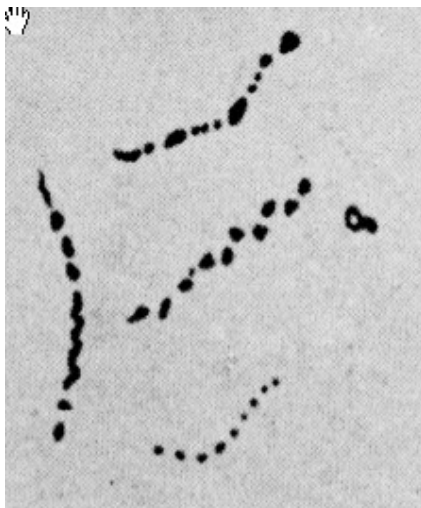
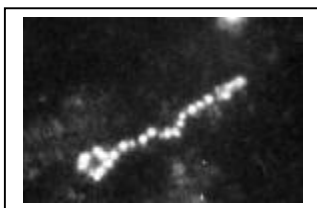


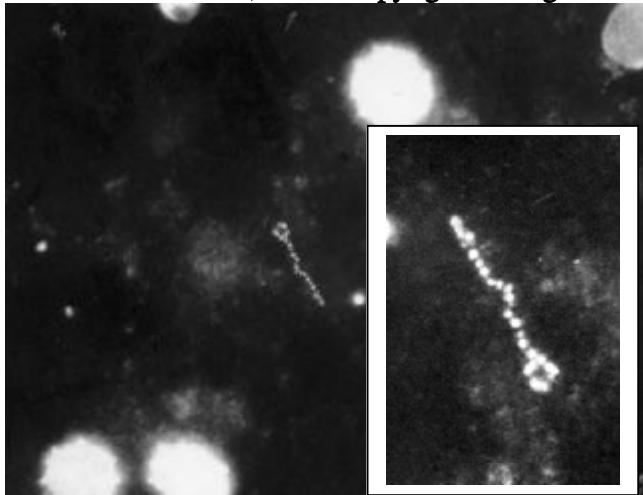
PARTIAL FRAGMENTATION
OF TREPONEMA PALLIDUM
(JACQUET AND SEZARY 1907)



COMPLETE FRAGMENTATION OF
T.PALLIDUM ,
(leading to an array of “dots” , which
when reconnected, reproduce the contour
of the “classic” corkscrew shaped
spirochete)
I favor this dot-like array as the
mechanism for the “granular” form
Of T. Pallidum (A.MacDonald,MD)



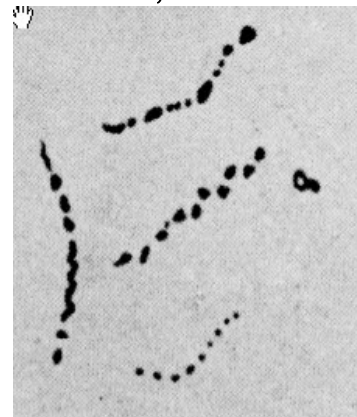
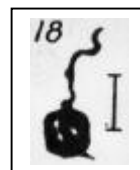
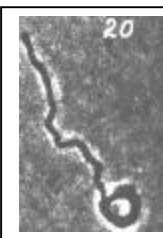
Indirect immunofluorescence of a fresh autopsy
Brain imprint, (analogous to the FBI fingerprint used in police
Work). The fresh brain slice is rolled across a glass slide,
without “smudging the print”, is fixed in Alcohol, and
Layered with a monoclonal murine antibody to the spirochetal
Epitope, incubated in a moist chamber for 30 minutes, washed
In PBS, and layered with fluorescein antimouse antiserum,
Incubated for 30 min, washed, layered with nonfluorescent
aqueous mounting media, coverslipped, and examined with
Epifluorescence at 1000x using oil immersion with an
objective outfitted with a correction ring, and photographed.
I have seen this only once in my career.
AlanMacDonald MD



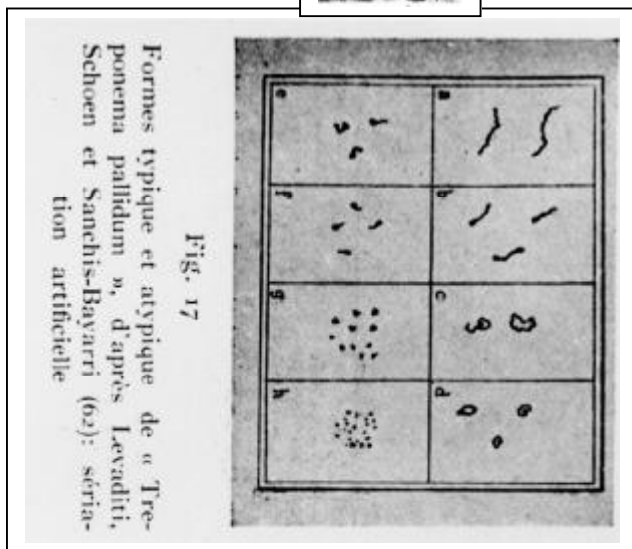
Autopsy

Frontal Lobe
 Year 1986
 Monoclonal Ab (murine)
 H5332

Please “connect the dots”
 To view this as a
 Form of the spirochete
 From which it originated
 Alan
 MacDonald,MD

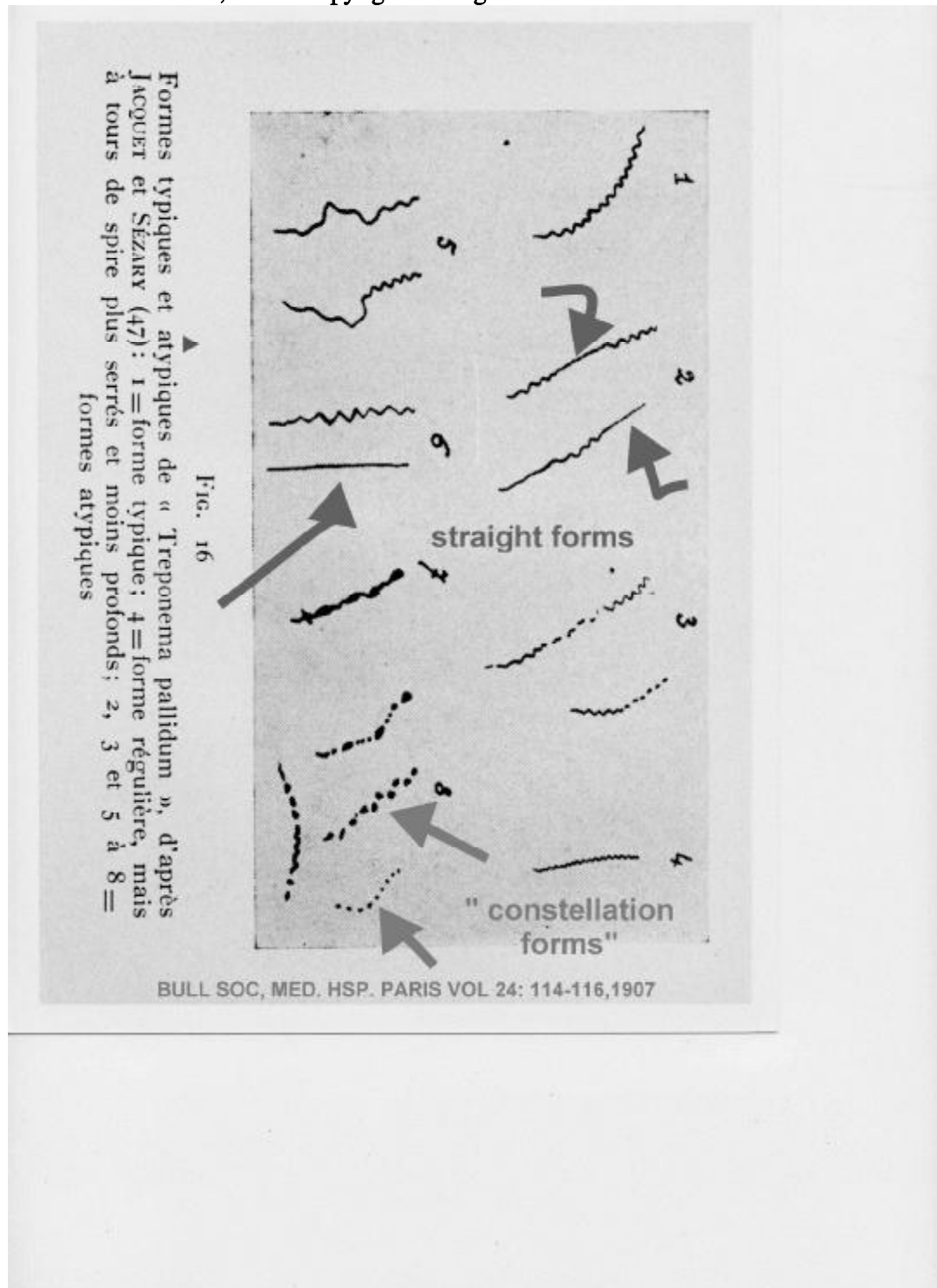


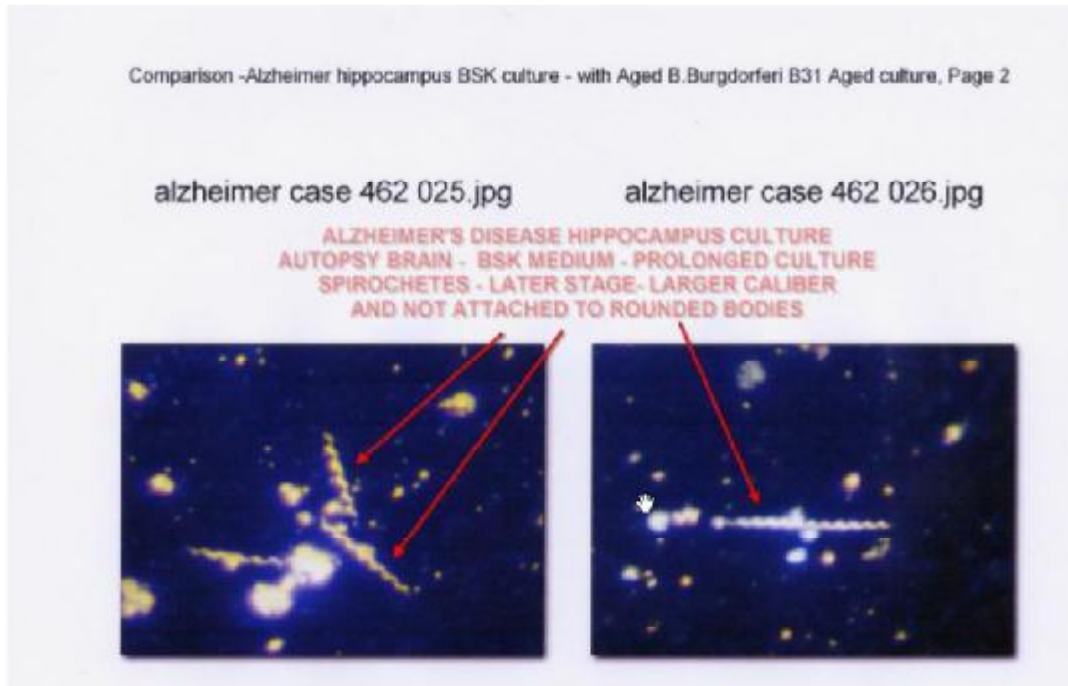
Control images from
 Jacquet and Sezary 1907

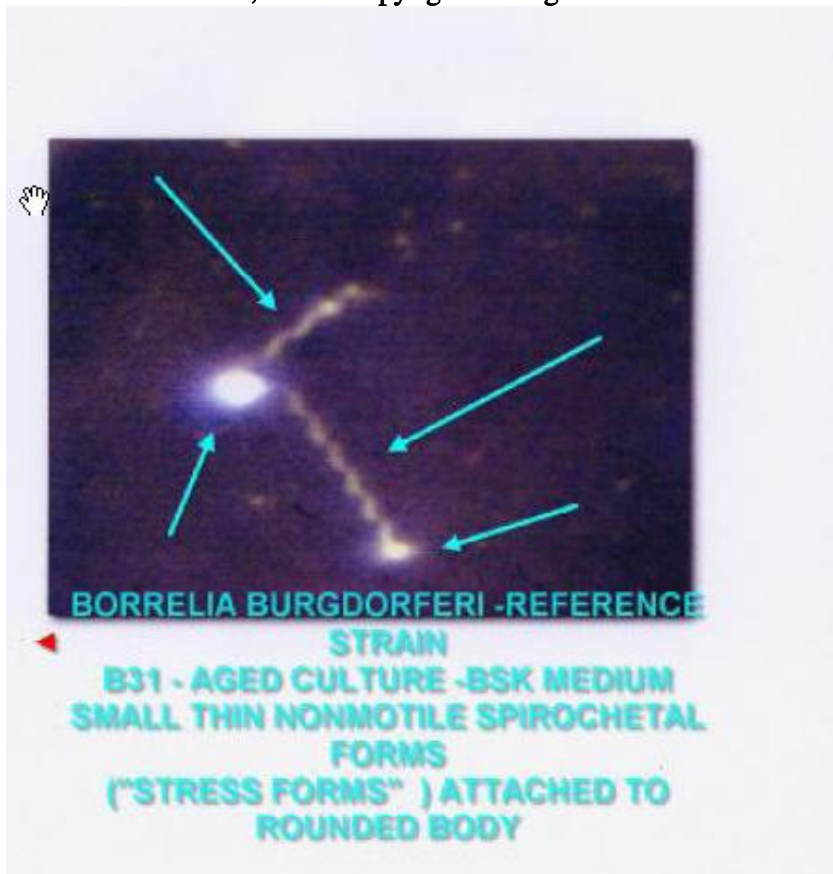


“comma” shaped forms
 were called LOOP
 FORMS
 By Rose and Morton in
 their 1951 Paper
 “The Morphologic
 Variation of Treponema”

 “Formes Atypique” were
 depicted by Schoen and
 Sanchis-Bayarri”

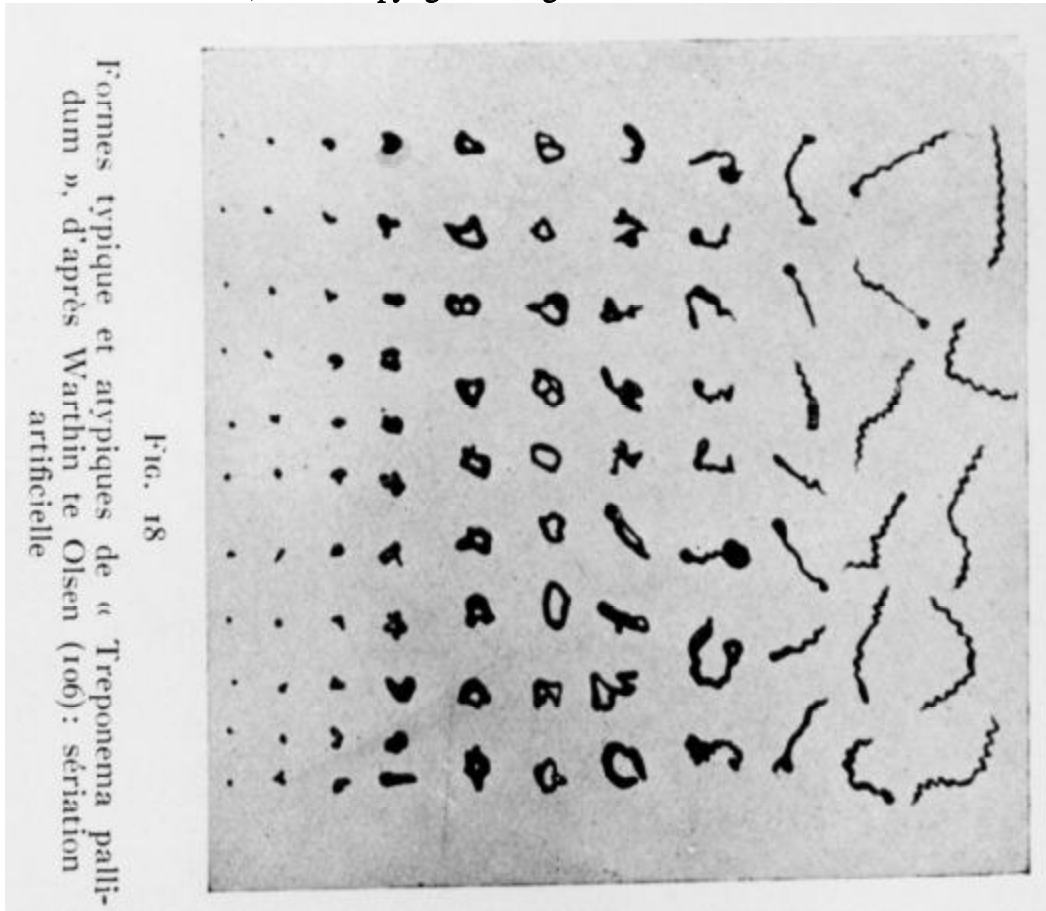


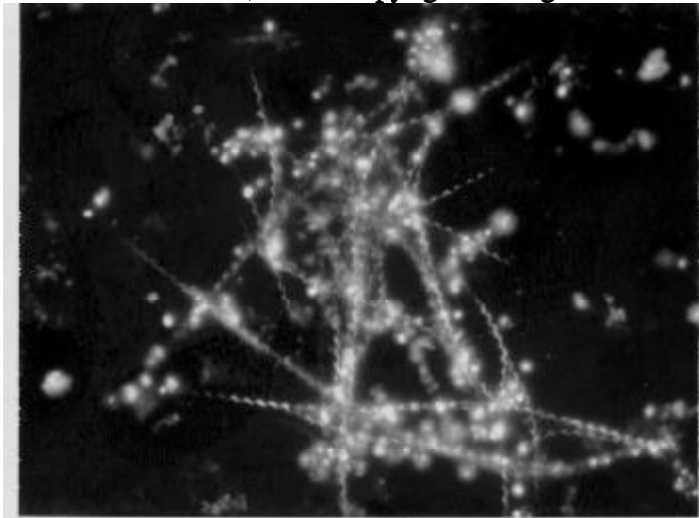




DIMINUTIVE SPIROCHETES WITH VARIOUS SHOWING APICAL ROUNDED BODIES, AND STRAIGHTENED FORMS, AND SOME JOINED TO THICKER MORE CONVENTIONAL SPIROCHETAL FORMS

**Dr. P. Seguin
circa 1907
Paris,France**

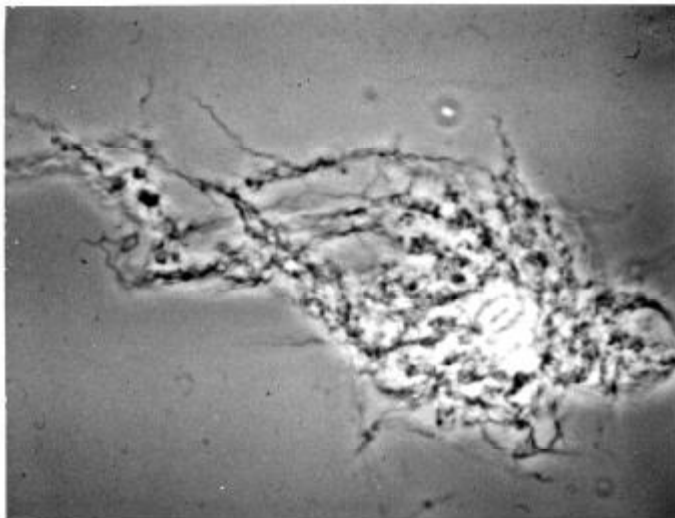




Darkfield
Alzheimer autopsy
brain BSK cultured
Spirochetes 1986

Non motile forms in
A group
(In 1986, nonmotile
forms of borrelia were
no accepted as
“legitimate”.
In 2004,
Nonmotile B.
burgdorferi Are
Legitimate forms
under the category of
“stress altered” forms
of PreacMursic
/Wilske
or under the category
of Flagellin-less
forms of Barbour and
Charon

Alan MacDonald, MD
2004

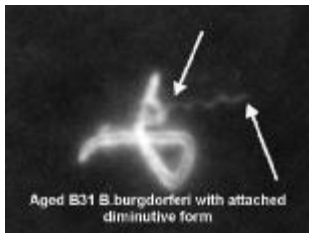


Alan G. Barbour’s original B. burgdorferi isolate B31
Yale Journal of Biology and Medicine
Phase Contrast Image

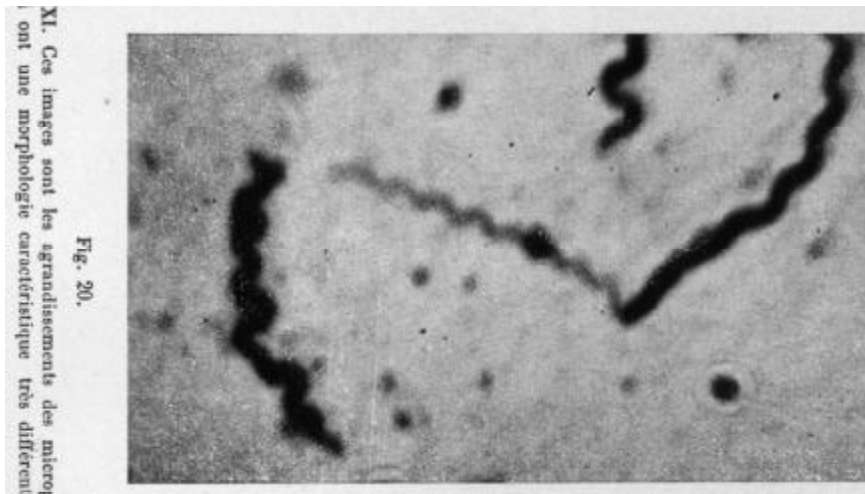
Spirochetes in a group (“so called brood colony” or “tangle”)

I think that some rounded bodies are associated with these spirochetes/

Alan MacDonald MD 2004



B.burgdorferi from the ATCC grown in BSK II
And allowed to “age” for 6 months
Show atypical forms, including diminutive forms
Which may be attached to parent forms.
Diminutive forms are always non motile
Alan MacDonald MD 2004



Diminutive forms attached to conventional or
Attached to atypical spirochetal forms were
Published by Dr. P Seguin
In his studies of experimental Treponemal
Infection in the lapin and
In studies of secondary and gummatous
Syphilis in the human host

Alan MacDonald, MD 2004

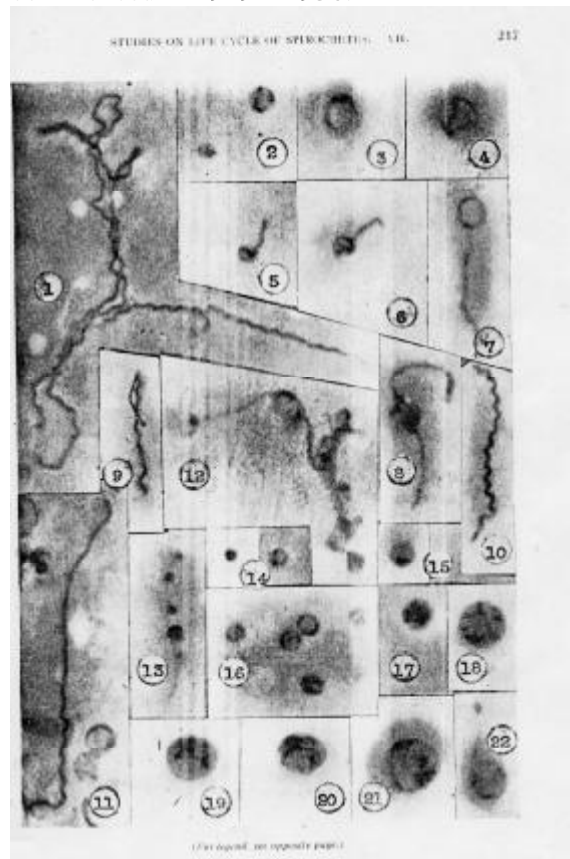


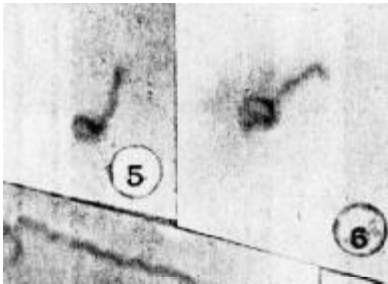
Aged B.Burgdorferi B31
with diminutive form emerging
from a rounded structure
"stress altered form"

Aged cultures of *B. Burgdorferi* from the ATCC grown in BSK II for 6 months to One year show loss of motility and emergence Of rounded bodies (gemma, "Stress Altered forms", "cyst forms")

In some cases , a small diminutive nonmotile Form emerges from the rounded body.

These observations recapitulate the Classic studies of Edward D.DeLamater,MD and colleagues in the series of papers which commenced in 1949 – 1950.





(Original Legend from DeLamater,ED et al, Studies on the Life Cycle of Spirochetes ,VII, The Life Cycle of the Kazan Nonpathogenic Treponema Pallidum in Culture,
Figs 5 to 7: Photo 280. Eleven day old slide culture. Photos No. 228. Three Day old slide culture made from 11 day culture. Photo No. 282. Twelve day old culture showing stages in the unipolar emergence of spiral forms from Unispirochetal cysts (x4,850)