

- 690 An Air Engineer Explains How to Accurately Control Mechanical and Distribution System Noise. T. R. Shine. *Air Eng.* 7, 32-36 (June, 1965).

The concept of distributing clean and thermally-treated air through ductwork by means of a centrifugal fan is a firmly established practice in modern mechanical engineering design. The advent of forced air ventilating and conditioning systems brought problems. Many of the drawbacks were effectively overcome through careful design, resulting in system sophistication. Others relied on adjunct equipment for their solution. Perhaps the most significant of these problems is noise and its subsequent control. The subject is discussed under the following headings: System Noise Divisions, Early Control Efforts, Lined Duct Systems, Lined Duct Limitations, Acoustical Plenums, and Duct Sound Traps. Noise necessarily exists in air conditioning systems. The air moving source—centrifugal fans, the air moving vehicle—ductwork, and the air itself all generate noises as they do their work in an otherwise efficient manner. The author has attempted to show that the efficiency of the system need not be altered for the sake of noise reduction, as there are definite ways to accurately and economically control unwanted sound.

- 691 Effect of Constant Magnetic Field on Motor Activity of Birds. A. L. EL'Darov and Yu. A. Kholodov. *Federation Proc. Pt. II. (Translation Supplement)* 24, T431-T433 (May-June, 1965).

The possibility that birds may be guided on long migrations by the earth's magnetic field has been examined in experimental studies of bird behavior (Middendorf, 1855; Viguer, 1882; Yeagly, 1947). The effect of an artificially produced magnetic field on birds has been examined by conditioned-reflex (Orgel and Smith, 1956) and labyrinth (Neville, 1955) methods. It was found that defensive conditioned reflexes could not be elaborated to a magnetic field in pigeons. At the same time, the labyrinth experiments demonstrated that a magnetic field had some effect on the behavior of birds. Kholodov, 1959, has shown that a food-obtaining reflex to a magnetic field could not be elaborated in pigeons, although the effect of the magnetic field was nevertheless evident in the increased number of intersignal reactions and the inhibition of photic conditioned reflexes. The present aim was to determine the effect of a constant magnetic field on the motor activity of birds, which can be estimated numerically and is often used by ornithologists and physiologists investigating the effects of different factors on bird behavior. The present investigation showed that a constant magnetic field increases the motor activity of passerine birds and alters its pattern. Increased motor activity persists for some time after disappearance of the magnetic field.

RADIOACTIVITY AND X-RADIATION

- 692 Analysis of Data from a System of Assessment of the Gonadal Radiation Dose During Radiographic Procedures. H. E. Duggan and G. L. Olde. *Can. Med. Assn. J.* 92, 1051-1056 (May 15, 1965).

The radiation hazard, if any, from diagnostic x-ray examinations was assessed in a study divided into three phases: (1) The gathering of data to allow estimation of the total gonadal dose received by each patient; (2) the accumulation of the individual and accumulative gonadal-dose totals on a large group of patients; (3) the examination and follow-up of patients who had received a substantial gonadal dose to determine any relationship between small recurring doses of ionizing radiation and various indices of somatic and genetic damage. The mean gonadal dose received by females was much higher than that received by males—1012 mr. as compared to 310 mr. Of 7,021 individuals in this study, only 428 (6.1%) received 2 r. or more during the 3-year test period. No definite conclusions as to radiation hazard could be made. A system, however, has been developed which, if continued, could eventually produce this basic information.

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