With hyperventilation, slow wave activity appears in the electroencephalogram associated with a rise in *p*H. With hyperventilation continued, but carbon dioxide allowed to accumulate, the large amplitude slow waves disappear with the fall in blood *p*H. The effect of hypocapnia is probably mediated by the reticular formation which is also affected by analgesics and anesthetic agents. The electroencephalographic patterns of hyperventilation and of certain planes of ether and halothane anesthesia are similar. *(Geddes, I. C., and Gray, T. C.: Hyperventilation for the Maintenance of Anaesthesia, Lancet 2: 4 (July 4) 1959.)*

CARBON DIOXIDE RESPONSE Continuous carbon dioxide analyzers and the pneumotachograph have made possible the continuous collection of data and its analysis. This has been done by the construction of an automatic analog computer which collects the data, analyzes it, computes values, and plots the co-ordinates. The subject is given the drug to be tested, is then asked to breathe through a circle system, with continuous rebreathing of endogenous carbon dioxide. As endogenous carbon dioxide accumulates in the system alveolar carbon dioxide accumulates, and with it alveolar ventilation increases. These two steadily increasing values are finally plotted on x and y axes. Carbon dioxide is measured by means of an infra red analyzer. Alveolar ventilation is computed from tidal volume, physiological dead space, and repiratory frequency values. This data is processed by analog computers. The x-y plotter is a servo driven potentiometer balance type recorder. There are two amplification systems, one activating and feeding data to the x axis, and one to the y axis, with a resultant continuous plotting on standard size graph paper of a data curve for any given control or experimental condition. Such automatic computing should make possible wider application of these curves for the study of various respiratory phenomena, normal, pathological, and drug induced. *(Belleville, W. J., and Seed, J. C.: Respiratory Carbon Dioxide Response Curve Computer, Science 130: 1079 (Oct. 23) 1959.)*

RESPIRATORY MECHANICS Studies in 9 patients with infiltrative or fibrotic changes in the lungs due to various causes revealed considerable changes in physical properties of the pulmonary bed, particularly a marked reduction in compliance as compared to normal. Such changes in compliance were better correlated with a reduction in total lung capacity than with abnormality in gas exchange. Changes in interstitial tissue are more important than those in the alveolar capillary membrane in determining the elastic behavior of the fibrotic lung and inflation to total capacity may necessitate a transpulmonary pressure twice that of normal. In the emphysematous lung, the total capacity relative to normal is changed very little, but because of loss of elasticity, the lung may be expanded to its total capacity by a transpulmonary pressure as little as one-half that required for the normal lung. *(West, J. R., and Alexander, J. K.: Studies in Respiratory Mechanics and the Work of Breathing in Pulmonary Fibrosis, Am. J. of Med. 27: 529 (Oct.) 1959.)*

RESPIRATORY STIMULANTS Respiratory stimulants are briefly reviewed with particular emphasis on indications for the use of stimulants, nature and types of analeptics, examples of analeptic-like substances, and of the true stimulants, mode of action of stimulants, some of their general systemic effect, objections to the use of stimulants and the nature, action, and uses of anti-narcotics. Respiratory stimulants are recommended in respiratory failure due to gross overdosage of sedatives, hypnotics and anesthetic agents. The article is up-to-date, authoritative, concise and highly recommended to all anesthesiologists and other interested physicians. *(Adriani, J.: Respiratory Stimulants, GP 20: 100 (Nov.) 1959.)*

BREATH HOLDING Following normal breathing of oxygen, 7 untrained subjects held their breath beginning with a maximal inspiration. Breath-holding times ranged from 3.1 to 8.5 minutes and "breaking-point" alveolar carbon dioxide tensions from 51–91 mm. Hg. After hyperventilation with oxygen, the breath-holding times were noticeably extended