Scientific Book Register

COLE, LEWIS GREGORY. *Lung dust lesions (Pneumoconiosis) versus tuberculosis.* White Plains, N. Y.: American Medical Films, 1948. Pp. xxii + 474. (Illustrated.) $10.00.

DEGOWIN, ELMER L., HARDIN, ROBERT C., and ALSEVER, JOHN B. *Blood transfusion.* Philadelphia-London: W. B. Saunders, 1949. Pp. xii + 587. (Illustrated.) $9.00.

DUSHMAN, SAUL. *Scientific foundations of vacuum technique.* New York: John Wiley; London: Chapman & Hall, 1949. Pp. xi + 882. (Illustrated.) $15.00.

GALLET, ETIENNE. *Die Flamingos der Camargue.* Thun, Switzerland: Werner Krebser, 1949. Pp. 127. (Illustrated.)

GITHENS, THOMAS S. *Drug plants of Africa.* (African Handbooks: 8, Committee on African Studies, University of Pennsylvania.) Philadelphia: Univ. Pennsylvania Press, 1949. Pp. vii + 125. $2.25.

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MITCHELL, JOHN JR., and SMITH, DONALD MILTON. *Aquametry: application of the Karl Fischer reagent to quantitative analyses involving water.* New York: Interscience, 1948. Pp. xi + 444. (Illustrated.) $8.00.

MONTGOMERY, D. J. X. *Cosmic ray physics.* Princeton, N. J.: Princeton Univ. Press, 1949. Pp. viii + 370. (Illustrated.) $5.00.

SCHOLES, FRANCE V., and ROYS, RALPH L. *The Maya Chontal Indians of Acalan-Tixchel: a contribution to the history and ethnography of the Yucatan Peninsula.* (Publ. 560.) Washington, D. C.: Carnegie Institution, 1948. Pp. x + 565. (Illustrated.) $3.50 paper; $4.75 cloth.

SICHER, HARRY. *Oral anatomy.* St. Louis, Mo.: C. V. Mosby, 1949. Pp. 529. (Illustrated.) $15.00.

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WOGLOM, WILLIAM H. *Discoverers for medicine.* New Haven, Conn.: Yale Univ. Press, 1949. Pp. x + 229. (Illustrated.) $3.75.

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calibration exposures with the abscissa expressed in terms of the log of the fractional dosage. By fractional dosage is meant the ratio of the dosage rate in the calibration source to the bone dosage rate which would have existed had the bone been formed from the blood calcium at the instant of its highest specific activity. (It is assumed here that the *maximum* calcium concentration in bone is 36 percent by weight, the measured concentration in bone ash [*4*].) The blackening for each bone site labeled in Fig. 1 is indicated on the vertical scale of Fig. 2, from which it is seen that the maximum fractional dosage in the dog rib, corresponding to sites 2 and 3, is the antilog of $\bar{2}.26$, or .018.

The importance of this fact is its application to the possible use of radioactive Ca^{45} as a tracer in human beings. If such an experiment is to be carried on with reasonable convenience, this isotope will have to be present in the blood in a concentration of at least 1 μc/gm Ca. If bone were formed directly from such calcium, the dosage rate would be a forbidden 1.9 reps/day (again assuming 36 percent maximum calcium concentration). However, if the same dilution existed in humans as in the particular dog rib studied, the maximum local dosage rate would be a permissible value of $(.018)(1.9) = 0.034$ reps/day. It is important to notice, however, that this maximum local dosage rate is approximately six times higher than the average rate in the bone as a whole as determined by counter measurements on the digested rib.

Further work is planned in the quantitative study of film characteristics for different types and energies of radiation, and in the development of calibration sources which can be cut simultaneously with soft tissue, using a microtome technique.

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