

the bag" and are commonly utilized in this instance. A commercially available model of a pressure-cycled respirator (Bird) is also applicable; it is an equally "strong hand" and capable of generating enough pressure and flow to ventilate the lungs in the most severe clinical problems encountered. Special performance characteristics are required for ventilation of the newborn and machines specifically designed for this purpose are available.

For use outside the operating room, such as in the intensive care unit, it is desirable in most hospitals to have a minimal variety of machines to facilitate care by non-medical person-

nel. Some centers achieve excellent results with volume-cycled or time-cycled respirators, while others achieve equally good results with pressure-cycled respirators. This would lead one to infer that the machine is a less important factor than the understanding of its operation and hazards, as well as familiarity with principles of respiratory physiology by those responsible for operating the equipment.

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Good News from the Middle East

ANESTHESIOLOGISTS the world over, so like other members of the animal species, crave the companionship of others to dispel the discouragements that are so often bred of isolation. For this reason societies are formed, gatherings take place and lines of communication are established. The latter frequently take the form of journals; and medical journalism, according to Garland, has been with us ever since 1679 when one Nicholas de Blegny put forth a tract styled, "Nouvelles découvertes sur toutes les parties de la médecine."¹ It has since been said that it is as useless to advise a man not to start a new journal as it is to advise him not to commit suicide.²

But there is no hint of self destruction—rather a note of optimism and hope for the future in the *Middle East Journal of Anaesthesiology*, the first copy of which we received just a short while ago. Edited by the dynamic and farsighted Bernard Brandstater at the American University of Beirut, the new journal is both handsome and sober in its gray and gold-trimmed cover, on which is inscribed an apt quotation from Hamlet, "For some must watch, while some must sleep." As further evidence of an emerging solidarity in that part of the world, the first issue contains several papers that were given at the Middle East Society's First International Congress held in

Beirut in the fall of 1965. Along with the title, a symposium on "Our Manpower Shortage" speaks of this as being a nearly universal problem. No great imagination is required to understand the problems that are to be faced in the establishment of an enduring Society in the Middle East, where all should be permitted a share in membership. A beginning has been made, however, and anesthesiology perhaps can show the way toward dissipating the political, ethnic, lingual and religious barriers that are constantly before us.

Samuel D. Gross³ has said of books, and Garland applied the same remark to journals, "Some fall stillborn from the press, many die in their infancy, a few attain to a vigorous manhood, and, now and then, one is fortunate enough to reach old age." At last count there were some 34 journals devoted solely to anesthesia, representing 17 countries throughout the world.⁴ The eldest of the periodicals is *Current Researches in Anesthesia and Analgesia*, founded in 1922 by the redoubtable Francis H. McMechan, followed within a year by the *British Journal of Anaesthesia*, one of the few monthlies extant. Those that were conceived in the thirties and forties were few in number, but the sixth decade witnessed a remarkable surge in anesthetic journalism. The Editor of the newest of the journals recognizes the pit-

falls of publishing, for he writes in a preface to the first issue, "It is easy to start something new; it is not so easy to carry on and insure continued growth and vigour." While de Blegny's Journal lasted only a few years, we would wish for manhood at least for the Middle East Journal, a stage in the life cycle only recently arrived at by many of us.

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References

1. Garland, J.: Medical journalism in New England, 1788-1924, Boston Med. Surg. J. 190: 865, 1924.
2. Billings, J. S.: Medical journals of the United States, Boston Med. Surg. J. 100: 1, 1879.
3. Gross, S. D.: History of American Medical Literature, Philadelphia, Collins Printer, 1876.
4. World Medical Periodicals, ed. 3. World Medical Association, 1961.

Circulation

CAROTID BODY Cats were anesthetized with chloralose and urethane, and ventilated by an artificial intermittent negative pressure applied to the thorax. The carotid body chemoreceptors were isolated and perfused with oxygenated blood. They were stimulated by substituting hypoxic blood obtained from a donor animal. Stimulation of the carotid bodies during constant ventilation caused a bradycardia. When an artificial hyperventilation was induced during carotid body stimulation the heart rate increased. The increase in heart rate during hyperventilation, and while the carotid bodies were being stimulated, was due to at least two mechanisms, first there was a reflex from the lungs and secondly a fall in arterial blood P_{CO_2} , both of which accompany the hyperventilation. (Scott, M. J.: *The Effect of Hyperventilation on the Reflex Cardiac Response from the Carotid Bodies in the Cat*, J. Physiol. 186: 307 (Oct.) 1966.)

CEREBRAL BLOOD FLOW The effects of hypoxia and hypercapnia on cerebral blood flow and metabolism were measured in healthy human volunteers. Hypoxia and hypercapnia produced simultaneously by inhaling a mixture containing 5 per cent CO_2 and 10 per cent O_2 produced a more rapid increase and a somewhat greater increase in cerebral blood flow than did hypercapnia or hypoxia alone. The cerebrovascular dilator effects appeared to be additive in nature. The increase CO_2 usually associated with acute hypoxia may, to a small degree, protect the brain from the effects of hypoxia *per se*. (Shapiro, W., and others: *Human Cerebrovascular Response to Combined Hypoxia and Hypercapnia*, Circulation Res. 14: 903 (Nov.) 1966.)

CEREBRAL BLOOD FLOW Previous studies in normal human under halothane anesthesia have shown a close relationship between cerebral blood flow (CBF) and arterial CO_2 tension (Pa_{CO_2}) as well as between CBF and jugular venous oxygen tension (Pv_{O_2}). From these data the relationship $Pv_{O_2} = 1.20 Pa_{CO_2} - 4.9$ was derived. The validity of using Pv_{O_2} as a measure of CBF was tested in 29 patients undergoing carotid artery surgery because of vascular disease. Pv_{O_2} was found to be a reliable measure of CBF ($Pv_{O_2} = 1.08 Pa_{CO_2} + 3.6$) over a wide range of Pa_{CO_2} values. There were no significant differences in this relationship resulting from varying anesthetic agents (cyclopropane, halothane or halothane-nitrous oxide), or age. Samples taken during the use of a temporary internal carotid artery shunt indicated that the shunt provided blood flow sufficient to maintain cerebral circulation normally responsive to hypercarbia. (Vaincos, J. G., and others: *Internal Jugular Venous Oxygen Tension as an Index of Cerebral Blood Flow During Carotid Endarterectomy*, Circulation 34: 875 (Nov.) 1966.)