electrophoretic pattern of normal human plasma. Svensson's arrangement is apparently missing in the book.

In spite of such errors and oversights, Abramson, Moyer and Gorin's book on the electrophoresis of proteins represents a compilation of data on the electrophoretic analysis of proteins useful to all investigators of proteins.

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CHEMISTRY OF DENTAL MATERIALS

Outline of the Chemistry of Dental Materials. By LAURENCE G. WESSON, research biochemist, Forsyth Dental Infirmary for Children, Boston, Massachusetts. 106 pp. 5×7.5. St. Louis: The C. V. Mosby Company. 1942. $1.50.

THIS book contains a concise review of some of the properties and uses of materials employed in dental practice. The chemical changes which many of these materials undergo and their effects on the oral tissues are clearly, although briefly, described. Such topics as the chemistry of vulcanization, and the formation of polymethyl methacrylate resin, which is used as a substitute for vulcanite in artificial dentures, will be of interest to the dentist. The sections on dentifrices, dental cements, the action of ammoniacal silver solution and photography should prove of value.

The dental section of the book is preceded by an elementary review of some of the principles of chemistry. Although brief, this material should be helpful to the dental practitioner. The descriptions of such topics as the nitrogen cycle and the potential acidity and alkalinity of food, although of general interest, could well have been omitted in a book of this type.

This outline should also prove useful as a supplementary text in courses for dental hygienists.

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SPECIAL ARTICLES

THE EFFECT OF TRYPTOPHANE DEFICIENCY ON REPRODUCTION[1]

PREVIOUS reports from this and other laboratories[2-7] have shown that tryptophane deficiency induces loss of weight, alopecia, cataract formation, corneal vascularization, defective dentition, testicular atrophy, hypoproteinemia and hypochromic anemia.[8] The present report describes observations we have made on the effect of a tryptophane deficient diet on the reproductive function in female rats.

Normal adult male and female rats from a hybrid albino and hooded Norwegian rat colony were maintained on stock diet and mated. As soon as vaginal smears showed the presence of sperm the females were segregated in individual cages and were fed a tryptophane deficient diet[7, 8] *ad libitum*. The data given in Table 1 show that all the rats on the deficient diet failed to cast a litter in contrast to a group of animals continued on the control diet all of which reproduced normally. The animals on the deficient diet were kept on it for 35 to 40 days. All of them lost weight and it was notable that symptoms of tryptophane deficiency developed earlier in these animals than in unmated rats on a tryptophane deficient diet. For example, alopecia, which in our experience is rarely evident before 60 days on the deficient diet, was very evident within 30 days in the present group of animals. Corneal vascularization was likewise well developed early in the deficiency period.

TABLE 1

THE EFFECT OF TRYPTOPHANE DEFICIENCY ON THE WEIGHT AND SIZE OF LITTER OF THE PREGNANT RAT

Group	Animal number	Initial body weight	Weight change for gestation period	Average daily food intake	Gestation period	Size of litter
		gms.	*gms.*	*gms.*	*days*	
Control	PCTH–3	201	+29	9.3	22	9
	PCTH–4	168	+43	7.6	23	6
	PCTH–5	209		7.7	22	7
	PCTH–6	221	+30	6.9	24	6
	PCTH–7	187	+41	9.2	22	8
	PCTH–8	208	+37	10.0	22	10
	PCTH–9	263	+27	10.0	22	10
	PCTH–10	232	+11	9.9	30	4
Deficient*	PTH–2	211	−40	9.1		0
	PTH–3	208	−13	8.0		0
	PTH–6	193	−63	8.0		0
	PTH–7	219	−24	7.6		0
	PTH–8	199	−29	8.9		0
	PTH–11	242	−43	6.9		0
	PTH–12	220	−40	7.0		0
	PTH–13	219	−22	9.7		0
	PTH–15	228	−35	9.6		0

* The weight change determined as of the 22nd day after insemination.

In order to determine the fate of the fetus in these deficient animals a second experiment was carried out similar to the above in which female litter-mates were

[1] This investigation was aided by grants from the Rockefeller Foundation, Merck and Company and E. R. Squibb and Sons.

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