

## **Publications de l'U 158 (Inserm) (1999-2000)**

**2000**

**FRAGU P.**

Role of diagnostic and therapeutic tools in the definition of differentiated thyroid carcinoma (1800-1950).

*Bull. Cancer*, 87 (2), 145-154, 2000

(Services cités : U158)

This paper is an attempt to evaluate the role of diagnostic and therapeutic tools to define differentiated thyroid carcinoma. At the beginning of the last century physicians described its clinical feature: hard and invasive goiter arising after 25 and leading to death. In 1860, the surgical revolution encouraged the surgeons of gaiter to treat thyroid cancer simple goiter was viewed as precancer. From 1880, cell and tumor theories led pathologists to define microscopically thyroid cancer. In 1920, they demonstrated that the two most constant indications of thyroid epithelial malignancy were invasion of the blood vessels and distant metastasis. In 1930, radiotherapists introduced the concept of pronostic classification which combines histological criteria and patient survival for thyroid cancer. From 1940, the medical use of radioiodine led to distinguish two groups of thyroid tumors: those which are able to concentrate radioiodine and those which are not. Physicians, specialised in thyroid endocrinology, established the rules of thyroid cancer treatment. Our purpose is to analyse the epistemological and historical context of this pathology definition. [References: 71]

**1999**

**CHAMAK B.**

The emergence of cognitive science in France: A comparison with the USA.

*Soc. Stud. Sic.*, 29 (5), 643-684, 1999

(Services cités : U158)

A comparison between the development of cognitive science in France and the USA enables us to analyze some national differences linked to specific connections between the scientific, military, economic and political worlds. The influence of new practices and tools developed during World War II and the Cold War appears to be of crucial importance in understanding the development of this new field, as well as that of cybernetics, computer science, artificial intelligence and molecular biology. This paper can be considered as a study in how the differing contexts in France and the USA shaped the history of the construction of cognitive science in each of these two countries. In spite of various differences, some common aspects may be pointed out: in both cases, computer experts and psychologists using a computational modelling approach were those first engaged in the construction of cognitive science. If in France neuroscience-oriented cognitive science research was stronger than in the USA, it seems that the artificial intelligence orientation is also of growing importance in France. [References: 111]

**FRAGU P.**

The thyroid gland as viewed by the history of medical science.

*Ann. Endocrinol.*, 60 (1), 10-22, 1999

(Services cités : U158)

This review describes the changing medical perspectives from 1800 to 1960 with regard to the thyroid gland. During the XIXth century, clinical medicine identified the different thyroid diseases : goitrous cretinism (1802), Graves disease (1835-1856) and myxedema (acquired or post-surgery 1888). These clinical entities facilitated the construction of the first complete schema of endocrinology : one gland, one internal secretion and one replacement therapy with an organ extract. With the emergence of biochemistry at the beginning of the XXth century, the first thyroid hormone - thyroxin was identified. Alternative medical treatments aimed at blocking thyroid secretion, were proposed in 1940 leading to the rise of radioiodine and antithyroid compounds which were also used in physiological studies. From 1940 to 1970, the application of radioiodine shed a completely new light on thyroid physiopathology. The main transformations brought about by this tool were the knowledge of radioiodine uptake mechanisms, basis of its therapeutic effect, complete identification of thyroid hormones, monosynthesis, serum transport of thyroid hormones and thyroid imaging. More recently immunological and molecular paradigms changed the understanding of thyroid diseases. In spite of novel definitions, there was no therapeutic revolution like those introduced by iodine treatment (1820) thyroid surgery (1880), thyroid extract (1893) radioiodine and antithyroid drugs (1940), underlining the actual therapeutic stagnation. [References: 86]

#### **Ghesquier D.**

A gallic affair: The case of the missing itch-mite in French medicine in the early nineteenth century.

*Med. Hist.*, 43 (1), 26-54, 1999

(Services cités : U158)

#### **Guenel A.**

The creation of the first overseas Pasteur Institute, or the beginning of Albert Calmette's Pastorian career.

*Med. Hist.*, 43 (1), 1-25, 1999

(Services cités : U158)

#### **Lowy I., Rodhain F.**

Paul-louis Simond and yellow fever.

*Bull. Soc. Pathol. Exot.*, 92 (5 Pt 2), 392-395, 1999

(Services cités : U158)

P.L. Simond participated in the Pasteur Institute mission sent to Rio de Janeiro from 1901 to 1905 to investigate yellow fever and was to make an important contribution to the knowledge of the disease. At that time, the aetiologic agent of yellow fever was still unknown, and its transmission by mosquitoes was controversial. Several authors had observed apparent differences in the susceptibility to the illness between African and European populations. Otherwise, the soundness of epidemic control measures then being administered was often called into question. As such, many points needed to be definitely clarified. During the four years they spent in Brazil, the Pasteur Institute scientists--and particularly Simond--achieved important results. They confirmed the viral aetiology of yellow fever, were able to define several pathological aspects of the disease and conduct various serotherapeutic tests. The role of *Aedes aegypti* (known at the time as *Stegomyia fasciata*) was also confirmed and the bionomics of the mosquito began to be studied. This research laid the ground for classical measures of controlling the vector and preventing outbreaks of the disease. Furthermore, Marchoux and Simond observed the vertical

transmission of yellow fever virus in *Ae. aegypti*; this phenomenon of major epidemiological importance remained controversial until it was confirmed in the field as recently as 1997. The French scientists were also able to specify many aspects of the epidemiology of yellow fever, particularly its apparent low pathogenicity in young children--a possible explanation for the fact that local residents of endemic zones often had a certain level of immunity as a result of benign infection contracted in childhood. P.L. Simond later spent several months in Martinique where he set up a successful yellow fever vector control programme. Clearly Simond, who had already acquired much expertise in the epidemiology of vector-borne diseases, played a key role in the success of the mission sent by Institute Pasteur to Brazil, and, more generally, in the scientific advances of yellow fever prevention.