

Sir William Mulock, chancellor of the University of Toronto and former Chief Justice of Canada, presented at these hearings a brief summarizing his study of the original trial. He characterized the evidence as inadequate and criticized the conduct of the trial judge.

Therefore, it appears that Dr. Levine was sentenced to prison, and to have remained with his internment a prisoner for nearly a year, because the trial judge and the Minister of Justice committed acts leading to a miscarriage of justice. They were enabled to act thus because the Defense of Canada Act, adopted in war hysteria, is harsh and undemocratic. Great Britain, closer than is Canada to the war's dangers, has not found such laws necessary. For example, possession in Canada of Communist pamphlets which are freely printed in Britain is an offense, as is membership in the Communist Party. American scientists are well aware through reading *Nature* of the free and active discussions on Marxism, socialism and dialectical materialism which are engaging the interests of British scientists. It is ironical that Dr. Levine incurred the enmity of the Fascists interned in the camp so that he was in danger of physical harm, and was transferred to another camp by the authorities.

Dr. Levine's devotion to his work is exemplified by the fact that he continued as best as he could under at times brutal treatment his research work in geophysics and practically completed the mathematical treatment of a complex problem in the theory of electrical transients as applied to the exploration of subsurface formations. He is now seeking reinstatement at the University of Toronto, but this reinstatement, which rests with the Board of Governors, is not yet assured in spite of support by eminent colleagues.

The injustice to which Dr. Levine has been subjected through a year of baseless imprisonment may be continued unless the pressure of scientific opinion is exerted in his behalf. The success of the previous efforts by scientists in obtaining Dr. Levine's release augurs well for success in obtaining his reinstatement. The continuation of Dr. Levine's scientific work is particularly important now, since his geophysical researches promise to contribute significantly to the success of the Canadian war efforts in the international fight against Fascism. The scientists of the United States, as citizens of a country which is also pledged to cooperation in this fight, have the right to expect that Dr. Levine's training and abilities will be fully utilized by Canada in the aid of our joint efforts.

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### DIMINUTION IN ABILITY OF THE LIVER TO INACTIVATE ESTRONE IN VITAMIN B COMPLEX DEFICIENCY

THE recent work of Rhoads and his associates<sup>1</sup> on the effect of vitamin B complex in preventing cancer of the liver caused by dimethylaminoazobenzene, indicates that this involves a detoxication mechanism in which the cozymase system is implicated. This led us to investigate the possibility that the vitamin B complex might be concerned in the inactivation of other substances in the liver.

G. R. Biskind and Mark<sup>2</sup> demonstrated that when a pellet of a crystalline estrogen or androgen is implanted in the spleen of a castrate rat, the specific effect of the steroid is not manifest. If the spleen is subsequently transplanted subcutaneously and its pedicle ligated, the specific estrogenic or androgenic effect becomes evident. This method appeared to be ideal for investigation of the effect of vitamin B complex deficiency on the ability of the liver to inactivate steroids.

A preliminary study with estrone indicates that deficiency of the vitamin B complex in rats markedly diminishes the inactivation of this steroid in the liver. Pellets of estrone weighing approximately 5 mg were implanted in the spleens of adult castrate female rats. After a period of about 3 weeks on a normal diet, during which the rats remained anestrus, they were placed on a vitamin B complex-free diet. Within 2 weeks irregular estrual changes began to take place; after about 3 weeks the animals remained in constant or nearly constant estrus. After 39 days on the vitamin B complex-free diet the rats were sacrificed for inspection of the spleens. In no case were adhesions present that might have permitted blood from the spleen to enter the systemic circulation.

Further studies, both *in vivo* and *in vitro*, on the effect of the B vitamins on the inactivation of estrogens and androgens in the liver are in progress and will be reported in detail later.

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### PANTOTHEN

THE substance which was named pantothenic acid has now arrived at the status of an important vitamin. Since like other vitamins it is destined to be almost

<sup>1</sup> C. P. Rhoads, *Proc. Inst. Med. Chicago*, 13: 198, 1940.

<sup>2</sup> Gerson R. Biskind and Jerome Mark, *Bull. Johns Hopkins Hosp.*, 45: 212, 1939.