EXPLORING THE INTERSECTION BETWEEN GENEALOGY, GENOMICS AND SELF/IDENTITY

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In 2000, the Human Genome Project released the first functional draft of a map of the human genome. The project and its charting of the genetic world within us were in many ways a space for possibility – a promise of genetics that would improve the lives of many. Unlike many maps, which provide us with a solid sense of place and direction, the genetic map provided only the beginning of a course forward, as the field of genomics has expanded exponentially since that time. Like any map, the human genome has provided researchers with different paths to explore, crossroads between academic fields, intersections of lives, data and outcomes.

Genealogic study and genetic mapping, similarly, allow us to be cartographers of possibility; explorers of potential futures, of narrative ruptures, of places of choice, of decisions made, and different lines of flight taken. Searching through one's genealogy or genetics is as much looking for one's past as it is for

the possibilities of the future-self. Where one comes from and who one might yet become. In this article, we begin to explore how French philosopher Gilles Deleuze's notion of becoming provides an interesting way of thinking about the intersections of genealogy, genetics, and self/identity.

BECOMING

We take the position that individuals are always under construction – as more than their "biological selves" (Rose 2007: 4) and more than a single, static identity. In this way, we consider identities instead as existing as multiplicities and the self to be fluid. In this way, one is always moving along, between and through what Deleuze calls "multiple lines of flight[1]". The process of becoming, therefore, as conceptualized by Deleuze, pushes us to contemplate the uncertain and the unexpected and to care for the "as-yet-unthought that interrogates history and keeps modes of existence open to improvisation" (Biehl and Locke 2017). In this light, becoming is different from potential and causality. Becoming, in other words, is the work of creating – of living in a world "in the middle" or the "right now", always between the past and the future, while people move along and amid multiple lines of flight towards an undetermined, open-ended future that does not, but may yet, exist.

This concept of becoming, occurring in the present moment and interacting at once with the past and future, presents an interesting framework for considering the intersections of genealogy and genetics. Genealogy and genetics are, in a loose way, a manifestation of Deleuze's notion of "grow[ing] both young and old at once" (Deleuze 1995: 170). To explore one's past and one's future at once, stretching the narrative of self both backwards into history and forward into a yet-to-be-determined future-self. Being at once a product of one's genetic and personal, historical past and the ongoing production of a future-self allows for a multiplicity of becoming – a continual process of transformation and re-creation.

Individuals searching for information about themselves and their families through genealogical or genetic means start in a place of known-self/current identities/knowledge-thus-far. Every new piece of data acquired creates an opportunity for a rupture, a disruption in how one conceptualizes themselves, their identity, their families and familial identity, and the trajectory of their life so far. Many find themselves facing cognitive dissonance as they discover the existence of unknown half-siblings, unexpected parentage, and other family secrets. New knowledge forces a re-creation of the self-as-known and a readjustment of one's narrative, both of past and future, changing lines of flight and altering the possible. Becoming, in this way, stretches both forwards and backwards, as new historical and genetic information forces a reconfiguration of the past-self as part of the process of becoming the future-self. A new sense of self and identity is formed of the newly integrated information. In this way, we are in disagreement with Deleuze's argument that history is something that one leaves

1 Line of flight is meant to represent the elusive moment when change happens, as it is bound to, when a threshold between two paradigms is crossed (Deleuze 1987). The English translator Brian Massumi notes that it can be representative of the act of fleeing, eluding, flowing or leaking (1987: xvii).

behind to "become" or "create something new" (Deleuze 1995: 171). Personal history is never left behind. Our genetics always tie us to our past and project some version of the future self-as-becoming. Becoming is always tied to the moment between history and future and is also a product of both. Neither family narratives nor the tales told by our genetic make-up can be 'escaped from', but these narratives can be altered, to allow for a new self that sets in motion a whole new life path of becoming.

Searching through genealogical and genetic records also presents an opportunity to identify previously unknown information related to one's health. This can be disconcerting, as information presented in death certificates, family documents, or the health-related reports produced by personal DNA testing may not have been anticipated, thus creating a situation in which perceptions of one's body/self become unfamiliar or unexpected. Results can create, for example, a perception of the body/self as "unwell", when it might otherwise have been perceived as "healthy". This type of life-altering information can suddenly constrict the narrative of the future-self, reconfiguring that potential-self as one constrained by a potential future reality. It creates a potential-becoming; the as-yet unknown, but also, suddenly, possible. The present moment is now situated between a very different past and future than it was several moments before. While still a state of becoming, the possibilities for the created unknown have changed. The world that does not, but may yet, exist has different lines of flight from moments before.

As a more specific example, we might think of an individual who bases their decision on whether or not to have children on the results of genetic testing (Carrieri *et al.*, 2016). Or perhaps testing has revealed a "familial risk pedigree" (Olson and Cook 2018:4) through one's own or a close family member's increased risk of Huntington's Disease, Parkinson's Disease, or aggressive breast cancer involving the BRCA1 or BRCA2 mutation. This information and subsequent decision-making will exist in comparison to one's self/identity/future-self as conceptualized before those results became known and may significantly alter one's life path. This is not to say that genetics pre-determine one's future, but that information as we have it now, as best-we-know, can have a significant impact on those receiving the results. They continue along and amid multiple lines, but one line of flight has been potentially severed. New lines and new directions, however, will also have been created.

FUTURE WORK

Work in genetics and genomics has allowed for the mapping of a significant number of genes, from human to sunflower. Each genetic map demonstrates its own functional importance, and each provides insight into the past as we knew it, as well as hope for a future as-yet-determined. A future with the potential for personalized medicine, greater food security, and better adaptation to climate change. While still not as widely implemented as had been hoped when the Human Genome Project finished in 2003, genetic research has been able to improve the lives of many. There remains much yet to discover and more yet to do.

Looking at genealogy and personal genetics through the lens of Deleuze's concept of becoming allows us to reflect on all the ways in which small and large bits of information have the potential to

cause us to change our self and our identities. Discoveries about our family through historical record or genetic insights have the potential to cause ruptures; it is also the case that some lines of flight can be significantly altered/severed, as an entire section of possible futures becomes nullified. But it is worth considering that the intersections of so many different potential lines of flight over so many years of human existence have also created opportunities for new, more beneficial lines of flight for future family members. Considering some of the research coming out of the field of epigenetics in the last decade, the intersection of genealogy and genetics, Deleuze's work on becoming and cartography could prove an interesting and informative undertaking.

This brief thought-piece has not addressed many important and necessary discussions related to both genetics and genealogy. That race within the context of genealogy or genetics, in particular, has not been problematized in this article is not an intended oversight, but instead a product of limited space and a need to be direct. It is also not our intention to overly simplify the experiences of anyone on the receiving end of shocking or devastating results by calling them the source of 'rupture'. There remains so much work to be done to understand the process of decision-making that affects lines of flight as experienced, and the intersection of genealogy and genetics is a deeply interesting space to continue exploring.

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