TABLE I

SPACINGS OF SOME POWDER LINES OF OXYHEMOGLOBIN

Spacing	Estimated intensity	Spacing	Estimated intensity
45.7 A	s (broad)	10.4 A	m
27.5	m	9.4	f
21.7	m–	8.4	f
18.0	ff	5.93	ff
15.4	f	4.90	ff
13.0	m	4.62	f
11.6	ff	3.47	ff

In this table s, m, f, ff represent strong, medium, faint and very faint. It is possible that one or two of the fainter lines are beta reflections.

In the meantime it may be concluded that:

(1) The proteins edestin, excelsin and hemoglobin crystallize with water of crystallization, which is very readily lost. The band pattern previously described as common to these and other proteins is produced by apparently amorphous materials resulting from the efflorescence of the crystalline compounds.

(2) If care is taken to prevent the decomposition of their crystals, these proteins give typical powder patterns rich in sharp lines. Some of the observed spacings are much longer than those found from insoluble protein structures like silk, hair and tendon.

RALPH W. G. WYCKOFF
ROBERT B. COREY
ROCKEFELLER INSTITUTE FOR MEDICAL RESEARCH
NEW YORK

EFFECTS OF THEELIN ON THE MALE GENITAL TRACT

THE principal known action of theelin (ketohydroxyoestrin) is to induce tissue proliferation in the accessory genital organs of the female. This has been demonstrated in the usual laboratory animals; the monkey and man. Since an oestrus-inducing agent has been extracted from the urine of normal human males[1] it seemed desirable to study the action of theelin on the male genital tract. Some changes have been described in the mouse[2] and rat[3]; and in the male monkey it is known that this oestrogenic extract is responsible for a sexual skin reaction.

The effects of interest here have been brought about by the subcutaneous injection of 60 cc of theelin[4] over a period of thirty-four days into an immature male monkey weighing 2,450 gms at autopsy. A cage mate of similar age, weighing 3,000 gms at autopsy, was used as a control. The most striking change in growth was found in the seminal vesicles, those of the injected animal weighing 5½ times as much as those of the control. Histological study showed the increase entirely due to muscular hypertrophy of the walls of the vesicles. There had been no stimulation of the secretory epithelium, and the lumen of the individual tubule had fewer outpocketings than the control. It appears that the activity within the wall had restricted concurrent increase in lining epithelium. The ejaculatory ducts were enlarged. Within the prostate there was also a relative increase in fibromuscular stroma at the expense of the epithelial glands. As in the prostate of the adult castrate monkey, where the epithelium is markedly degenerated, the prostate takes a more posterior position in relation to the urethra. Another striking tissue change was found in the prostatic utricle where extensive cornification of the epithelium had taken place increasing the thickness of the epithelium as much as twenty-five times.

The prostatic utricle is a remnant of the Müllerian ducts and as such the change here is analogous to the well-known effect in the vaginal mucosa. In view of this the report of a similar effect[2] in the posterior prostatic lobes of the mouse may indicate that these lobes are not true prostate but have an origin in common with the utricle. In the monkey this cornification extended along the posterior wall of the urethra into the membranous portion and the columnar epithelium of the pars cavernosa had become cornified.

Notwithstanding the great development of the scrotal sac the right and left testes (which had not increased in size) lay in the groin 3.5 cm and 2.5 cm, respectively, from the external inguinal rings. There was incontinence of urine and the usual swelling of superficial tissues about the distal portions of the genital tract.

G. VAN WAGENEN
YALE UNIVERSITY SCHOOL OF MEDICINE

[1] E. Laqueur, E. Dingemanse, P. C. Hart and S. E. de Jongh, VI Mitteiling *Klin. Wchnschr.*, 6: 1859–1868, 1927.

[2] Harold Burrows and N. M. Kennaway, *Am. Jour. Cancer*, 20: 48–57, 1934.

[3] John Freud, *Biochem. Jour.*, 27: 1438–1450, 1933.

[4] Through the courtesy of Dr. Oliver Kamm, of Parke, Davis and Company, we have received theelin for this study.

BOOKS RECEIVED

DALAKER, HANS D. and HENRY E. HARTIG. *The Calculus.* Third edition. Pp. viii + 276. 107 figures. McGraw-Hill. $2.25.

HALL, SIR DANIEL and others. *The Frustration of Science.* Pp. 144. Norton. $2.00.

HERTY, C. H., JR. and others. *The Physical Chemistry of Steel Making.* Illustrated. Mining and Metallurgical Advisory Boards to the Carnegie Institute of Technology. $3.00.

KNOWLTON, A. A. *Physics for College Students.* Second edition. Pp. xxi + 623. Illustrated. McGraw-Hill. $3.75.

MCCOMBS, LOIS F. and MORRIS SCHRERO. *Bibliography of Non-Metallic Inclusions in Iron and Steel.* Pp. xii + 308. Mining and Metallurgical Advisory Boards to the Carnegie Institute of Technology. $4.00.