The signals received at the antennae are fed to tuned receivers (R_1), (R_2) and are amplified at the amplifiers (A_1), (A_2). The detectors (D_1), (D_2) rectify the signal to a DC potential. The sine wave is detected in opposite polarity on the opposing antennae AN1 and AN2. With the cage empty the DC voltages fed from the detectors are set equal. Since these signals are of opposite polarity the result of comparing the DC levels at the DC comparison unit will be zero.

When the rat is introduced into the system, an imbalance of the signal strength is produced which is dependent upon the position of the rat relative to the two opposing antennae. The strength and sign of the detected voltages vary and are at zero only when the rat is central between the two antennae.

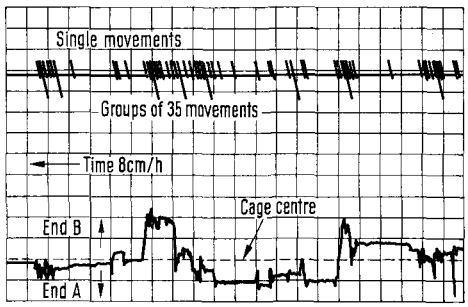

Fig. 3. A recording of the quantitative activity and positional movement of the rat.

The information derived by this method may be displayed on calibrated chart paper as a line indicating the position of the animal between the antennae with respect to time. An alternative method, however, also shown in Figure 2, is to measure the rate at which the signal strengths change. The change in incoming signal is differentiated in the differential unit and the activity is displayed quantitatively as a series of pulses with respect to time. A typical recording is presented in Figure 3.

At high amplification with the animals at rest, movement of the chest wall in respiration can be detected. Work is continuing to apply this method for the detection of unrestrained respiratory rate.

Résumé. On décrit une méthode pour discerner et enregistrer l'activité générale des animaux de petite taille, logés dans des cages en matière plastique, en employant un transmetteur et des antennes accordées. Le système utilise les caractéristiques du champ magnétique autour d'une source de courant électrique et la capacité de résistance des objets contigus.

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CONGRESSUS

Schweiz

2. Euchem-Konferenz über Stereochemie

Bürgenstock bei Luzern (Schweiz) 8.–14. Mai 1966

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Kongressauskunft. Prof. Dr. D. ARIGONI, Organisch-chemisches Laboratorium der ETH, Universitätsstrasse 6, 8006 Zürich (Schweiz).

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