oughly convincing. . . . The first optically active narcotics which we have investigated are the *sec.*-butyl alcohols. . . . the published experiments on the isomeric *sec.*-butyl alcohols are inconclusive and conflicting. Our experiments differ from those previously reported in that we have given the drugs to mammals by injection. . . . The optically isomeric *sec.*-butyl alcohols being equal in anesthetic activity, there is no indication that any asymmetric process is of importance in the mechanism of this particular narcotic phenomenon. As will be shown in the second paper of this series, this conclusion cannot be extended to the narcosis produced by drugs of other chemical groups."

J. C. M. C.

BUTLER, T. C.: *The Anesthetic Activity of Optical Antipodes. II. The Arabinochloraloses.* J. Pharmacol. & Exper. Therap. **69**: 229–235 (July) 1940.

"In 1894 Hanriot found that chloral reacts with *l*-arabinose, as it does with glucose, to form two isomeric products. By analogy with the glucochloraloses, these were called *a*- and *B*-arabinochloralose. The structures of the chloraloses, or even the relationship of the *a*- to the *B*- form, are still not known with certainty. . . . By reaction of chloral with *d*- and with *l*-arabinose, four isomeric arabinochloraloses (two pairs of antipodes) have been obtained. The four compounds have been tested as anesthetics in mice. *a-l*-Arabinochloralose is much more active than its antipode. *B-d*-Arabinochloralose is somewhat more active than its antipode. . . . The results of the experiments reported in these two papers are perhaps pertinent to the question of the field of applicability of any general theory of narcosis. It is true that there are minor differences in the effects produced by the arabinochloraloses and by the butyl alcohols. But all bring about the extensive depression of sensory and motor function which is ordinarily recognized as 'general anesthesia,' an effect regarded as typically 'narcotic.' The fact that asymmetry appears to be important in the action of the chloraloses but not in the action of the alcohols suggests, although it does not prove, that an animal may be anesthetized in more than one way, and that the search for one all-inclusive theory of narcosis may be futile. It is conceivable that in the cell, the normal function of which depends on many chains of complex physical and chemical events, the interference with these processes at any one of many points might lead to reversible depression of irritability."

J. C. M. C.

KRANTZ, J. C., JR.; CARR, C. J.; FORMAN, S. E., AND EVANS, W. E., JR.: *Anesthesia. I. The Anesthetic Action of Cyclopropyl Methyl Ether.* J. Pharmacol. & Exper. Therap. **69**: 207–220 (July) 1940.

"Although nearly a century has passed since the introduction of ether as a general anesthetic it occupies still a position of preeminence among the volatile anesthetics. After the introduction of ethylene into general anesthesia by Luckhardt in 1923, the development of a hybrid molecule between the two narcotic agents occurred to Leake. This concept of Leake was realized in the synthesis of divinyl ether by Ruigh and Major which compound has advantageously augmented the armamentarium of the anesthetist. In 1929 Henderson and Lucas developed the use of cyclopropane as a general anesthetic, which now possesses a meritorious record in general anesthesia. It occurred to the authors that it would be of interest from a chemotherapeutic standpoint to prepare a hybrid molecule between ether and cyclopropane. Besides, it was hoped that such a substance might add an-