C^{14}, this value of the half-life gives a specific activity of about 5 mc./mg.

The richest samples of C^{14} yielded by the factory had isotopic concentrations of 5.0 per cent. We have no satisfactory explanation as to the origin of the inactive carbon. Although some precautions were taken to remove $C^{12}O_2$ from the solution before charging it into the circulating system, we obtained

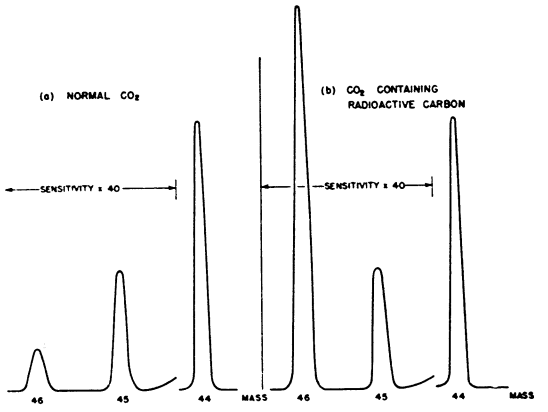

FIG. 2. Mass spectrograms of relevant peaks of normal and enriched CO_2 showing the great increase in the intensity of the mass 46 peak due to the presence of $C^{14}O_2^{16}$ in the enriched sample. The mass 44 ($C^{12}O_2^{16}$) peak is given on a scale equally reduced for the two samples. (Courtesy of M. G. Inghram.)

large amounts of precipitate of lower specific activity during the first few days of bombardment. However, after the first week, the isotopic concentration of our product changed very little with long periods of irradiation, which might be interpreted as evidence that carbonate impurities and residual, dissolved $C^{12}O_2$ in the NH_4NO_3 solution could not be the only source of the inert carbon. We satisfied ourselves that no inward air leaks were present on the suction side of the pump, but apart from making these observations, we did not attempt to increase the isotopic purity; even 1 per cent is ample for almost all tracer experiments, and we were pleased that the specific activity was as high as it turned out to be.

Some 50 mc. of the C^{14} made in this factory have been distributed in lots of 1 mc. or less to research institutions in the United States. The factory has now fulfilled its rather temporary function, and operation is being discontinued in favor of larger-scale production methods. There is a stock pile sufficient to carry over until the new methods come into quantity production. It is to be expected that in a year or so C^{14} will be so cheap and abundant that it will be more in the class of a commodity than that of a novel and treasured substance.

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A New Method of Recording Arterial Blood Pressure

JOHN R. BRAUNSTEIN, WILLIAM G. BROSENE, JR., FRANK ABLENDI, ROBERT S. GREEN, VICTOR STRAUSS, VIRGIL HAUENSTEIN, and HAROLD J. KERSTEN

Departments of Physics and *Internal Medicine (Cardiac Laboratory), University of Cincinnati,* and *Lederle Laboratories, Pearl River, New York*

A simple, accurate, and linear method of measuring intra-arterial blood pressure has been developed. Preliminary work indicates that this apparatus may prove to be of value in the measurement of other intraluminal pressures, such as those within the veins and in the subarachnoid space.

The apparatus consists of a Statham Pressure Transmitter[1] fitted with a short metal coupling which carries any gage needle. The transmitter operates on the strain gage principle and is enclosed in a metal housing measuring 1 x 1 x 3 inches. The input circuit is supplied by a dry cell; the output circuit is connected to the electrodes of any lead of a string-type electrocardiograph.

Before use the transmitter is calibrated against a mercury manometer, and a desirable range of excursion established by adjusting the string of the galvanometer or the input of the transmitter.

The coupling and needle are then sterilized by boiling, the transmitter filled with heparin (10 mg./cc.), and the coupling

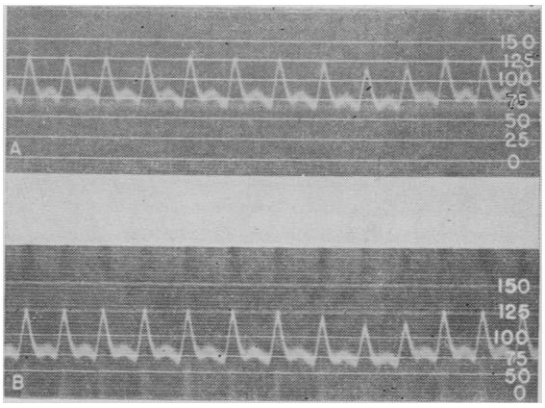

FIG. 1

screwed into place. Enough heparin is displaced by this maneuver to fill the needle. All adjustments having been made, the vessel to be studied is punctured directly, and a photographic record of the movements of the galvanometer string is taken. The photograph in Fig. 1 illustrates a simultaneous recording by this instrument (A) and by the Hamilton manometer (B). The wide horizontal white lines represent millimeters of mercury as marked; the heavy vertical lines, intervals of 1/10 second.

[1] Model P6-6g-250, manufactured by the Statham Laboratories, 8222 Beverly Boulevard, Los Angeles 36, California.