

Those who are not so fortunate should also possess themselves of the index, because, in the first instance, they can see where to find the wanted information at their medical library, but, furthermore, they will have in the index not merely a guide to the volumes and pages, but on many subjects valuable and practical information, chiefly in the form of therapeutic hints, extracted from the articles referred to. The work is, therefore, not a mere conglomeration of the alphabetical indexes, but a catalogue *raisonné* and something more.

Dundas Grant.

NOTES AND QUERIES.

Cancer of the Thyroid Gland. Gaylard, Harvey, R., and Marsh, Millard C. Carcinoma of the Thyroid in the Salmonoid Fishes. (Publications from the State Institute for the Study of Malignant Disease, Washington, 1914.)—As a result of investigations and experiments the following conclusions were arrived at:

(1) The disease known as gill disease, thyroid tumour, endemic goitre, or carcinoma of the thyroid in the Salmonidæ, is a malignant neoplasm.

(2) The disease occurs in fish living under conditions of freedom in populated areas.

(3) When introduced into fish-breeding establishments it becomes endemic with occasional epidemic outbreaks.

(4) Normal fish taken from the wilderness may be made to acquire the disease when placed in fish-breeding establishments where the disease is endemic.

(5) The feeding of uncooked animal proteid favours and the feeding of cooked animal proteid retards the disease as compared with the uncooked. Feeding alone is not an efficient cause. It must be combined with an agent transmitted probably through the water or the food, or both.

(6) By scraping the inner surface of water-soaked wooden troughs in which the disease is endemic, an agent may be secured which, from its action upon the mammalian thyroid when administered through drinking water is no doubt the cause of the disease in the fish confined in these troughs.

(7) The agent is destroyed by boiling.

(8) Fish in all stages of the disease are favourably affected in the direction of cure by the addition to the water-supply in suitable concentration of mercury, arsenic, or iodine.

(9) The effect of mercury, arsenic, and iodine in carcinoma of the thyroid in fish, and the subsequent positive experiments with metals in mammalian cancer, are probably the expression of a therapeutic relation of these metals to carcinoma.

(10) Certain species of the Salmonidæ have an almost complete natural resistance to the disease.

(11) Certain lots of fish of susceptible species show a high degree of immunity to the disease.

(12) Spontaneous recovery occurs in a considerable percentage of individuals.

(13) Removal from ponds in which the disease is endemic to natural conditions, or a change to more natural food, increases the percentage of spontaneous recoveries.

(14) Spontaneous recovery appears to confer a degree of immunity against recurrence.

(15) The percentage of spontaneous recoveries in the early stages of the disease appears to be higher than in the later stages of the disease.

(16) The incidence of the disease increases with the age of the fish, at least up to five years.

(17) Thyroid enlargement and changes presenting at the end of five months a picture of diffuse parenchymatous goitre were induced in mammals by giving them water to drink in which the disease is endemic. Control animals which received the same water boiled failed to develop thyroid changes. That these enlargements and changes are the first stages in mammals of the same disease which occurs in the fish inhabiting the troughs from which the scrapings were obtained, is an inference which further experiments will probably justify.

(18) The disease is endemic in a very high percentage of all trout hatcheries in the United States.

(19) The occurrence of the disease in wild fish, its introduction into fish cultural stations, its localisation in certain troughs or water supplies, the method of its spread, its transmission to mammals, the efficacy of three well-known germicides in the treatment of the disease, the destruction of the agent by boiling, the phenomena of spontaneous recovery and immunity, strongly indicate that the agent causing the disease is a living organism.

(20) No evidence has yet been produced to indicate the direct transmission of the disease from individual to individual.

(21) In many of its phases the disease is identical with endemic goitre. As there is no line of demarcation between what is called endemic goitre and what the present workers show to be cancer of the thyroid, they hold that endemic goitre and carcinoma of the thyroid in the Salmonidæ are the same disease.

It has long seemed probable to the abstractor that the secret of the pathogenesis of cancer may ultimately be disclosed in the tumours and enlargements of the thyroid. And the foregoing investigations would seem to strengthen this belief. But it must not be forgotten that the passage of parenchymatous goitre into a cancerous growth of the thyroid indicates no more than the transformation of an innocent neoplasm into a malignant neoplasm probably as a result of an excessive effect, relative to the tissues, of the same irritant which had induced the former. In other words, the character of malignancy is assumed by the new growth for reasons which are still unknown to us. That is to say, that while the above findings extend our knowledge of the natural history of neoplasms, they do not, unfortunately, render it any deeper in the direction of most importance and urgency.

D. M.

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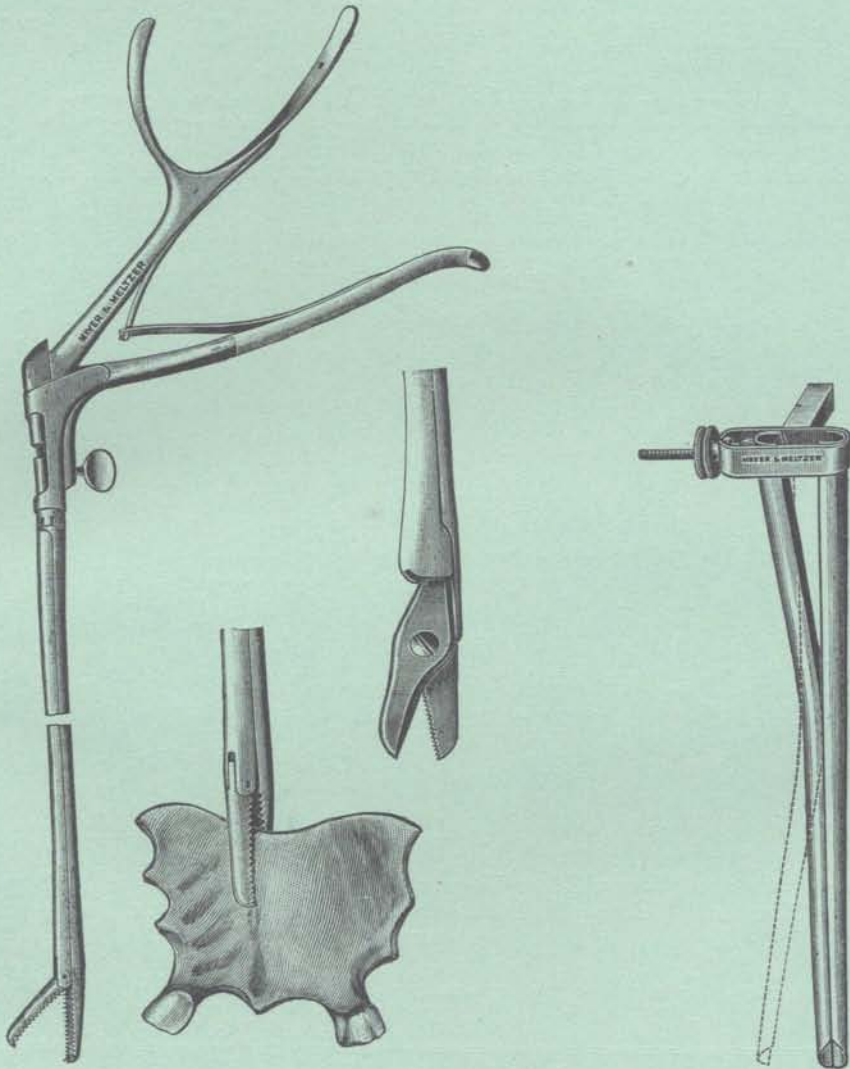
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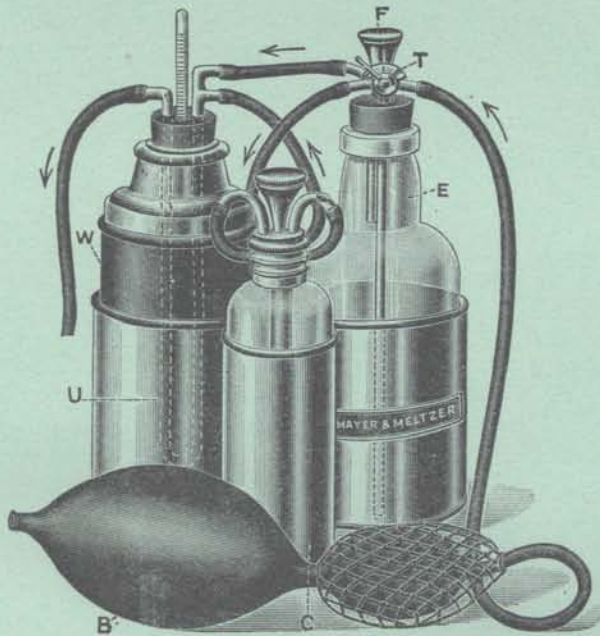
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