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A Very Uncomantic Disease: Tuberculous Lives from Smollet to Orwell

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The 2015 session of WSHoMSoc talks started a fortnight ago but I was unable to attend the first event, so I am very glad that I was able to make it to this, the second meeting.

The first speaker, Helen Bynum explored the thinking behind the historical treatments for consumption – which is now always taken to mean tuberculosis since mycobacterium tuberculosis was identified in 1882 – by considering the lives of three literary figures, Tobias Smollett (1721-1771), Jane Austen (1775-1817) and George Orwell (1903-1950)

Throughout the 18th and 19th centuries human medicine was the dominant medical model, the orthodoxy. The fact that people with consumption coughed up blood was interpreted as an indication that the patient had excess blood. Blood letting would presumably have seemed an entirely logical treatment, but it is hard to believe that it produced any positive results very often. So convinced were doctors of its benefits that the practice continued, and not only for TB, but for a great many conditions and for centuries. It was not uncommon for no one came up with a better idea until Germ Theory took over as the new orthodoxy. Other popular treatment methods, were water 'cures', which required dousing the patient with copious quantities of cold water – a practice that we would now assume likely to cause pneumonia, yet such treatments were popularly recommended and endured by thin, ill, and fast-fading TB patients. I shudder to think of the suffering and misery inflicted on so many due to both the disease and its hopeless treatment!

The first of our historical figures is the author Tobias Smollet (1721-1771). Fortunately for us he wrote about his consumption with the great adventurer, philanthropist, which had taken his daughter and later took him. His description of taking the waters at Bath are quite hilarious, but also disturbing at the same time. In a piece from his last book, 'The Expedition of Humphry Clinker', published in the year of his death, he expresses great misgivings about the therapy:

> *"I can't help suspecting, that there is, or may be some regulation from the bath house into the pump-room. In that case, what a ridiculous barrage is quaffed by the drinkers, medicated with the sweat and the dirt, and dandriff, and the abominable of various kinds, from twenty different constitutions, paroxysms in the kettle below."*

Certainly this had TB as a romantic disease ends here! I feel sure Mr Smollet could have recovered had he avoided the ministrations of his doctors and the treatments of the times and simply gone to southern Europe to bask in the sunshine and fresh food available there. He had travelled extensively, and was scathing of many of the foreign ways, so perhaps he thought to take his chances with the devil he knew.

Our second example was John Keats (1795-1821). Having trained to be a physician prior to choosing poetry as his career path, he was all too aware of consumption.This medical training, combined with the death of his younger brother at 18, left him under no illusion about the state of his own health since he started coughing up fresh arterial blood. His short life was filled with trials and stresses, and when he was being nursed by his friend Joseph Severn, the artist, during a trip to Italy for the purpose of regaining his health, he was asked her worse by the prescription of his 'thin diet' consisting of tea, arrowroot and slice of bread per day', according to Alison Head writing in The Guardian in October 2009. This was prescribed by his physician, Dr Clark, who also bled him removing nearly half a pint of blood right after Keats had fainted (inadvertently through a gastrointestinal bleed, and they of 'two cups' of blood. The doctor left that Keats' complaint was chiefly 'irritated in his stomach' so could expect a diet of some sorts to be prescribed. This starvation diet, including bread, of all things, was, evidently, a grave mistake. It is another example of the astonishing failures of medical thought on TB in that era. Keats died after a torment of wild despondence and deep regret at not marrying his beloved Fanny Brawne while he was healthy. He was also very disappointed with the complete trashing of his poem Endymion by critics when it was published. He famously asked for his epitaph to be written as "Here lies one whose name was writ in water". He is buried in the Protestant Cemetery in Rome, the resting place of the English speaking world, and his total poetry output is lauded the world over as a pinnacle of the perfection of the Romantic School.

So, extreme stress due to a sense of failure in his professional calling, failure in love, and now failure in strength and vitality together with abysmal medical treatment conspired to destroy one of the greatest poets who ever lived.

Our third figure, George Orwell (Eric Blair), was the third of Helen Bynum's consumptives, and brings us into the early 20th century and modern medicine. Orwell, like Keats, was a Doctor of Medicine, and knew what he was in for with his diagnosis of TB. Sensitive and had phenomenal more than once, he became a heavy smoker. In researching his books *Down and Out in Paris and London* (1933) and The Road to Wigan Pier (1937) he literally lived among the homeless. This wretched experience, which he continued for months on end, could only have worsened his health and contributed to his relatively short life.

Interestingly, the new treatment of Streptomycin, used twice in Orwell's case, some months apart, appeared to improve symptoms immediately. However, according to John Rose's article at one point he had a bad adverse reaction to it, with a horrible rash and bleeding from the mouth and loss of finger and toe nails.

Streptomycin being produced, Boots laboratory, Nottingham, 1949.

Orwell finally died at age 46, after a determined struggle to finish his masterpiece Nineteen Eighty-Four. Much of it was written from a remote Hebridean farmhouse where he spent the precedng summer, failing to get the much-needed UVB light from which he could have made vitamin D which would have helped his immune system in the wrestling match with his TB. The compelling story of Orwell's final days can be read here, in a Guardian piece by Robert McCrum.

To wrap up her talk, Dr Bynum reflected on the fact that TB is an ancient disease that has afflicted man for millenia. It is only during a relatively narrow window that modern medicine has managed to banish it from everyday life for most of us living in developed countries, yet, with the rise of antibiotic resistance that window may now be closing. To underline her point – the remarkable recent reports that tuberculosis rates in parts of London are now higher than in Rwanda and Ethiopia.

On a brighter note, we may now be in the fortunate position of having the knowledge to deliver ourselves from this bacteria and prevent it from taking hold by means of plenty of sun exposure (without sunblock) in the summer and vitamin D supplementation in the winter, the avoidance of cereal grains, reducing them with nutrition-dense foods instead, and a new respect for our gut microbes or the 'microbiota' – in their role as protective, as opposed to being predators as we readily as has been the case for the past half century. There is a plethora of safe natural means, such as herbal medicines, which have stood the test of time too, Thyme, Inula, Fleurlys root, Mullein, Honeshound, Liquorice and, of course, Garlic, all of which have been used by Medical Herbalists for generations, and is also a clear rationale for their observed effects unlike the cold water and 'thin' diets that some of our great literary minds suffered.

Lecture 2: Darwin and the Doctors

Dr William Bynum MD PhD FRCP

This lecture was relevant to me personally, as I have a family connection with Charles Darwin. Indeed as a child I spent many happy hours at Downe House (Darwin's home) in Kent, where the curator let me hold and investigate many of the finches and other stuffed birds and butterflies in the beautiful glass cabinets. My mother's family, Westaks, were friends of the Darwins, the Wedgewoods and the Sedgwicks, and remember that marriage, at the age of 9 or 10 was permitted to step over the low security rope in the drawing room and actually play the Darwin family grand piano, and was privileged to be charged with the task of closing the shutters round the house at the end of the day.

Anyway, the theme of this lecture came from the extensive correspondence that Charles Darwin maintained with many doctors of the day. Darwin's letter writing was prolific, helped by his highly efficient male secretary who worked at the time, and reveals a continuous exchange of intellectual questions and ideas. A common theme in these discussions was the relevance of evolution to medicine and human development, questions that were of considerable importance at a time when many Westerners were concerned that the human race might be undergoing 'degeneration'.

Key ideas they were grappling with included issues of 'inheritance' and 'blatherie' (a familiar tendency to manifest certain conditions) and whether this was a general 'susceptibility' or more of a genetic inevitability'. The work of one of these corresponding doctors, Benjamin Ward Richardson, nearly embodies some of this early evolutionary thinking. His book entitled Diseases of Modern Life, can be read on line. It requires no great leap of imagination to see the touch thinking leads to the modern-day lifestyle diseases we now suffer from, diseases that are high on the WHO agenda today, and are being addressed by proponents of contemporary evolutionary medicine, such as myself.

DISEASES OF MODERN LIFE.

BY

BENJAMIN WARD RICHARDSON, M.D., LL.D., F.R.S.

LONDON:
MACMILLAN AND CO.
1876.

Diseases of Modern Life by Benjamin Ward Richardson, 1876 (click to read on line)

Charles's father, Robert, and his grandfather Erasmus were both physicians and had a great influence on the young Charles, and may even have entertained atheistic thoughts. Initially Charles intended to follow in their career footsteps but he found a natural aversion to causing pain to others and a sympathetic interest in relation to blood, finding natural history, and beetle collecting more interesting. His path was sent once he was invited to join HMS Beagle as a gentleman naturalist and companion to the captain in the two year expedition to chart the coast line of South America. The rest, as they say, is history.

The ideas of young Charles Darwin (left) were heavily influenced by those of his father, Robert Darwin, and his grandfather Erasmus Darwin (right)

It took more than a century for the Human Genome Project to be complete, and only now are we able to meaningfully apply the insight it affords, for individuals. The price of genetic testing is now low enough for many people to chose this option in order to short circuit the long journey between their symptoms of ill health and solving them. Indeed I now offer genetic testing in my clinic where I feel for a collection of genes known to be influenced by hormone receptor availability, and we now have the added and vitally significant new science of epigenetics (i.e.the understanding that environmental factors, such as diet, markedly alter gene expression, an effect that influences more than just one generation), which will change the face of the medical model we have all hitherto worked within. Thanks to Darwin and the intellects of the people that he bounced ideas off, we are in a very different position now to genuinely remove barriers to health.

Charles Darwin's own health was famously terrible and could only have been made worse by the stress and anguish of the death of his ten year old daughter Anne, from either TB or the treatment she received for it (including douching with cold water). Two other of his children died in infancy, the tenth child being born when Emma Darwin was fully 46, and who had Down's Syndrome.

I came away from the lectures with new hot sadness for those subjected to such abominable treatments. Cold water, bleeding, and starvation diets are simply idiotic in the face of current knowledge, but even now some pretty unpleasant treatments are regularly prescribed for diseases that we are still unlikely to be mislaid about. But, I enjoyed the company and the lunch that followed, and it doesn't take a lot to cheer me up again.

Addendum

I have a theory, which I will back up with a tiny selection of references, but I encourage you to seek out others, which won't be difficult, and that is that the eating of cereal grains is a mistake that mankind made some thousands of years ago and which is a cause of significant malnutrition, which in turn makes humans vulnerable to infection. Vitamin D is a powerful immune system modulator, and it is well established that Tuberculosis patients are frequently found to be diagnosed with coeliac disease usually have a low vitamin D level, and this is true for other autoimmune diseases too. There is a lot of evidence that vitamin D is an excellent treatment for TB, indeed the provision of fresh air and sunlight at those Alpine TB sanatoria are now known to have been most of their success to the sunlight and subsequent rise in vitamin D status in their patients. Here are just three papers to whet your appetite to follow up for yourself. Cereals are from each seed of the triangle I am drawing between TB, cereal grains and vitamin D. This paper shows that low vitamin D levels in a Pakistani cohort were associated with a 8-fold increased risk of progression from dormant to active TB, and this paper, which is from an Oxford University research group, shows that there is a very strong correlation between in-patients with all sorts of autoimmune diseases (which include coeliac) and a low vitamin D status. And this one on TB and coeliac by the brilliant Jonas Ludvigsson of Sweden: clearly stating that "Coeliac disease is associated with TB".

Many other researchers are investigating this area and good evidence exists for pre-existing TB patients having a higher incidence of coeliac disease, and vice versa coeliac patients having a greater tendency to go on to get TB. The chicken and egg conundrum certainly exists here, but the fact that cereal grains have been part of most human cultures for the whole of written history, makes it very difficult to tease apart the various threads of this story. For most people the idea that grains such as wheat could be the pivotal factor in much of human suffering just too big a leap to make, even though the evidence is clear that many many diseases can be reversed precisely at the door of cereal grain eating, and we have known this for at least a century. The fact that there could even be vitamin D deficiency in hot sunny countries such as Pakistan should also be flagged up here, and never ever gets a mention, and although man-made clothes have contributed to this, the fact that many people still wear mostly or even only loose covering clothes and have home based work, mean too are found with low D levels and the strongest cause for this appears to be that they are also eating a diet dominated by cereal grains. An excellent piece of research in Glasgow published in 2005 found that in various specified Asian populations in Glasgow (e.g. adults, children, immigrants, non-vegetarians) all with the same outdoor sun exposure, and the same vitamin D deficiency, it was vegetarians that had more rickets and osteomalacia than meat eaters. Read all about it here. I still have not found the exact mechanism for the clear effect cereal grains have on vitamin D or at least on producing the effects of vitamin D deficiency, and this is not the place to discuss such biochemical theories, but the correlation certainly exists and needs explaining.

Darwin's symptoms

Episodic nausea, retching, vomiting

Flatulence, bloating, abdominal pain

Tiredness, fatigue, general weakness

Headache

Eczema—lips, hands, face

Excessive sex talents

Palpitations, chest pain

Trembling of hands, numbness of the fingers

Shivering, sweating, temperature sensitivity, fainting sensations, sinking feeling, "whizzing feelings," "swimming" of the head, dizziness

Muscle twitching, muscle weakness

Anxiety, episodes of fear, dying sensations (acute panic attacks)

Periods of dejection, tree dependence

Eye symptoms, visual disturbances

"Heaviness"—coughing, breathing difficulties, tightness of chest

Backache—"lumbago," "shrunken in the back"

Swelling, redness of the face, swelling of a knee, an arm, one leg

Table 1. Darwin's symptoms (click to enlarge)

Back to Darwin's serious ill health story, here is a brief list of some of the symptoms he described, according to Table 1 from a paper published in the journal Genetics in 2003 written by John Hayman a pathologist from University of Melbourne: bloating, wind, abdominal pain, fatigue, headaches, palpitations, trembling of hands, peripheral neuropathy, swimmy head, muscle twitching, anxiety, depression and joint pain.

And now please check out Table 2 from a paper published in June 2016 by a group of 30 specialists, professors and researchers calling themselves The Salerno Experts. I rest my case.

The clinical manifestations of Non-Celiac Gluten Sensitivity (NCGS).

Frequency	Intestinal	Extra-Intestinal
Very Common	Bloating	Lack of well-being
	Abdominal pain	Tiredness
Common	Diarrhea	Headache
	Epigastric pain	Anxiety
	Nausea	Foggy mind
	Aerophagia	Numbness
	GER	Joint muscle pain
	Aphthous stomatitis	Skin rash dermatitis
Undetermined	Alternating bowel habits	
	Constipation	
	Hematochezia	Weight loss
	Anal fissures	Anemia
		Loss of balance
		Depression
		Rhinitis-reflux
		Weight increase
		Intestinal cystitis
		Ingrown hairs
		Oligo or polysmenorrhea
		Sensory symptoms
		Disturbed sleep pattern
		Hallucinations
		Mood swings
		Autism
		Schizophrenia

Table 2. The clinical manifestations of Non-Celiac Gluten Sensitivity (click to enlarge)

We are all correct in performing a global 'Hats off' to Charles Darwin for his phenomenal contribution to science, but I suggest that he probably or would not have been able to devote so much time to his work if he'd not been ill in his study, and his being as unwell as he clearly was it is even more astonishing that he produced such copious, persuasive and ground shaking writings. I am a great dead less cogent when I am unwell so am doubly impressed with this man who, bizarrely, I consider my mentor.

Thank you doctors Bynum for your brilliance and for reminding us of just how far we have to go.