

History and review of crypto-infections

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* **No conflict of interest**

The pioneer : Charles Nicolle

Book : *Le destin des maladies infectieuses*, 1933

Republished in 1993

- * **Follower of Pasteur**
- * **Nobel prize winner** (discovery of the mode of transmission of typhus)
- * **Director of the Pasteur institute of Tunis**
- * **Wrote in the 1930's that chronic diseases could be linked to « *Les infections inapparentes* »** (silent infections, occult infections...)

Willy Burgdorfer was a strong supporter of Charles Nicolle's theories

- * **PhD thesis on relapsing fever in East Africa due to *Borrelia duttonii***
- * **Published in the 1950's about « *Occult infections* »**
- * **Studied the Rocky Mountain Spotted Fever (*Rickettsia rickettsii*)**
- * **« Discovered » *Borrelia burgdorferi***
- * **Worked on *Coxiella burnetii* (considered as a bioweapon)**
- * **Made *Rickettsia helvetica* (« l'agent suisse ») from American and Swiss genomes of *Rickettsiae*, present in the blood of patients during the initial Lyme disease outbreak**

The pioneers Giroud & Jadin

- * **Prof. Paul Giroud**, from the Pasteur Institute, France, assistant of Charles Nicolle
- * **Prof. Jean Baptiste Jadin**, from the Pince Leopold Institute of Antwerp, Belgium, field researcher in Congo Kinshasa and Rwanda. Father of Dr Cécile Jadin
- * **Loo & Menier**, *Annales de Médecine Physiologique* 1960. Possible link between intracellular bacteria and neuropsychiatric diseases
- * **In the 1980s, they described :**
 - * associations of certain diseases and protozoans (single-cell parasites)
 - * the possible pathogenic role of intracellular bacteria (*Rickettsia spp*, *Rickettsia*-like particles and *Chlamydia spp*)
 - * developed semi-quantitative antibody tests (not recognized) and treated many patients with doxycycline

Crypto-infections in dogs

- * **Donatien & Lestoguard, 1935**
- * Intracellular bacteria in the blood of sick dogs
- * *Rickettsia canis*, renamed *Ehrlichia canis*

Multiple terms used to define crypto-infections

- * **Infections inapparentes** (Charles Nicolle)
- * **Silent infections**
- * **Occult infections** (Willy Burgdorfer)
- * **Hidden infections**
- * **Stealth infections**
- * **Cold infections** (Luc Montagnier)
- * **Post tick-bite syndrome**
- * **Tick-associated poly-organic syndrome (TAPOS)** (Christian Perronne)
- * **Poly-organic chronic syndrome**
- * **Multiple systemic infectious disease syndrome (MSIDS)** (Richard Horowitz)
- * **Persistent polymorphic syndrome possibly due to a tick-bite (SPPT in French)** (French High Authority for Health, HAS)

Crypto-infections

- * Missed by the radar of the institutions and methods
- * Confusing variety of disorders and symptoms
- * *Borrelia spp* :
 - * ability to change form
 - * to modulate the biochemistry of their receptors
 - * allowing them to remain « hidden » for months or years
 - * not recognized by the immune system, inaccessible to antibiotics
- * *Borrelia* antigens at the surface of host cells induce auto-immunity
- * Reliable diagnostic tests have never been developed

Our cells are made from tubules of spirochetes (Microcosmos, Sagan & Margulis)

- * Bronchial cells with undulating cilia
- * Insulin secretion through microtubules
- * Neurons
- * Visual cells
- * Flagella of sperms
- * Cell division (mitosis) : microtubules arranged in beams that allow chromosomes to split
- * Etc.

Lack of research

- * **Lack of research into many chronic inflammatory, auto-immune and degenerative diseases (e.g. funding of HIV research vs funding of Lyme research !)**
- * **Ignoring the multiple examples of the microbial origin of some cancers**
- * **Veterinarians have often better diagnostic tests**
- * **WHO : « One health » : animals and humans share the same environment**

We only find what we look for... Otherwise, it « does not exist »

- * Muriel Vayssier Taussat et al. *Emerg Infect Dis*, 2016.
- * PCRs for *Bartonella spp* on blood samples from « chronic Lyme » patients. They found :
- * *Bartonella* already known in humans : *Bartonella henselae*
- * **But also... other *Bartonellae* previously unknown in humans** (but already known by vets in animals) :
 - * *Bartonella doshiae*
 - * *Bartonella schoenbuchensis*
 - * *Bartonella tribocorum*

Lack of research on treatments

Not a single randomized study to evaluate a really prolonged (> 3 months) antibiotic treatment for post-treatment Lyme disease syndrome (PTLDS)

Projects not funded

The theory of spontaneous generation : never ceases to be resurrected

- * Diseases can occur from nothing
- * Idiopathic diseases = diseases of « idiots » (experts, not patients)

Organic or psychic ?

- * **Crypto-infections, the missing link between Pasteur and Freud**
- * Both studied unexplained diseases
- * Chronic Lyme patients and patients suffering from other crypto-infections are in a no-man's land between microbiology and psychoanalysis

Ticks can transmit many microbes

- * **Bacteria :**

- * *Borrelia spp*, *Ehrlichia chaffeensis* (US), *Ehrlichia canis*, *Anaplasma phagocytophilum* (Europe), *Rickettsia spp*, *Francisella tularensis*, *Coxiella burnetii*, *Bartonella spp*, *Neoehrlichia mikurensis*

- * **Parasites :** *Babesia spp*, *Theileria spp*.

- * **Viruses**

- * **Symbiotes :** *Mitochondria* (live in mitochondria and able to destroy them). Similarities between symptoms of « chronic Lyme » and mitochondrial diseases

Real time micro-organisms PCR in 104 patients with polymorphic signs and symptoms that may be related to tick-bite. **Lacout A. ... Perronne C. et al. Eur J Microbiol Immunol 2021**

- * **Real time PCR from saliva, urine, venous blood, capillary blood**
- * **PCR for :** *Borrelia burgdorferi sensu lato*, *Borrelia miyamotoi*, *Borrelia hermsii*, *Bartonella spp.*, *Bartonella quintana*, *Bartonella henselae*, *Ehrlichia spp.*, *Anaplasma spp.*, *Rickettsia spp.*, *Coxiella burnetii*, *Brucella spp.*, *Francisella tularensis*, *Mycoplasma spp.*, *Chlamydia spp.*, *Babesia spp.*, *Theileria spp.*
- * **48% of patients: polyinfected**, 25% harboured at least 3 different micro-organisms
- * **Borreliae were not frequently isolated**, far behind *Mycoplasma*, *Rickettsia*, and *Ehrlichia*
- * **Piroplams** (*Babesia* and especially *Theileria*) **were frequently isolated**
- * **The most sensitive matrices were :** saliva, then urine and capillary blood. Venous blood was the less sensitive.

***Borrelia miyamotoi* : 43 cases diagnosed in France by real time PCR in patients with persistent polymorphic signs and symptoms.**

Franck M. ... Perronne C. et al. Front Med 2020.

- * ***Borrelia miyamotoi* is a relapsing fever *Borrelia* which can induce symptoms related to Lyme disease**
- * **Discovered in 1995 (rodents and ticks)**
- * **Real time PCR from blood of 824 patients with chronic symptoms**
- * **PCR positive in 43 patients (5,22%)**
- * **Erythema migrans : 16%**
- * **All patients : fatigue, joint pain, neuro-cognitive disorders**
- * **Half of patients : chills, hot flushes, sweats**
- * **41,9% of patients : respiratory disorders (chest tightness, lack of air)**
- * **35,5% of patients : episodes of relapsing fever**
- * **Usually, no cross reaction with *B. burgdorferi* serology**

**Many crypto-infections :
not due to tick bites**

The infectious cause of autism ?

- * Many autistic children have improved or were cured thanks to anti-infectious treatments (antibiotics + antiparasitic or antifungic drugs) and low gluten diet
- * Acute digestive or cutaneous symptoms may precede the occurrence of autistic symptoms
- * *Sutarella* and *Ruminococcus* are found in the feces of autistic children
- * In France, in 2012, I tried with Dr Philippe Raymond, to set a randomized clinical trial (azithromycin vs placebo) to confirm the efficacy of antibiotics (« *Autibiotic* » trial). Initially supported by the Minister of health, the trial was attacked and abandoned !

The infectious cause of schizophrenia ?

- * **Randomized placebo controlled studies are published**
- * **Showing the efficacy of antibiotics (at least partial and transient)**
- * **The link between *Bartonella spp.* and psychiatric diseases**

The infectious cause of Alzheimer's disease (1)

- * The fight between Emil Kraepelin (Alois Alzheimer's boss) and Sigmund Freud about the organic or the psychological cause of neuropsychiatric diseases.
- * By comparison with syphilis and its agent *Treponema pallidum*, Alzheimer was convinced that a bacterium was responsible for « his » disease
- * Neurosyphilis, Alzheimer's disease and neuroborreliosis : brain sections show the same lesions

The infectious cause of Alzheimer's disease (2)

- * Alan Mc Donald, Judith Miklossy. Confirmed by Allen et al. *J Neuroinfect Dis* 2016.
- * Alzheimer's disease is a neurospirochetosis
- * Fulfill the criteria of Henle-Koch postulate
- * *Borreliae* and non-syphilitic *Treponemae* were evidenced in the brains
- * Link between damaged gums and spoiled teeth (*Porphyromonas gingivalis*) (dentist St John Crean)

TRAPS

- * TNF-receptor associated periodic syndrome
- * One patient suffering for years of episodes of high grade fever and symptoms. Cured after 4 months of antibiotic and hydroxychloroquine. Long term follow-up
- * *Galpérine et al. J Global Infect Dis 2020*

The infectious cause of asthma ?

- * Biscardi et al. *Mycoplasma pneumoniae* and asthma in children. *Clin Infect Dis* 2004
- * Role of *Chlamydia*

The bacterial cause of arteriosclerosis ?

- * IV injection of *Chlamydia pneumoniae* in animals : provides atheroma plaques
- * Animals : efficacy of doxycycline on aortic aneurysms
- * Humans : several clinical trials were inconclusive
- * Dutch study, Arnoud-Meyer et al 2013. Patients with a small aortic aneurysm. Doxycycline vs placebo. Significant increase in the size of aneurysm with doxycycline (local herx with inflammatory reaction ?)
- * Fluoroquinolones may worsen some aneurysms (herx?)

Rheumatoid arthritis

- * **Several randomized studies showing the efficacy of long term anti-infective treatment**
- * Minocycline > placebo (*O'Dell et al. Arthritis Rheum 1997*)
- * Doxycycline : conflicting results
- * Hydroxychloroquine alone : moderate effect
- * Clarithromycine > placebo (*Ogrendik et al. Curr Med Res Opin 2007*)
- * **Only the « anti-inflammatory » effect of antibiotics and hydroxychloroquine ?**

Helicobacter pylori

- * **Agent of gastric and duodenal peptic ulcer**
 - * Ulcer considered as a psychosomatic disease
 - * Gastric spirochetes already seen in the microscope in 1875 !
- * **Oncogenic**
- * **Link with the severity of Parkinson's disease (Tan 2015)**
- * **Role of non pylori species of *Helicobacter* in hepatobiliary diseases ?**

Relapsing fevers

- * **15 species of *Borrelia* transmitted by ticks or lice**
- * Relapsing fever reported in Madagascar in the 18th century (Drury, 1729)
- * « Tick fever » reported by Dr Livingstone (explorer and missionary in East Africa)
- * After World war 1 : Hispano-african relapsing fever (*Spirochaeta hispanicum* renamed *Borrelia hispanicum*)
- * 1950's : Studies by Willy Burgdorfer
- * Sahel : high proportion of « malaria » cases are in fact borreliosis (Vial *et al*, *Lancet* 2006, Mediannikov *et al*, *Emerg Infect Dis* 2014)
- * **Diagnosis : microscopic blood smears**
- * **Not anymore diagnosed in « modern » medicine**

Whipple's disease

- * Previously often considered as psychosomatic
- * Until the discovery of *Tropheryma whipplei*

Mycobacterial crypto-infections

- * The example of :
- * **Sarcoidosis**
- * **Crohn' disease**

The infectious origin of sarcoidosis (1)

- * Due to L-forms of *Mycobacteria* spp. No cell wall : no staining of acid fast bacilli
- * Rare cases of simultaneous onset of sarcoidosis symptoms in persons exposed to non tuberculous *Mycobacteria* (e.g. jacuzzi)
- * Reported cases of isolation of non-TB *Mycobacteria* from bronchial samples
- * Correlation with anti-mycobacterial antibodies
- * Link with *Chlamydia* infection
- * More frequent in nursing personnel
- * French Antilles : West Indians have no additional risk, but after living in Metropolitan France, their risk increases. Environmental factors.

The infectious origin of sarcoidosis (2)

- * I was vice-director of the National reference lab for tuberculosis and other *Mycobacteria*, Pasteur Institute, Paris
- * I cured patients with sarcoidosis prescribing anti-mycobacterial combinations used for *Mycobacterium avium* in AIDS patients.
- * **1996. Clinical trial « Mycosarc » to confirm the efficacy of clarithromycin.** Promotor : Pasteur Institute. The protocol was criticized, attacked and finally abandoned

The infectious origin of Crohn's disease (1)

- * Due to *Mycobacterium avium subspecies paratuberculosis*, cause of Johne's disease in cattle (bovine diarrhoea)
- * Outbreaks of human cases of Crohn's disease in villages living downstream from the fields occupied by herds contaminated by Johne's disease
- * Human cases of transmission within couples
- * *M. avium subsp paratuberculosis* : isolated by culture or PCR from human colon biopsies
- * Culture only possible in liquid media, kept 4 to 6 months
- * Causality fulfills the Henle-Koch criteria (Greenstein, Lancet Infect Dis 2003)

The infectious origin of Crohn's disease (2)

- * **English open label clinical study.**
- * In 52 patients, 100% efficacy of a combination of clarithromycin (or azithromycin) and rifabutin. Two years follow-up (*Gui et al. J Antimicrob Chemother 1997*).
- * Study not taken into account because of the lack of placebo !
- * **I cured patients and designed a clinical trial** which was also attacked and abandoned

The infectious causes of cancers

- * **Not only viruses** (HTLV-1, EBV, HBV, HCV, HPV, HHV-8, etc.)
- * **Bacteria :**
 - * ***Helicobacter pylori***
 - * Gastric adenocarcinoma, gastric lymphoma (MALT)
 - * ***Campylobacter jejuni***
 - * Immunoproliferative disease of the small intestine
 - * ***Neoehrlichia mikurensis***
 - * Malignant lymphomas
 - * ***Porphyromonas gingivalis***
 - * Oesophageal cancer
 - * ***Bartonella spp.***
 - * *Malignant melanoma*
- * **Parasites :**
 - * **Theileria (piroplasms)**
 - * Malignant lymphomas
 - * Able to transform healthy human cells into cancerous cells

Crypto-infections : Code of silence

- * Hidden infections, but also hidden medical and scientific informations about these diseases
- * Many published data not included in « official » recommendations
- * The reign of censorship, particularly in the medical journals
- * Major medical journals at the orders to publish misleading editorials

Silent epidemics are denied

- * Lack of reliable diagnostic tests
- * Lack of good statistics
- * Difficult to convince politicians of the reality of a huge global problem, which should require fast-track research

The ridiculous planned disappearance of infectious diseases

- * **After World war II, microbiology is denigrated**
 - * Advances in hygiene, nutrition, vaccines and anti-infective drugs, especially antibiotics
 - * Would quickly sweep away microbes, intruders worthy only of the Middle Ages
- * **But... Life is either infectious or it does not exist at all**
- * **Promotion of « more noble » specialties : genetics, immunology, statistics...**

Cost of chronic Lyme disease and other crypto-infections

- * Wandering from many doctors to many medical departments
- * Multiple examinations
- * Multiple inefficient treatments
- * Multiple alternative treatments (e.g. phytotherapy), or alternative tests, not reimbursed
- * Multiple hospitalizations, including in psychiatry wards
- * Multiple sick leaves
- * Chronic handicap

Cost of chronic Lyme disease, Belgium.

University of Gent

- * **Cost of illness in patients with post-treatment Lyme disease syndrome in Belgium.** Willems R, Verhaeghe N, Perronne C, Borgemans L, Annemans L. *Eur J Public Health*. 2023
- * **Mean annual direct costs per patient = 4.618 euros**
 - * Out of pocket expenditures : 49,5%
- * **At population level :**
 - * Direct costs = 19,4 millions euros
 - * Indirect costs = 151,5 millions euros

Chronic pathologies : multiple causes of persistence

- * **Microbes are not the only cause**
- * **Anti-infective agents cannot achieve cure in all patients**

- * **Genetic factors**
- * **Auto-immune processes**
- * **Stress**
- * **Heavy metals**
- * **Psychological traumas**
- * **Domestic violence**
- * **Sexual violence during childhood**
- * **Food habits**
- * **Physical activities**

Crypto-infections: Triggering factors of chronic syndromes or relapses

- * **Stress**

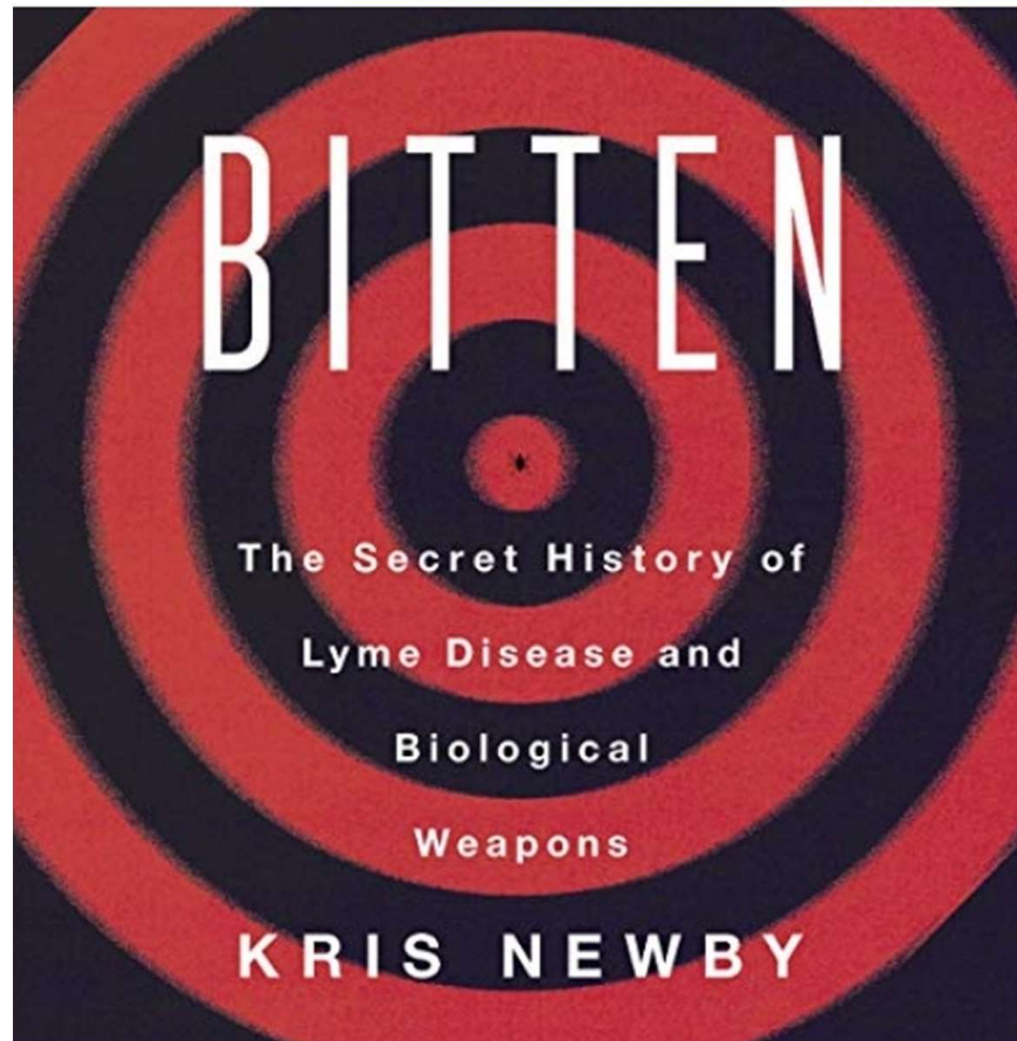
- * **Some acute infections able to transitorily decrease the immune defenses**

- * Infectious mononucleosis (EBV virus)
- * Cytomegalovirus (CMV)
- * Malaria
- * Dengue
- * Chikungunya
- * Covid-19 (Long Covid)

Military affairs : lab modifications of ticks and *Borrelia*

- * **Modified by man (bioweapons)**
- * **Book « Bitten »**, Kris Newby, 2019, Harper (archives from Willy Burgdorfer's lab)
- * **Motion voted by the US Chamber of Representatives**, July 2019. Establishment of an Investigative Committee on the Pentagon activities

« Bitten », Kris Newby, Harper
The secret archives of Willy Burgdorfer



Books about Lyme disease and other crypto-infections (Odile Jacob, Hammersmith)

Pr Christian Perronne 

La Vérité sur la maladie de Lyme

NOUVELLE
ÉDITION
ACTUALISÉE



CRYPTO- INFECTIONS



Denial, censorship and
suppression – the truth
about what lies behind
chronic disease

DR CHRISTIAN PERRONNE

"There are many occult infections triggering a cascade of
infection, inflammation and autoimmunity, of which *Borrelia*,
the bacterium causing Lyme disease, is the prototype"



Dr Jack Lambert, Consultant in Infectious Diseases, Dublin, Ireland