click here to download this "Morgellons update" PDF file.

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Morgellons disease (MD) is an emerging multisystem illness characterized by skin lesions with unusual filaments embedded in or projecting from epithelial tissue. Filament formation results from abnormal keratin and collagen expression by epithelial-based keratinocytes and fibroblasts. Recent research comparing MD to bovine digital dermatitis, an animal infectious disease with similar skin features, provided clues that spirochetal infection could play an important role in the human disease as it does in the animal illness. Based on histological staining, immunofluorescent staining, electron microscopic imaging and polymerase chain reaction, we report the detection of Borrelia spirochetes in dermatological tissue of four randomly-selected MD patients. The association of MD with spirochetal infection provides evidence that this infection may be a significant factor in the illness. Molecular characterization of the Borrelia spirochetes found in MD patients is warranted.

http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3954163/

Complete Genes May Pass from GMO Food to Human Blood

Sándor Spisák, Norbert Solymosi, Péter Ittzés, András Bodor, Dániel Kondor, Gábor Vattay, Barbara K. Barták, Ferenc Sipos, Orsolya Galamb, Zsolt Tulassay, Zoltán Szállási, Simon Rasmussen, Thomas Sicheritz-Ponten, Søren Brunak, Béla Molnár, István Csabai

Based on the analysis of over 1000 human samples from four independent studies, we report evidence that GMO meal-derived DNA fragments which are large enough to carry complete genes can avoid degradation and through an unknown mechanism enter the human circulation system. In one of the blood samples the relative concentration of plant DNA is higher than the human DNA. DNA

fragments were detected by PCR based techniques in the digestive tract and leukocytes of rainbow trouts fed by genetically modified soybean [37], and other studies report similar results in goats [38], pigs [39], [40] and mice [5].

http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0069805

Agrobacterium & Morgellons Disease, A GM Connection?

Preliminary findings suggest a link between Morgellons Disease and Agrobacterium*, a soil bacterium extensively manipulated and used in making GM crops; has genetic engineering created a new epidemic?*

.::" **Agrobacterium** persisting in transgenic plants released into the environment has the potential to spread new diseases, and to plants that normally would not be infected by the disease agents. At the time, the researchers did not know that **Agrobacterium** would also infect **animals and humans**, and could spread **new diseases** to them as well.

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Have these warnings been heeded by other researchers? There is no evidence they have been taken on board. **Agrobacterium** has since been shown to transform at least 80 different non-plant species including **yeasts and other fungi, algae, mammalian and human cells**, also the gram positive **bacterium Streptomyces lividans**. In a recent review, the researchers stated [14]: "Future research has to show whether **Agrobacterium-mediated** transformation contributed to horizontal gene transfer between microorganisms in the rhizosphere."

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But there is already evidence suggesting that **Agrobacterium** can indeed engage in horizontal gene transfer with a wide range of bacteria in the soil. (For more on horizontal gene transfer see [19] Horizontal Gene Transfer from GMOs Does Happen, SiS 38)

• http://www.globalresearch.ca/agrobacterium-morgellons-disease-a-gm-connection/9891

• VIA "Bellouise" ••• www.People.com •••

THANK YOU for finally sharing the truth about this nightmare of a disease which I've battled myself since 2011. Unfortunately for its sufferers, it IS a physical disease. When I first developed it, I read how patients were being dismissed by condescending doctors who didn't believe the disease was real, based on the CDC's inaccurate and misleading info. So, as a photographer of 30 years, I chose to visually record all the horrible rashes, sores, lesions, fibers, hair loss, dental loss and other physical manifestations so I could SHOW rather than simply TELL my physicians what was going on with my body. It's hard for people to "pronounce" that it's not REAL when they can see the ugly truth right in front of them. And while it often does cause some neurological changes (brain fog, inability to focus at times or remember words), it is NOT a case of "mental illness" or being "Delusional of Parasitosis." Nor are the patients' painful lesions "self-inflicted" or caused by "sun damage" as the CDC tried to say in the report of their now refuted (by scientific proof), flawed, under-funded and limited in scope study of 2008 (which wasn't even released until 2012.)

Many people have been suffering with this horrific affliction for decades - way BEFORE there was even an internet. The web simply provided a means for patients to finally connect with other sufferers around the world. I've worked in the Arts all my life, including Hollywood's film music industry where I was an exec asst to major talent agents. I was also an always-healthy professional dancer who did not smoke, nor drink and took great care of myself. I was never a health nut nor a hypochondriac and rarely had to visit a doctor. But Morgellons has totally devastated my body, life, relationships and career options in just 3 and half years. It's not only disfiguring but terribly debilitating and disabling. I was sent to 48 doctors since 2011 and finally they found a Morgellons disease specialist in CA (Dr Raphael Stricker) but Health (Hell) Plan of Nevada refused to provide me access to him. That decision contributed to me now having 8 other diseases and passing out everyday. I can no longer work/support myself and now struggle to survive on Medicaid and 63 dollars of food stamps a month (33 cents a meal which must be gluten-free due to another disease.) Up to now, life for people with Morgellons has been filled with much despair due to how they've been mistreated or neglected by the medical community and the government and I pray that your story will open the eyes and hearts of those physicians who blindly believed and followed the BS the CDC told them years ago. May God bless this reporter and Cindy Casey-Holman for speaking boldly to those in power. I pray it will lead to more research and renewed funding for this disease and that new HOPE will lift the spirits of its sufferers worldwide.

• http://www.people.com/article/morgellons-disease-first-person-cindy-casey-holman

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All Morgellons patients screened to date have tested positive for the presence of Agrobacterium. Preliminary conclusion is that "**Agrobacterium** may be involved in the etiology and/or progression" of Morgellons Disease. Researchers concluded that the fibers biological in nature and are not textile fibers. These fibers, under the microscope, contain floral and root-like structures that may cross contaminate from plants and humans by way of **GMOs**. Agrobacterium not only infect human and other animal cells, it also transfers genes into them. It was SUNY professor Citovsky and his team that made the discovery some years ago. Until then, the genetic engineering community had assumed that Agrobacterium did not infect animal cells, and certainly would not transfer genes into them. Agrobacterium was found to transfer T-DNA into the chromosomes of human cells.
http://www.i-sis.org.uk/agrobacteriumAndMorgellons.php

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Journal of Clinical & Experimental Dermatology Research

Morgellons Disease: A Chemical and Light Microscopic Study

Lyme disease-like symptoms in Morgellons Disease (MD) such as neurological disorders and joint pain are evidence of systemic involvement [1,2,7]. Objective clinical evidence of disease has been demonstrated by its association with peripheral neuropathy, delayed capillary refill, decreased body temperature, tachycardia, elevated pro-inflammatory markers, cytokine release, selective immune deficiency and elevated insulin levels, suggesting that an infectious process is involved [8,9]. Patients may demonstrate abnormal laboratory findings indicative of low-grade anemia, endocrine dysfunction, immune dysfunction and inflammation [8,10].

Patients with MD are predominantly sero-reactive to Borrelia burgdorferi (Bb) antigens, suggesting a likelihood of Lyme borreliosis or related spirochetal infection [1,10]. Patients also demonstrate a higher than expected percentage of positive laboratory findings for other tick-borne diseases, suggesting the possible involvement of coinfecting pathogens [10]. The observation of unusual filaments forming in

lesions is not unique to humans afflicted with MD. Similarities between MD and bovine digital dermatitis (BDD) have been described [3]. BDD is an emerging disease afflicting cattle and is characteristically associated with unusual filament formation in skin above the hooves [11]. Late-stage proliferative lesions demonstrate elongation of keratinocytes, hyperkeratosis, and proliferation of long keratin filaments [12-14].

Consistent detection of spirochetes associated with lesions is evidence of spirochetal etiologic involvement [15-20]. Experimental induction of lesions with tissue homogenates [21] and pure cultured treponemes [22] supports a role for spirochetes as primary etiologic agents.

Like BDD, MD is associated with apparent spirochetal infection and unusual filament production [3]. A comparison between BDD and MD suggests that the unusual fibers seen in MD patients may result from hyperkeratosis and filament production as described in BDD. It appears that MD fibers are likewise composed of keratin produced by keratinocytes, a phenomenon that has been demonstrated in BDD [3].

The following three case studies provide further evidence supporting this hypothesis.

Journal of Clinical & Experimental Dermatology Research
ISSN:2155-9554 JCEDR, an open access journal
http://www.omicsonline.org/pdfdownload.php?download=morgellons-disease-a-chemical-and-light-microscopic-study-2155-9554.1000140.pdf

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Clifford E Carnicom www.carnicominstitute.org

Abstract: A substantial body of research has accumulated to make the case that the underlying organism (i.e., pathogen) of the Morgellons disease is using the iron from human blood for its own growth and existence. It will also be shown that the bio-chemical state of the blood is being altered in the process. The presence of the organism, as encountered, appears to be extensive within the body. It appears to occur within the circulatory, digestive and urinary systems as a minimum.

The implications of this thesis are severe as this alteration affects, amongst other things, the ability and capacity of the blood to bind to oxygen. Respiration is the source of energy for the body. This change is also anticipated to increase the number of free radicals and to increase acidity in the body. This process

also requires and consumes energy from the body to take place; this energy supports the growth and proliferation of the organism.

The changes in the blood are anticipated to increase its combination with respiratory inhibitors and toxins. The changes under evaluation may occur without any obvious outward symptoms. It is also anticipated that there are consequences upon metabolism and health that extend beyond the functions of the blood.

This change represents essentially a systemic attack upon the body, and the difficulties of extinction of the organism are apparent. Physiological conditions that are in probable conjunction with the condition are identified. Strategies that may be beneficial in mitigating the severity of the condition are enumerated. www.carnicominstitute.org/articles/bio2011-6.htm

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Morgellons :: **Agrobacterium :: Expanded Host Range ::** Although Agrobacterium gene transfer and crown gall tumor formation in a wide variety of plants is a common occurrence in nature, in the laboratory, Agrobacterium can transfer DNA into a much broader group of eukaryotic cells. This was first demonstrated by Paul Hooykaas and colleagues who reported that Agrobacterium carrying a ura+ locus between T-DNA borders could transform a ura- strain of the yeast Saccharomyces cerevisiae to prototrophy in medium that promoted vir gene induction.

This group also showed that many other fungi could be transformed following co-cultivation with Agrobacterium. Now, numerous algae, protozoa and even Hela cells have been stably transformed in the laboratory. These reports have opened up a whole new use for Agrobacterium, allowing the genetic analysis of organisms that previously were totally recalcitrant to such studies.

http://www.apsnet.org/publications/apsnetfeatures/Pages/Agrobacterium.aspx

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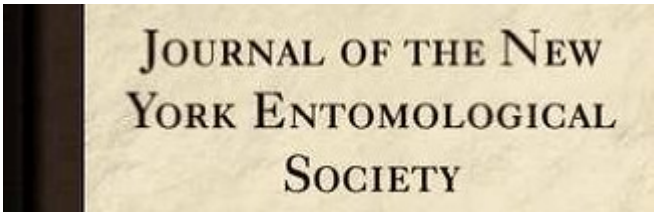

COLLEMBOLA (SPRINGTAILS) (ARTHROPODA: HEXAPODA: ENTOGNATHA) FOUND IN SCRAPINGS FROM INDIVIDUALS DIAGNOSED WITH MORGELLONS / PARASITOSIS:
http://ecodelmar.org/morgellons/SPRINGTAILS__jnyes.pdf

Morgellons disease and Lyme disease:
identification of Borrelia burgdorferi
in Morgellons disease patients:
http://ecodelmar.org/morgellons/BMC_Dermatology_12895_2015_Article_23.pdf

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Babesia (Babesiosis) Explanation: Babesia microti is a “piroplasm”, which is a type of a protozoan, is often a co-infection associated with Lyme disease. It is a parasite that is transmitted by an insect and reproduces in the red blood cells of the host. With symptoms much like malaria: fatigue, arthralgia and myalgia, nausea, cough, dyspnea, fever, and malaise. It is difficult to diagnose with conventional lab tests, however some tests are available such as serology, FISH, PCR, and enhanced smear.

Medication treatment suggestions include: Atovaquone (Mepron, Malarone), Azithromycin Zithromax), Clarithromycin, Telithromycin, Clindamycin, Quinine, Bactrim, Artemesia

Medications listed above are similar to the Cpn medications. Therefore following the Cpn treatment protocol will also be beneficial in treating Babesia. It is once again emphasized that the Cpn treatment protocol MUST be followed in the combination suggested to eradicate all forms of the organisms: http://morgellonswiki.info/xwiki /bin/view/Treatment/MorgellonsTreatmentStepsWebsite

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Genetic engineering the super-viruse

Reported in New Scientist [3] a deadly virus created accidentally by researchers in Canberra Australia, who were trying to genetic engineer a contraceptive vaccine for mice [4]. They spliced a gene for the protein interleukin-4 (IL-4) into a relatively harmless mousepox virus in the hope that IL-4 would boost the immune system. When they injected the recombinant virus into mice belonging to a strain genetically resistant to mouse-pox virus, all the mice died. IL-4 suppressed both natural killer cells and cytotoxic lymphocytes responses to viral infection. The recombinant virus also killed 50% of the genetically resistant mice that were immunized against mouse-pox virus.

That is not all. The IL-4 gene, spliced into the vaccinia virus, was found to delay clearance of the virus from experimental animals, and to undermine the animals' anti-viral defence [5,6]. Vaccinia and mouse-pox both belong to the family that contains the human smallpox virus, raising the spectre of biological warfare. But the far greater danger lies in the unintentional creation of deadly pathogens in the course of apparently innocent genetic engineering experiments. Some scientists are already creating viruses deliberately in their laboratories, just to show it could be done, or in the course of cloning existing viruses [7]. And dangerous recombinant viruses and bacteria may also be inadvertently created in making vaccines against AIDS, as Yugoslav virologist Veljkovic has been warning since 1990 [8].

The New Scientist editorial [9] accompanying the report remarked that five years ago, when biomedical researchers were asked if genetic engineering could create "a virus or bacteria more virulent than nature's worst", they replied it would be "difficult if not impossible".

Some of us have been warning of 'accidents' such as this for at least the past six years. The basic tools

of genetic engineering are bacteria, viruses and other genetic parasites that cause diseases and spread drug and antibiotic resistance. All that fall into the hands of genetic engineers are exploited. Genes from dangerous agents, including antibiotic resistance genes, are profusely mixed and matched, or recombined. As every geneticist should know, recombination of genetic material is one of the main routes to creating new strains of bacteria and viruses, some of which may be pathogens. (The other route is mutation.) Moreover, the predominant orientation of genetic engineering in the past two decades has been to design artificial GM constructs and vectors that cross species barriers and invade genomes, both of which will enhance horizontal gene transfer and further increase the chance for recombination.

We published a detailed review on the possible links between genetic engineering and the recent resurgence of drug and antibiotic resistant infectious diseases in 1998 [10]. We were by no means the first. Those who pioneered genetic engineering declared a moratorium in Asilomar in the mid- 1970s precisely because they were concerned about this dire possibility. Unfortunately, overwhelming pressures for commercial exploitation cut the moratorium short. The scientists set up guidelines, based largely on assumptions that have all fallen by the wayside as the result of new scientific findings. The two most important findings are the persistence of nucleic acids in all environments including the gut of animals, and the ease with which nucleic acids can get into all cells, especially those of human beings, as shown in so-called gene therapy research [11].

Instead of tightening the guidelines, our regulators have relaxed them. Transgenic wastes are being recycled as food, feed, fertilizer and landfills under the current EC Directive on Contained Use [12], and I would not be surprised if this applies also in the US. There is a lesson to be learned from the 650 or more adverse reactions associated with gene therapy trials, including several deaths. The same kinds of constructs are made, whether it is to genetic engineer human beings or plants and animals, and the same crude first generation technology is used.

http://www.saynotogmos.org/scientists_speak.htm

Bacterial Causes of Digital Dermatitis (DD) in Dairy Cattle

Sequencing of the DNA from the 48 biopsies confirmed the presence of complex bacterial communities composed of upwards of 100 bacterial species present in the lesions. The relative abundance of the top 12 bacterial species for each lesion stage is demonstrated in figure 2.

These results confirmed the hypothesis that the BDD lesions are not caused by a single bacterial species (Treponema) but are much more complex. Early lesions have minimal populations of Treponema spp. (labeled as Spirochaetaceae in figure 2), however these populations grow significantly in the more advanced and active lesion stages. In contrast, early lesions are composed of much more complex bacterial communities suggesting that the early lesions may develop as a result of the concurrent presence of several bacterial species at the same time (polybacterial disease). The implications of these findings for the control of digital dermatitis in dairy cattle is that vaccination strategies may need to be developed to protect against multiple bacterial organisms instead of a single species.

These findings suggest that the lesion progression is not associated with the infection and proliferation of a single species of treponemes. These results fit with the hypothesis that the treponemes represent an opportunistic organism that colonizes pre – existing lesions of the foot of dairy cattle.

Based on the fact that the treponema species typically fail to have significant genetic capabilities to break down the skin barrier, they likely colonize the hospitable niche associated wit h skin lesions induced by other bacterial organisms (perhaps those associated with early stage lesions) or physical trauma to the foot (scratch, lacerations, etc). This finding is consistent with the fact that treponema species have also been associated with non – DD lesions of the bovine hoof like sole ulcers and toe necrosis where they prevent healing of the lesion. http://lib.dr.iastate.edu/cgi/viewcontent.cgi?article=2081&context=ans_air

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Monsanto research center in western France suffered significant fire damage, which officials believe was an arson attack on the biotech company. The attack occurred the same day food safety commissioner Vytenis Andriukaitis failed to convince the European Parliament to adopt a plan which would allow member states to ban genetically modified organisms (GMOs). Activists now burning down Monsanto’s dangerous GMO facilities as governments refuse to protect their citizens.
http://tinyurl.com/j4hlkz2

www.gmo.news/2015-11-18-activists-now-burning-down-monsantos-dangerous-gmo-facilities-as-governments-refuse-to-protect-their-citizens.html

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If you’ve ever been duped into believing that there is a consensus among scientists regarding the safety

of GMOs, think again. It’s propaganda that biotech companies want you to believe: **http://bit.ly/1P6COru**

Do you know what you are eating? In this extraordinary personal account, Robyn O'Brien tells the story of how she started paying attention to what's in food. The answer may surprise you and it will certainly inspire you to be more deliberate about your food choices.

..::" The Invisible Illness

Many Lyme and Morgellons patients who battle this disease on a daily basis appear healthy, which is why Lyme disease has been called "the invisible illness." They often "look good," and their blood work appears normal, but their internal experience is a far different story. Patients struggling with Lyme disease usually become adept at hiding their pain from others as a way to cope and restore some degree of normalcy to their lives.

Part of the problem with diagnosing and treating Lyme disease is that it is so easy to misdiagnose.

Lyme disease is called "the great imitator,"5 mimicking other disorders such as multiple sclerosis (MS), arthritis, chronic fatigue syndrome, fibromyalgia, ALS, ADHD and Alzheimer's disease. In some cases, Lyme patients can even develop paralysis or slip into a coma. The only distinctive hallmark unique to Lyme disease is the "bulls eye" rash, but this is absent in nearly half of those infected. Laboratory tests are notoriously unreliable.

Fewer than half of Lyme patients recall a tick bite. In some studies, this number is as low as 15 percent. So, if you don't recall seeing a tick on your body, that doesn't rule out the possibility of Lyme disease. According to TBDA3:

"Although the bulls eye red rash is considered the classic sign to look for, it is not even the most common dermatologic manifestation of early Lyme infection. Atypical forms of this rash are seen far more commonly. It is important to know that the Erythema Migrans rash is a clear, unequivocal sign of Lyme disease..."

Besides the rash, some of the first symptoms of Lyme disease may include a flu-like condition with

fever, chills, headache, stiff neck, achiness and fatigue. For a complete list of symptoms, refer to the Tick-Borne Disease Alliance6 (TBDA), but some of the more frequent symptoms include the following2:

Muscle and joint pain
Neurological problems
Heart involvement
Vision and hearing problems
Migraines

The "Lyme Paradox"

Dr. Klinghardt believes one of the factors that has led to increased Borrelia virulence is the dramatic increase in electromagnetic fields (EMFs) and microwave radiation from cell phones and towers, wireless Internet, power lines, household electrical wiring, etc. Reduction of exposure to these fields is a key part of his Lyme treatment protocol, which I'll be discussing shortly.

One of the reasons blood tests are so unreliable as indicators of Lyme infection is that the spirochete has found a way to infect your white blood cells. Lab tests rely on the normal function of these cells to produce the antibodies they measure.

If your white cells are infected, they don't respond to an infection appropriately. And the worse your Borrelia infection is, the less likely it will show up on a blood test. In order for Lyme tests to be useful, you have to be treated first. Once your immune system begins to respond normally, only then will the antibodies show up.

http://articles.mercola.com/sites/articles/archive/2012/10/13/under-our-skin-documentary.aspx

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Lyme/Morgellons :: Even though physicians can out-maneuver some of the Lyme bacterium's survival tactics-such as using combinations of antibiotics-there are those who believe that antibiotics alone cannot eliminate the Bb organism particularly if it is in a dormant or sleeping state. Remember, it is believed that Lyme bacteria can morph, or shift to a dormant state by entering and residing in a human cell or it can encapsulate itself in the body's protein. Recent work by Dr. Alan MacDonald suggests that another reason some patients become chronically sick with Lyme disease is because the spirochetes form a bio-film. The spirochetes appear to have complex ways of neutralizing the body's defensive mechanism and neutralizing the offensive mechanism employed by antibiotics.

Mechanism of Action:

Antibiotics and other anti-infective agents (anything that counteracts infections) can kill different kinds of bacteria. However, an antibiotic's mechanism of action-or how they kill bacteria-varies depending upon the type of antibiotic used. Because the mechanism of action varies among antibiotics, a specific antibiotic or combination of antibiotics may be a better choice than other combinations when treating Lyme disease.

For example, Penicillins and Cephalosporins circulate mainly in the body's fluids and may not be capable of entering cells where the Bb organism can reside. This indicates that these classes of antibiotics may not be able to eradicate Lyme bacteria from the body, especially Lyme bacteria that reside in human cells or those that move away from blood blow and towards other parts of the body.

Other classes of antibiotics, such as Macrolides like Zithromax (Azithromycin) seem to have higher tissue concentration levels when compared to the blood concentration levels it usually attains. Zithromax is also known to have an ability to penetrate some cells in our body more effectively than other antibiotics. This may counteract Lyme bacteria that have the ability to enter certain types of our cells. Thus, Zithromax is prescribed specifically to attack Lyme bacteria that may become established within the body's cells, along with killing Lyme bacteria residing outside the cells in deep tissue areas.

Note that some antibiotics such as Doxycycline, work effectively as bactericides at high levels (higher doses) and as bacteriostats at lower blood levels. (-cide: killing the bacteria; -stat: keeping the status quo, or keeping the growth of new bacteria down) If there is any question of the efficacy of the Doxycycline levels in a patient's blood, then a Peak and Trough titer could be done.

Survival Tactics of Borrelia: There appears to be two major ways that Lyme bacteria evade the body's defences and also evade antibiotic therapy. First, research shows that Lyme bacteria can use the body's own protein to encapsulate itself. This is also described as the Lyme bacterium shifting to a dormant or sleeping state. The reason that the organism undergoes this change is not fully understood. Some believe that this is a survival tactic because it may not be possible for our immune system to destroy the bacterium when it is in this state. Also, antibiotics may have little or no effect on the Bb organism when it is encapsulated and dormant.

http://www.empirestatelymediseaseassociation.org/Lyme_Disease/lyme_disease_empire_state_lyme.htm#The%20Bad%20News

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..::" In the fullness of time, the mainstream handling of chronic Lyme disease will be viewed as one of the most shameful episodes in the history of medicine because elements of academic medicine, elements of government and virtually the entire insurance industry have colluded to deny a disease.

This has resulted in needless suffering of many individuals who deteriorate and sometimes die for lack of timely application of treatment or denial of treatment beyond some arbitrary duration.

A key formative influence in the creation of the National Institutes of Health was Metropolitan Life Insurance Company (Harden VA. Inventing the NIH. Federal Biomedical Research Policy 1887-1937. Johns Hopkins University Press. 1986. pp.57-59,114 & 122). It would be naïve not to consider the possibility of ongoing behind the scenes influence of the insurance industry on N.I.H. policy.

Very truly yours,
Kenneth B. Liegner, M.D.

Preliminary findings link Morgellons Disease and Agrobacterium, a soil bacterium extensively manipulated and used in making GMO crops: http://youtube.com/watch?v=dXt-Y8wn-kM

Agrobacterium: Morgellons Disease, GM Connection: http://www.i-sis.org.uk/agrobacteriumAndMorgellons.php

Clifford Carnicom, bringing Morgellons Disease awareness to the public. http://www.youtube.com/watch?v=UbGBMOIqJqc

Exploring the association between Morgellons disease and Lyme disease: identification of Borrelia burgdorferi in Morgellons disease patients: http://www.biomedcentral.com/content/pdf/s12895-015-0023-0.pdf

Investigation of the Spirochetal Etiology of Morgellons Disease: http://www.newhaven.edu/4486/academic-programs/graduate-programs/cellular-molecular-biology/GSS-spring-2013/morgellons-disease.pdf

Morgellons Disease Update: https://player.fm/series/the-unexplained-with-howard-hughes/edition-216-morgellons-disease-update

A single, zinc-finger nuclease - induced DNA double-strand break results in the generation of attenuated parasite lines that show varying degrees of developmental arrest, protection efficacy in an immunisation regime and safety, depending on the timing of zinc-finger nuclease expression within the life cycle. We also identify DNA repair by microhomology-mediated end joining with as little as four base pairs, resulting in surviving parasites and thus breakthrough infections.

Malaria parasites can repair DNA double-strand breaks with surprisingly small mini-homology domains located across the break point. Timely expression of zinc-finger nucleases could be used to generate a new generation of attenuated parasite lines lacking hundreds of genes. http://genomebiology.biomedcentral.com/articles/10.1186/s13059-015-0811-1

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http://ecodelmar.org/morgellons/

http://www.ecodelmar.org/morgellons/summary.pdf

more info: https://www.facebook.com/Friends.Of.Nature.And.Humanity

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