Letters to the Editor

The Effect of DDT on Cutaneous Sensations in Man

A group of 32 students of Yenching University volunteered for a study of the effect of DDT on cutaneous sensations in the skin when kept in constant contact with this agent. Each student wore a piece of cheesecloth (3 × 4 cm.) saturated with a solution of DDT or mixture of this agent, on the inner surface of one forearm and another piece containing only the diluent on the other arm as a control. The cloths were put on corresponding areas on both sides, 6 cm. above the lowest transverse furrow of the wrist. Cutaneous sensations of the covered areas have been followed through a period of five weeks. The tactile sensation was tested by calibrated Von Frey's hairs, and the pain, cold, and heat sensations by spot distribution.

Students were divided into groups of four or five each, and each group was dressed with a different concentration or mixture of DDT. While no remarkable difference in pain, cold, and heat sensations could be detected, the solution of DDT in olive oil or mixture with vaseline (petrolatum) has been found to desensitize the tactile sensation in most cases, as shown in Table 1. The minimal pressure that would arouse the tactile sensation of the skin in contact with the olive oil solution or vaseline mixture of DDT was 1–2.5 grams per square centimeter higher than the control. These results indicate that oil facilitates the penetration of DDT into the skin.

TABLE 1

Diluent	% DDT	No. of cases showing desensitized tactile sensation	No. of cases showing sensitized tactile sensation	No. of cases showing no effect
Olive oil	20	3	0	1
Olive oil	10	3	0	1
Olive oil	5	2	1	1
Vaseline (petrolatum)	20	3	0	0
"	10	3	0	1
"	5	0	0	4
Talc powder ...	10	1	0	4
None	100	0	0	4

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Arginine-free Diets and Intestinal Synthesis of Arginine

The white rat is able to synthesize sufficient arginine for moderate growth, reproduction, and partial lactation (H. L. Williams and E. M. Watson, *Rev. Canad. Biol.*, 1944, **3**, 426). The possibility that arginine is one of the amino acids which C. J. Martin (*Proc. Soc. exp. Biol. Med.*, 1944, **55**, 182) believes to be synthesized within the intestinal tract led to the following investigation.

The stock diet of the colony of albino rats was Fox Chow. The arginine-free diet was prepared as reported earlier by Williams and Watson and, when modified by the addition of 2 per cent sulfasuxidine, was supplemented with 2-me-1,4-naphthoquinone (50 mg./kg. diet), biotin concentrate (200 μg. No. 1,000/kg.), but not with folic acid as employed by Martin.

Because of the lack of available chemicals, this series was restricted to three animals on each of the arginine-free diets. The average weights of these animals while on the test diets are shown in Table 1.

TABLE 1

EFFECT OF ARGININE-FREE DIETS ON WEIGHTS OF MALE WHITE RATS

Weeks	Arginine-free diet	Arginine-free diet + sulfasuxidine
	grams	grams
	151	145
1	147	138
2	147	138
3	149	137
4	150	138
5	152	142
6	157	140
7	162	145
8	152	138
9	145	126

Although the rats failed to gain weight on either diet, possibly due to the restricted intake, there was no indication of the dramatic loss of weight known to accompany acute amino-acid deficiency either by the groups or by individual animals. None of the animals died. Weights, dry weights, and arginine content of the various organs from animals of both series obtained at autopsy compared favorably with comparable data from control animals of the same age fed Fox Chow, in confirmation of findings of Williams and Watson. Thus it is suggested that the intestinal tract is not the source of the arginine synthesized by the rat.

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The Successful Transfer of Ovaries Between Dogs of Different Breed

For a number of years, experiments have been in progress in an endeavor to transplant ovaries between dogs of different breed. The object of the present note is to report two successful transfers of this type and to record preliminary observations on the behavior of the recipient animals. Early unsuccessful experiments were carried out without regard to the physiological status of the dogs, and the present successful transfers appear to be directly related to the use of recipients in oestrus.

The operative procedure employed is extremely simple. After incising the capsule, the ovary is removed at the

hilus. The donor's ovary is secured in position in the capsule of the recipient with several fine catgut sutures and the capsule closed. Ovariectomy and transfer are performed on both sides at the same operation.

In both of the successful transfers the donors were bloodhounds and the recipients foxhounds. The bloodhounds were eight years old and had passed the period of productive breeding. The foxhounds were young animals, and each had whelped and raised one litter previous to transfer. Both were in oestrus at the time of operation.

Following transfer, signs of oestrus decreased gradually over a period of four or five days but then recurred in full intensity and continued for a normal cycle of 20 days. Both dogs copulated during this period, but neither conceived. The dogs were followed carefully thereafter, and it was with considerable surprise that signs of a second oestrus were observed 49 days after the start of the previous period in one animal and on the 98th day in the other. It appears significant that such periods of heat do not correspond with the recipient's previous history, but on the contrary, represent a continuation of the bloodhound donor's cycles.

One of the dogs was killed for study 70 days after termination of the second oestrus. The ovaries appeared normal on gross examination, and histological section showed corpora lutea and innumerable follicles in various stages of maturation. An estimation of the number of follicles was not attempted, but it was at once apparent that they greatly exceeded the quantity normally found in the ovary of an eight-year-old dog. The hilus was of interest particularly in its content of blood vessels. Some of them were normal in appearance, filled with blood cells, and undoubtedly represented vascularization of the transplant by the new host. Others were necrotic or showed the extensive hyalinization characteristic of the senile ovary.

The behavior of the animals after operation as well as the morphology of the transplanted organs attest the successful transfer of ovaries between dogs of different breed. It is significant that each of the successful transfers was effected during the recipient's oestrus and that numerous experiments performed on other periods of the sexual cycle terminated in failure. The continuation of the donor's cycle after transfer was contrary to expectation and suggests that the initiation of oestrus is a function of the ovary rather than of the pituitary. These studies are being continued and will be reported in more detail in a later publication.

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Work of the International Commission on Zoological Nomenclature

Throughout the war and since, the International Commission on Zoological Nomenclature has received much practical help and encouragement from American zoological institutions and from individual American zoologists. This has greatly contributed to the success of the efforts of the Commission to develop its work and thereby raise