saline solution ($\lambda = 0.73$) mixed with each blood. It is clear that, over the clinical range, the solubility of halothane in the mixtures is independent of the partial pressure of halothane.

In conclusion, it may be pointed out that the correction factors F and 1/F described in this article are necessary even when the equilibration with air is carried out at 37 C,[8-10] if the temperature of the subject differs significantly from the temperature of the equilibration.

Obstetrics and Pediatrics

RESPIRATORY DISTRESS IN INFANTS Respiratory symptoms in acyanotic infants who have congenital heart disease may result from several factors, including cardiac failure and bronchial obstruction. Significant bronchial obstruction can be caused by hypertensive pulmonary arteries or an enlarged left atrium. The left main bronchus, left upper and right middle bronchus are most commonly involved. Infantile lobar emphysema is associated with acyanotic congenital cardiac disease and may represent another sequela of bronchial compression by distended pulmonary arteries and the enlarged left atrium. The deformity of the bronchus may remain for some time after the cause of the deformity is removed, and may be responsible for respiratory complications in infants following cardiac surgical procedures. (*Stanger, P., Lucas, R. V., Jr., and Edwards, J. E.: Anatomic Factors Causing Respiratory Distress in Acyanotic Congenital Cardiac Disease, Pediatrics 43: 760 (May) 1969.*)

OMPHALOCELE The care of seven newborns with omphalocele is described. If immediate replacement into the abdomen is attempted, 50 per cent mortality results from pressure on the vena cava and the diaphragm. The method recommended is to cover the omphalocele with skin, or to apply mild antiseptics repeatedly. The result is an enormous ventral hernia. A plastic catheter is inserted into the peritoneal cavity. Air is injected daily to distend the peritoneal cavity. Increasing amounts of air generally stretch the abdominal wall until it is ready to accommodate the viscera. The amount of air injected each day is 150 to 250 ml. Excess air is indicated by development of grunting respiration. Use of the indwelling plastic catheter is safer than repeated needle punctures to introduce air. There have been no complications in seven cases treated with this technique. The longer the pneumoperitoneum is maintained, the easier it is to replace the viscera and repair the hernia. (*Ravitch, M.: Omphalocele: Secondary Repair with the Aid of Pneumoperitoneum, Arch. Surg. 99: 166 (Aug.) 1969.*)