more negative during inspiration and returned to control values between inspirations. A possible explanation may be the negative transmural pressure in collapsible vessels of the lung. (*Kuramoto, K., and Rudbard, S.: Ventilatory Effects on Left Atrium and Pulmonary Vascular Resistance, J. Appl. Physiol. 18: 117 (Jan.) 1963.*)

PERFUSION EFFECTS During a study of adults undergoing operation for cardiac defects, venous pressure, when correlated with venous return, proved valuable for differentiating line obstruction and hypovolemia. Venous obstruction occurred several times due to traction by a rib spreader on the pericardial reflection about the vena cava. Peripheral resistance was not significantly altered by changes in *p*H and P_{CO_2} although there was a trend toward increased peripheral resistance with metabolic and respiratory acidosis. Variations in perfusion rates did not significantly alter arterial pressure because of the marked compensatory response of peripheral resistance. This points to shunting of blood at an organ level as a compensatory mechanism. (*Lefemine, A. A., and others: Circulatory Dynamics of Cardiopulmonary Bypass, Amer. J. Cardiol. 11: 301 (Mar.) 1963.*)

INDUCED FIBRILLATION A small electrical unit was used to establish fibrillatory cardiac arrest and it was found that the heart does well as long as there is a continuous and adequate supply to the myocardium. Fibrillating ventricles cannot be a source for air embolism since there is no effective beat. Foam formation is also abolished. Continuous coronary circulation is available and the length of an operative procedure may be substantially prolonged when necessary. Fibrillatory arrest is electrically controlled and applicable intermittently independent of drugs, temperature, and is readily re-applicable whenever desirable without delay. (*Levy, M. J., and Lillehei, C. W.: Apparatus, Application and Indications for Fibrillatory Cardiac Arrest, Surgery 53: 205 (Feb.) 1963.*)

SERUM BUBBLES Using human serum in an altitude-pressure chamber, it was found that gas evolved from solution when serum was subjected to reduced atmospheric pressures less than 380 mm. of mercury. The longer the serum remained, the larger the bubbles became. When serum was returned to one atmosphere, the bubbles decreased in size but did not disappear. When the pressure in the chamber was increased to five atmospheres, the bubbles decreased further in size and some were eliminated. Continued pressure finally forced all the gas back into solution. (*Downey, V. M., and others: Studies on Bubbles in Human Serum Under Increased and Decreased Atmospheric Pressures, Aerospace Med. 34: 116 (Feb.) 1963.*)

EMBOLI Embolism has been identified as a complication of perfusion when an oxygenator pump was used. It is not peculiar to machines which oxygenate blood by dispension of bubbles. Some forms, at least, have been observed following use of the screen-type artificial lung. The chemical nature of the emboli is not understood, but typical pathological changes are easily identified. With respect to the kidney there is no information on how these lesions affect function. There is relation between duration of perfusion and number of glomeruli affected by emboli, and this complication has increased importance as clinical conditions are treated which require longer cardiopulmonary bypass. (*Helmsworth, J. A., and others: Occurrence of Emboli During Perfusion With an Oxygenator Pump, Surgery 53: 177 (Feb.) 1963.*)

ACIDOSIS During circulatory arrest at low temperatures in dogs progressive oxygen desaturation is observed. The organism seems to be able to consume oxygen even at 3° C. Under these conditions, *p*H does not vary greatly. After resumption of circulation and ventilation, a drop in *p*H and an increase in metabolic acidosis is seen. Possibly the desaturation that occurs delays the *p*H drop while resaturation enhances the increase in metabolic acidosis. After complete reduction of hemoglobin, more carbon dioxide can be taken up by the blood. As reduced hemoglobin is less acid than oxyhemoglobin, it binds the hydrogen ions which originate from the hydration of the carbon dioxide and from the organic acids produced by cellular metabolism. These