

This commentary accompanies 'The Disease', with a covering illustration as if it was published. I asked my father and graphic design student, Andrew Gould, to design these illustrations, as when I was establishing what I wanted to create, my first thought was the obvious: 'Oh, this is on genetics! It would be very cool and fitting!'. However, I also thought it was more significant for my dad to participate in terms of my reflections of a genetic lineage and the hereditary nature of DNA, which is what I aspire this work to do. My research question for this poem is, considering all I have learnt, how can I reflect on this regarding my mental illness and defective genes? This will include various elements, including contemplating the structure of DNA in its microscopic wonder, accepting the possibilities of choices in terms of future genetic engineering technologies, and coming to terms with rejecting the prospect that these are 'faults'. I will discuss the inspiration and provide background for some of my writing accentuating quotations, and explaining how my greater understanding of genetics is threaded throughout. I would also like to precursor this by emphasising that this work is also deeply personal so I will provide some background, for context. My aim is for the audience, which is the public, to be able to take their own view from my experiences, and maybe reflect more on what these choices involve for people who are in the same position.

Began to write this poem in early summer 2017, recounting a dream I had. This dream was soon after my great uncle contacted my mother from Germany with news: my great aunt had been diagnosed with Alzheimer's disease, which led him to explore our family's inheritance of the gene for APP (amyloid precursor protein), which with complications, is believed to contribute to the plaques forming in Alzheimer's (Goate et al, 1991). The dream details a phone call where a woman asks me about my life insurance policy plan - I assume, representing the news. Learning of the potential defect of the APP gene brought the prospect of a premature end to my life, as it is believed that the defective gene can cause the sudden onset of a stroke (Rossi et al, 2004). This caused the death of my maternal grandfather at 44 years old. In the dream, I become angry and slam the phone down. There is a knock at my bedroom door, and my younger brother, Jacob, who is 5 years old, is standing in the doorway and smiles at me. Exploring my research question through this medium enabled me to grapple with emotional turmoil of shame regarding what may be my genetic makeup, but in a more practical sense of being able to reflect on the implications for my family and those who come 'after' me in future generations.

The first section expressed my own understanding of what is the primitive nature of DNA: a basic understanding of how it is hereditary. The past generations before me have 'constructed' me, a term which I deliberately chose as seeming clinical as I began this journey assuming that science was strictly factual, and there was little room for emotional formulation as I am made of only DNA - this 'base'. I was struck by how only 4 component parts forming a double-helical structure created in such precise beauty, essentially, everything (Watson, 2005). That this would lay the structure of an entire phenotype. I was also bitter - out of everything, I could have been anything but myself. To '(see) a code in the shape of a white book' is more of my naive bewilderment at the beginning, amazed by the library of white books brought out which contained the sequence of the human genome, amounting to 262,000 pages (Sabatini, 2016). This collection of material originates from the library, and how the Human Genome Project has created this material from the 'swift... push' on the stage of the TED Talk - yet, the same thing is reproduced by a 'sweet push' of introducing new human life into the world. I am addressing how my parent's RNA 'ran' across these books, a word play on the spelling of 'ran', to demonstrate its function as a messenger and visualise its contribution to not only formulating DNA, but contributing to genome-altering technologies e.g. CRISPR-Cas9 (Sander and Joung, 2014). The bewilderment at a sequence of bases contributing to the creation of human life is what encouraged me to write about many different elements: a 'cell', or 'fingerprint' - referring to not even what is active in us anymore, but a statement of what we leave behind us through our DNA, even more than offspring.

In explaining how a concept can be 'passed down and passed to it' is reminiscent of the ongoing theme of passing DNA portions along to the offspring. I devised the route of my journey through this genetics module by describing how I was 'climbing up the rungs'. Regardless of the word play on 'A - snap', I was toying with the four different DNA nucleotides, only to start with A (adenine), to stop at a sense of falling from some progress, a 'snap' in this perfect structure, which would be my mental health and defective APP gene. Later in the poem, I refer to the terms 'invasive' and 'invasion', as an explicit reference to a 'common indication of invasive prenatal testing' when fetuses show to be chromosomally abnormal (American College of Obstetricians and Gynecologists, 2007). It is interesting that the field uses somewhat negative terminology, and through understanding that the foetus is not necessarily 'invaded', I felt uncomfortable by the concept of screening. Therefore, I applied this discomfort in a metaphor which implies

that an emotional barrier needs to be in place, as a protection from the truth that you are 'abnormal'. For the would-be parents, this is in the form of genetic counselling.

I draw back on the talk given by Watson (2005) where himself and Crick, in discovering the structure of DNA, asked: 'How should it fold up?'. I found it incredible how the beginnings of question were so simple, yet able to move ground after the emergence of photograph 51 (Elkin, 2003). The impact of their work has been substantial in the subsequent decades, illustrated by repetition: 'to fold and fold...'. Additionally, the imagery of the shoelaces are a commentary on the dilemma of taking responsibility for a creation, or taking credit, for what is not our own. I deliberated this in light of Sandel (2008)'s argument that if the genome were to be enhanced, our humanity would be undermined by succeeding by the efforts which are our own, as we may not be wholly responsible. This terrified me - an Orwellian nightmare at the prospect of no longer having responsibility, but additionally being stripped of this freedom.

To say procreation may be done in a way 'maybe not so sincerely', refers to the alarming revelation, or the guilt which would ensue, if I decided to have children. To say that is not 'so sincerely', in a somewhat childish way, was inspired by the discussion of three disabled women with spinal muscular atrophy, who felt they were labelled 'irresponsible' for reproducing (Boardman, 2011). At the age of 35, a woman has a 1 in 350 chance of conceiving a child with Down's syndrome, and the risks are higher with 'geriatric mothers' (Callam and Richards, 2016). To earn a 'right, the justice, the liberty' are numerous ethical terms which I found were common ways to approach the sensitive issue. The term 'Procreate' is capitalised as it is foreboding in its formal tone. I am mocking this: for no other reason than I felt angry that other people felt they were able to dictate what myself, or any other woman, would want to do and how we would implement our creation to our own children.

Later in the poem, I make a reference to my very abstract confusion over the what if: what if my parents knew I would suffer from anxiety and depression? Would I have been terminated? The bioethicist Julian Savulescu, who pioneered the term 'procreative beneficence', discusses how terminating a pregnancy is only fair if we were provided with two embryos, as it would be more beneficial to choose the embryo that would have a better quality of life (Savulescu & Kahane, 2009). How would you feel if you were not going to be born either way? You have not only died, but never existed. I concluded that I

would have 'felt it, a bit', making a satire of the premise that it is only a small matter. In the documentary 'A World Without Down Syndrome?', Sally Philips visits a biotechnological company in California, and comes across an art mural, depicting a shocked woman, with the title: 'This Could Happen To You... Now'. The woman in the mural is pointing to the audience: this is 'my point', and the decision to take. For now, I exist in my family, and that is what is most important.

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