CONTAGIOUS MATTERS:
The Social Constructs of Cancer Culture

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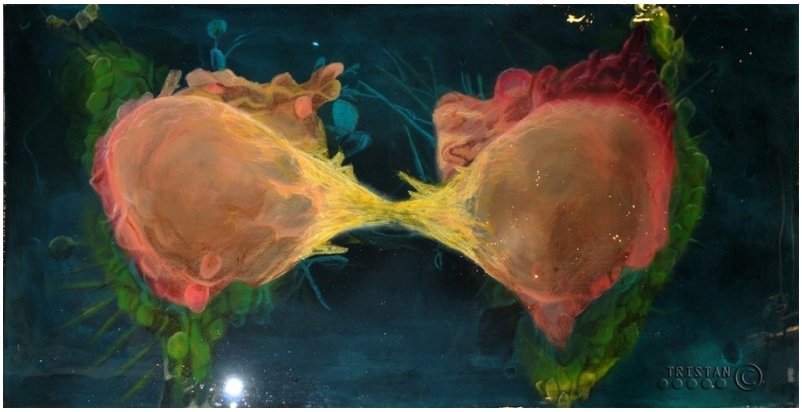

Separation, by Tristan Matheson, 36x72 inches, mixed media, 2012

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This is to certify that the thesis prepared

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Introduction:

Contagious Matters is a research-creation project that focuses on communicative patterning within cancer culture. My research explores both the cellular levels (micro) and human levels (macro) of cancer in order to evaluate how they co-exist with one another. This includes the unseen social events that occur inside the physical body and that ultimately can affect both the micro and macro cultures' existence. In using the term culture, I am engaging with it in three interrelated ways: 1) the culture of the cancer cells, 2) the co-existence and communication had between cancer cells and the individual cancer patient creating a heightened awareness of bodily discourse and 3) the culture of the larger community working with and dealing with cancer, including scientists and artists. Since cultural practices are reflective of context and location, one must situate themselves within a lived experience. In this sense, the word culture within this research paper emphasizes the placement of a subject discussed within a context. This can include a chemo ward, my home, a scientific laboratory, an artist space, a media lab and, most importantly for our purposes, a petri dish.

This project navigates across three areas of exploration: the concept of contagion, the relationship between micro and macro cultures, and the utilization of an ethnographic methodology within the sciences and interdisciplinary studies. The specific culture that is discussed, both in a micro and a macro sense, is the cancer culture. My interest, in particular, lies in understanding how both micro and macro levels communicate, interrelate and affect their ecology. The production of the visual form of my research physically and socially reflects the outcome of the creative way in which I am approaching these social and scientific milieus, which I expand upon in the last section of this text. In the context of this research-creation project, two

vital materialist, mixed media, digital installations were produced, which examined contagion theory[1] and microethnography, my working methodology. This method-in-development, in its relational co-existence with ethnography, navigates or explores the micro world by examining cancer cells and their spatial and temporal movement, exhibiting communicative properties. This exploration using ethnographic study was inspired by Jane Bennett's *Vibrant Matter*[2], my archaeological studies, where the importance is placed upon discovered artefacts (things) to create a narrative, and the re-examination of the concept contagion and how it links to cancer. Viewers of these multi-media installations examined cancer culture via an audio narrative of my mother, who had co-existed with cancer, as well as the static painted "portrait" of cancer, and a 3D video projected onto the painting "reflecting" upon material discourse. This fusion of the seen and unseen, between the micro and the macro worlds, reverses itself in this creative exploration, where the voice is a mere aural presence versus that of the seen micro matter. Along with this visual form of my research, the written component unravels the complexity of the process and theme of the project that I exhibited in several venues. These venues include research-creation events at Concordia University, COMMS 50th celebration showcasing communication projects, a PhD Joint Communications conference held at the Cinématique du Quebec and the FOFA Gallery for the International Media Art History Conference for 2015 in Montreal, Quebec. I was also fortunate enough to be able to talk about my research including at places such as the Karsh-Masson Gallery during the Bioart: Collaborating with Life event (May, 2015), at the MAH conference (November, 2015) and Studio XX (January, 2016). This allowed my research to flourish and grow through the exposure of others thoughts on my hybridised ways of approaching scientific culture.

[1] Sampson, Tony D. *Virality: Contagion Theory in the Age of Networks.* Minneapolis: University of Minnesota, 2012

[2] Bennett, Jane. *Vibrant Matter: A political ecology of things*. Duke University Press, 2010

I begin by considering contagion. The concept of contagion is often fraught with fear, since its meaning often refers to a physical instantiation, which is transferred via a physical interaction that causes illness. The physical motion, both temporal and spatial is something that my research will discuss not so much on a contractual level, but rather through a focus on material discourse seen as a social event. In the public domain, politicians, pharmaceutical companies, and mass media all use diseases and viruses for political and economic gain, by relying on social fear and the threat of potential risks, both in social and physical worlds. For example, Critical Art Ensemble discusses this use of fear, explaining that anything from dust particles in the home to bio terrorism can be used as means to create better financial outcomes for industry as well as sustain political power. [3]

> The apparatus that manufactured the phantom of threat is a complex network of institutional authority with each node looking to expand or solidate its power. […E]ach needs only to see possibility, and act accordingly, knowing that fear is one of the most exchangeable and profitable signs in political economy.[4]

The annexation of these political agendas to the concept of contagion should not be ignored, but this will not be the focus of this paper. Having said that, the focus is purely placed on the social aspect of contagion and how the concept's formations can be seen visually with cancer cells *in vitro*, exhibiting non-verbal communication. I see this as a vital topic, since most of my colleagues within communication/media studies focus on human interactions, rather than non-human interactions. In order to visually observe the culture, I conducted an artist residency at the University of Ottawa's Pelling Lab. During my time there, I examined and created a PDMS (silicon) mold that I called "the cellular living-room" for HeLa cells (cancer cells) to

[3] Beatriz Da, Costa, Philip, Kavita. "Bioparanoia and the Culture of Control." *Tactical Biopolitics: Art, Activism, and Technoscience*. Cambridge, MA: MIT, 2008. N. pag. Print, p.422
[4] Ibid.

communicate so as to observe whether or not their responses to themselves and to other cells, as well as their movements within their ecology, could be considered to represent a contagious event. By conceptually re-suspending[5] the term contagion by cutting its roots in its more concretized (physical) version and emphasizing its lesser assumed (social) meaning, my research began by first dissecting the etymology of the concept and its established links, or connections, to micro culture, and specifically to cancer. Secondly, my project uses Tony Sampson's social contagion theory[6], by positioning cancer as a form of culture that is capable of socialization, meaning that it is capable of creating social events within the human body. Lastly, the project integrates the vital materialist's perspective of Jane Bennett by focusing on observing cancer's cellular assemblage *in vitro* with other biological matter. Through a vitalist materialist lens, which considers matter as living entities capable of co-habitation[7], as well as through an understanding of verbal and non-verbal communication, *Contagious Matters* observes and ponders what defines a contagion within biological and social settings.

The second portion of my research explores how the micro-form of social assemblage, meaning the cellular social/visual attachments, grows within itself and with others. I further examine how this process can be seen to be replicated in its macro-form of social closeness, thus creating cancer "victims" or patients. My mother was the inspiration for this investigation, specifically because of the way she talked about her life and experience living with cancer and how cancer altered her existence since from the time she was diagnosed in 2010 until 2014, when she succumbed to the disease. Before she died, I was able to capture an audio narrative

[5] I use the term re-suspension because, it is a term commonly-used in a laboratory space to describe the breaking up of a cluster of cells by pipetting them up and down in order to plate a smaller concentration into a new petri dish. Therefore, within the above context, my usage translates into breaking up the solid meaning of contagion and "re-plating" the concept in order to form new meaning.
[6] Sampson, Tony D. *Virality: Contagion Theory in the Age of Networks.* Minneapolis: University of Minnesota, 2012
[7] Bennett, Jane. *Vibrant Matter: A political ecology of things*. Duke University Press, 2010

about her co-existence with the disease, and how it socially and physiologically impacted her existence. Since it became part of my study, I felt compelled to inject her audio narrative into my installation shown at various events and conferences as well as at the FOFA Gallery as part of the International MAH (media, arts, history) conference held in November 2015. This lack of control with her progressive/regressive state, via the metamorphosis of her bodily composition, became a point of interest. This led me to yearn for an understanding of her transitional existence with the cells, while I was studying similar cultures of cells in a laboratory setting. My mother's co-existence with cancer compelled me to get closer to the culture which was slowly filling her body, in turn leading me to a science laboratory where I began to spend time and learn how to culture cancer cells. Further, the co-habitation with which my mother was dealing was echoed and became a journey on which our entire family embarked, with our copious trips to the chemo wards, where we would sit for eight hours as cytotoxic poisons were injected into her body. These frequent visits with my mother provided me with a series of experiences, and exposed me to a different side of human existence that most don't get to or want to experience in their lifetime. This dreadful yet educational experience has fed my research and has prompted me to ask questions such as: does this micro-form of communication, in turn, bring people who harvest these micro social events within the body closer together? If cancer were analyzed as a social assemblage, could scientists find inhibitors or ways to break these forms of communication in order to stop metastases from occurring?

Advancements in biotechnology are allowing scientists to gather data and manipulate the human body, which is helping to alter our understanding of the human entity and its capabilities. These advancements have not only created new ideas, but also new metaphorical understandings of the human's bodily components, allowing for new correlations to be constructed. For

example, pathogenic material can be seen as a source, a feed, and a consumer, which harbours or produces communicative properties and can alter and affect the host[8]. An example of this was the examination and bodily reactions my mother exhibited over the four years she co-existence with cancer. Since she had undergone eight different chemo therapies and one experimental treatment, the tumours that had eventually amassed under and on her skin, were very hot to touch. This meant that they were pumping blood into the tumour in order to feed its existence, which supports the idea of cancer cells being a consumer. Furthermore, cancer cells can be seen as part of a shifting and structured frame of existence, communicate and act as storage spaces, containing data, which can be collected and analyzed by medical practitioners and researchers. In short, a cancer cell is a living thing inside of the human body. However, from my observation in a lab and from my conversations from science students at the University of Ottawa, methods often seen in scientific experimentation tends to lean and utilize more quantitative methodologies versus qualitative ones. Being around both physics students and biology students, it seems that studies found within physics tend to want to use formulas/calculations more so than biology, which utilizes a combination of both methods. What would happen if the emphasis was placed upon qualitative methodologies? If one were to gather information about alcoholism and just sought statistics without taking into consideration the full complexity of the issue, including differing contexts, it would be difficult to develop appropriate solutions or indeed to have an adequate picture of the problem.

In biology, cells are tracked, populations or concentrations are calculated, but how often is the material really observed? To clarify, what I mean here by "observation" is simply experimenting with the culture to just see what it does rather than looking for numerical results.

[8] Dona Matheson was my mother and through her struggle with cancer, I was a witness to most of her bodily effects while co-existing with cancer. Therefore, my experience with cancer from a patience's perspective was done via my mother's four year experience before finally succumbing to the disease.

With the advancements in the technology used within the sciences with higher capabilities and the emergence of interdisciplinary research, why is there such a lack of new forms of hybrid methodologies and new adaptive methods used for both the humanities and sciences? My research paper will introduce my methodology, which borrows from microethnography[9], with which I experimented in the scientific laboratory. Although it is still a working experimental methodology that I hope to further develop in the future, I used it specifically in this project in order to remind readers that cancer cells (micro culture) should be seen as social entities capable of communicating. My research re-casts microethnography to a different context by taking it out of ethnography and placing it onto more of a quasi-scientific cultural study. The uses of microethnography, in its original state, focus on "micro" or specified case studies within sociology. The function of the "micro" within my cultural case study speaks more to the size and state of the subject at hand rather than it does to its specificity. However, similar ways of conducting, observing and analyzing the culture within ethnography are trypsinized[10] and used within my working methodology in a laboratory space. I draw from this method specifically to examine the spatial, temporal, and topographical movements between the cancer cells, other cells and their ecology. The method also allows us to consider how a smaller culture like an amalgamation of cancer cells "creates" larger forms of the same culture, and how these cultures relate to one another through social and physiological effect and affect.

Questions in research are always important, but sometimes questions should be more valued than they are. It is in fact often these very questions that prod forward investigations or

[9] Garcez , Pedro M. "Microethnograph" in *Research Methods in Language and Education*.N.p.: Springer Verlag, 2010. p.187.

[10] To clarify, I use "trypsinize" here as an action word in light of its common appearance and use in cell culturing with a laboratory space. Trypsin is an enzyme that is used to cut the cellular attachments between the cell and the dish in order to re-plate the cell culture into a new dish. Therefore, my use of "tripsinize" entails a spatial detachment of something already formulated in order to relocate it, and this metaphor is quite helpful within this context.

maybe even generates hybrid thought. I have found that much of the research that I have conducted has produced more questions than it has answers, but the main questions posed and discussed in my research are: what is a contagion and how does it become contagious? Is cancer a contagion in the first place? How do micro cultures and macro cultures socially correlate and co-exist with one another and do they directly hinder one another or affect each other's existence? What type of social methodology should be used to examine culture within a science laboratory? Many of these questions are addressed with the creative component of my research, where cultural discourse is evident through cellular motility (a term used in a laboratory science relating to cellular movement) captured in video form, alongside an audio narrative of my mother, allowing people to reflect upon non-verbal communication as well as the social and physiological correlations between the micro and macro forms of cancer culture. Oron Catts, a bioartist and director of SymbioticA (a bioarts centre at the University of Western Australia), talks about controlling biological life as well as the notion of understanding life in his lectures *Rethinking Life through Art*, where "cultural understandings of what life is and what we are doing in it are lagging behind the actualities of scientific and engineering processes".[11] Catts states that there is a need for a new cultural language in order to address this lack of acknowledgment of material culture in order for advancements to occur.[12] However, even in the bioarts, all of the work is done through human agency and (from the perspective of) human perception. Jens Hauser, who is a media scholar and was a guest speaker at a Fluxmedia event at Concordia University (2012), discusses that all bioart is not just dependant on what the producer sees, but that biological systems (the eye and brain) of the producer, is the thing that creates the

[11] "Rethinking Life through Art - Humanities and Social Sciences Executive Dean's Lecture Series." *YouTube*. YouTube, n.d. Web. 05 Mar. 2016.
[12] Ibid.

perception or artwork in the first place, thus posing the categorization of bioart as problematic.[13] Jane Bennett states that, still to this day, human agency is still not clearly defined as well or "what humans are doing when they are said to perform as agents," so to avoid what we don't know seems quite difficult.[14] For instance, what do we make of matter *in situ* or non-manipulated biological matter? How can one bring importance to biological matter that communicates with other matter, unnoticed or unacknowledged by researchers until it is recognized or "addressed"? This anti-anthropocentric idea, wherein humans are not participants in, but rather are observers of material discourse, will allow for new cultural observations to occur; however, it seems vital to recognize that it is impossible to forgo human perception as a mediating force to human knowledge.[15] Bennett states that, "The ethical task at hand here is to cultivate the ability to discern nonhuman vitality, to become perceptually open to it."[16] This is something that my final installation physically and socially reflects upon and addresses, by placing greater emphasis on the existence of the cancer cell than the human experience that is presented in the form of an audio narrative.

Contagion: A Social Matter

If one were to examine the concept "contagion" for its meaning, it is best to start with its most basic definition and etymology. The word contagion stems from the Latin noun/verb *contagio* or *contingere,* roughly translated as a close touch or to touch closely. In the Webster dictionary, contagion is given three direct meanings. The first definition is that of contagion as a disease-producing agent that can be transmitted by direct or in-direct contact. Secondly, it can be considered a poison that corrupts, influences, and hinders quality or nature. Thirdly, it is defined as

[13] Hauser, Jens. Micropreformativity: Realness Test in Post-Anthropocentric Times, Feb 5. 2013, Web https://vimeo.com/58987439
[14] Bennett, p. 34
[15] Bennett, p. 14
[16] Ibid.

rapid communication or an influence—as in a doctrine or an emotional state.[17] By observing the etymology laid out, one can see similarity in the concept's definitions. To touch, contact, influence or communicate, directly alters the subject or object it transforms. Since most of the words specified above serve as effects of discourse, communication seems to be a significant part of contagion. Also, on another note, to influence, touch and contact are words used to describe communication. So what does communication mean and to what does it link? Communication, or the Latin verb *communicare*, meaning to participate, to divide or share, directly links to or spawns the word community.[18] This community or communication through contact, influence or close touch can be observed now through the movement of cellular matter. Therefore through the divide or share that takes place, this leads to the conclusion that contagion can be considered as a social event which allows metastases to occur in both a physical and non-physical sense, and that there are communicative and spatial characteristics that are attached to the concept.

Building on Deleuze's social assemblage theory[19], which apparently for Sampson is itself indebted to the thinking of Gabriel Tarde, Tony Sampson[20] suggests that there are singularities within society decoded and recoded to match other singularities, essentially comprising a community. Deleuze's social assemblage is an amalgamation of singular entities that create a whole, with each entity having a heterogeneous form.[21] For example, in regards to cancer culture, one could make the case that the single cancer cell could attach to others in order to make a network of cells, which support tumour growth. In turn, this would affect the corpus or the host,

[17] *Merriam-Webster Dictionary* online 2013
[18] *Online Etymology Dictionary*, 2012
[19] Deleuze, Gilles, and Guattari, Félix. *A Thousand Plateaus: Capitalism and Schizophrenia*. Minneapolis: U of Minnesota, 1987, p. 219
[20] Sampson, p.18-21
[21] Manuel, DeLanda. "Deluzean Social Ontology and Assemblage Theory." *Deleuze and the Social*. By Martin Fuglsang and Bent Meier. Sørensen. Edinburgh: Edinburgh UP, 2006, P. 252. Print.

and allow for a transition to take place that would alter the existence of the person into that of a cancer patient. The patient as a single entity leads to communities of cancer patients found in chemo wards, in turn giving birth to organizations such as Cancer Society, etc. This is the snowball effect of micro cultures communicating to create these larger scales of the same culture assembled through interaction. This process tends to give power to the politicized forms of the specific culture, allowing for patterns of dominance to arise and, within medical practices, for more generalized treatment to occur. In this example, there is an emphasis on political agendas and the grouping of diseased patients, rather than an approach that focuses on patients individually or that examines the disease (ex. Cancer cells) in each patient separately. A similar organization called the Freedom Centre in Massachusetts has the same sentiments about psych medication where they states, "Medical doctors and pharmaceutical companies must stop spreading misleading and fraudulent propaganda about psych meds and start telling the truth about how dangerous, ineffective, and often counterproductive they can be."[22] For example, during my trips to the chemo ward while my mother was co-existing with cancer, I became very familiar with some of the treatments that were given to cancer patients. A common cytotoxic (cyto meaning cell) fluid administered to cancer patients is called Taxol. Although Taxol is an almost "go to" chemotherapy treatment for most patients, the therapy is not always unilaterally effective. This treatment of cancer patients by administering more generalized treatments, rather than examining the various forms of cancer in different locations within the body, is reflective of the "grouped" treatment. Yet, the corporate interests responsible for producing Taxol and perhaps some physicians would likely disagree with these statements and justify the process by

[22]Coleman, E. Gabriella. "The Politics of Rationality: Psychiatric Survivor's Challenge to Psychiatry." *Tactical Biopolitics: Art, Activism, and Technoscience*. By Beatriz Da Costa and Kavita Philip. Cambridge, MA: MIT, 2008. p.353

saying that it all comes down to protocol.[23] But maybe this idea of protocol and a protocol's universal application is part of the problem and not always the appropriate course of action.[24] But, to return to the biology side of things, Sampson makes the point that "Deleuze's assemblage theory, like Tardean sociology, argues that it is the composition of singularities that determine the whole".[25] In considering biology, I am referring to the singular entities within the human body that deter or reify others' existence within their own ecology (e.g., immune system). But, at the same time, these singular entities are affected by other entities that exist in their peripheries (e.g., abnormal cells, a flu virus, etc.). In essence, this process creates a network, which ultimately grows into something bigger or more substantial like a tumour. Yet, even though these separate entities co-exist with one another and influence each other, biological matter still seems to be analyzed differently, and is often not viewed through the prism of cultures that are capable of socializing. Sampson reminds us that "Tarde's somnambulistic subjectivity prefigures an increasingly inseparable and exploitable intersection between what is experienced biologically and what is encountered socially and culturally in a network".[26]

By working in a science laboratory, I had a chance to contemplate cultural studies, word culture, and what a culture can produce. In other words, being situated in a new culture such as that of a laboratory at the same time that I was learning the practice of culturing cells allowed for a contemplation to arise: on one hand I was involved in physically producing cell culture, while, on the other, I was observing and participating in my new social surrounding of a science lab.

[23] Although my mother's journey was very different from the opinion stated about generalized treatment, others that I crossed paths with expressed these concerns. While studying and talking about my research with the public, I was able to hear a lot of narratives from people with cancer or others that have/had loved ones with cancer. The statement about generalized treatment was noted as a possible problem, not necessarily with the profession as much as the system that governs certain practices.

[24] This idea of generalized treatment did not stem from my mother's own experience, but rather from people who I have met and talked with who were dealing with cancer or had close friends dealing with cancer. These narratives are not meant to directly criticize medical practitioners, but rather the system that may limit their practices.

[25] Sampson, p.8

[26] Sampson, p.13

For example, some of the hands-on experimentations I learned involved collaborating with professional scientists, post-docs, graduate students as well as undergrads, a process that required finding a language that each of us could understand. Once that communication level was established, I was shown various protocols in order to understand cellular culture more intimately, such as transfecting cells[27], staining cells (colourizing the cytoskeletal structure), experimenting with cellular motility through the application of various substrates including collagen, fibronectin and glass, as well as capturing time-lapse photography under a microscope. This latter experiment was eventually integrated into my installation in order to observe cellular movement and social properties. This connectivity between the social and physical worlds would seem to be closer than what is alluded to within different disciplines of research. So, where does that place the definition of contagion in relation to these organic micro-forms of life within social contexts? Could contagion be an assemblage of these singularities influenced by and influential to other living entities?

According to Tarde, these singularities possess their own identity, therefore in terms of the body; the matrix can be seen as a possessive singularity. For example, if one were to fragment the body into individual entities filled with multiplicities such as organs, cells, or even communities, not only are they singular entities assimilating multiplicities inside and/or outside the body, but are communicating and supporting the functionality of the whole in a positive/negative way. At the same time Deleuze argues that it is not solely about individual participation/interactions that hold a social assembly together, but rather constant micro relations that spread and proliferate.[28] Therefore we are able to deduce that multiplicities and singularities

[27] Transfecting a cell is genetically modifying a cell via implanting the cell with DNA in order to attach to certain parts of the cell. This process allows the researcher to fluoresce certain parts of the cell in order to visually render parts of the cell more clearly.
[28] Sampson, p.19

are reliant on each other, since micro relations hold and build a network via communication and proliferation. So, what communicative properties do cancer cells have, and can they be considered as a force spreading through direct or in-direct contact within the human body?

If to touch, to influence and to communicate stand together to form the driving definition of contagion, then by what means should one examine how cancer cells communicate with each other and how they influence the other cells? Jeff Wrana, a molecular biologist at the Samuel Lunenfeld Research Institute in Toronto, suggests that cancer cells are not separate tissue from the rest of the body, rather, they communicate with normal cells in order to foster metastases. He states:

> We discovered that the normal cells were basically sending an entire paragraph of instructions to the tumour cells. And these instructions were actually telling the tumour cells how to use its own machinery to invade and metastasize, to spread throughout the body.[29]

This statement indicates to us something important about the communicative properties of cancer cells: in their direct contact with 'normal' cells, they exert influence, transform, demonstrate a kind of agency or force, and thus 'spread'. In this way they fit our definition of contagion as physical matter capable of producing a social event that alters the subject or thing via contact, influence or communication.

So what about the terms 'virality' or 'viral', which seem to be so closely related to the etymological definition of contagion? How do the words 'influence,' 'touch' and 'spread' differ from the concept virality, and how does the concept of contagion differentiate from the viral? Sampson breaks down 'virality', by introducing three separate ideas, and he draws from Gilles

[29] Sheryl Ubelacker, "Canadian Scientists discover how cancer cells communicate with healthy cells in major breakthrough." *National Post* Web. 21 Dec 2012.

Deleuze and Gabriel Tarde on social encounters in order to convey these ideas.[30] First he uses Tarde's theory by addressing how discourse is meshed in with "contagious affect, feelings and emotions"[31] and not just topographical movement. Next he introduces how contagious event become viral and highlights Deleuzean's emphasis on the importance of "creating an abstract diagram"[32] that illustrating connectivity/assemblage of social power.[33] Sampson states that "virality is conceptualized as a surplus product of a sociotechnical network—a network in which social usage combines with topological growth to produce the contagious capacities of assemblages".[34] Lastly, Sampson discusses how "virality questions the language of fear and threat" by discussing it's alignment with too much connectivity, allowing the connection to go "viral".[35] Therefore it seems that the contagion is the assemblage or event that can occur, while the virus is the product of that assemblage. Sampson also believes that contagion is not a positive or negative entity; it is rather the way in which singular matter (i.e., cells) amalgamates through social assemblage, as described above.[36] Sampson examines the discourse of virality and how it "intimately is interwoven with a prediscursive flow of contagious affect, feelings, and emotions".[37] Tarde's social encounter expresses three laws that are vital to social invention, and they spread through the whole, affecting emotion and compositional affect. These social laws are imitative repetition, adaptation and opposition.[38] To summarize Sampson's reading of Tarde: the imitative repetitions, at some point in time, force adaptation where invention occurs, spreads and

[30] Sampson, p.3
[31] Ibid.
[32] Ibid.
[33] Ibid.
[34] Jussi Parikka and Tony D. Sampson. "How Networks Become Viral: Three Questions Concerning Universal Contagion" in *The Spam Book: On Viruses, Porn, and Other Anomalies from the Dark Side of Digital Culture*. Cresskill, NJ: Hampton, 2009, p. 42
[35] Sampson, p. 3-4
[36] Ibid.
[37] Sampson, p.3.
[38] Sampson, p.20.

proliferates themselves into society. For example, the repetitive use of Henrietta Lack's HeLa cells and their social interaction, or the use of HeLa cells with other cellular cultures in varied time and space has shifted their identity. This "cross-contamination" via human agency in laboratories has created a social assemblage that allows for new identities and new forms of cell lines to be produced. For researchers in medical science and in microbiology, this has proven to be problematic when conducting research. But since interactions with various cells have been discovered, transformation and adaptations have morphed cellular growth's imitative properties into unidentifiable cell lines.[39] Similarly, one can say that cancer cells, within a human form, imitate one another, communicate and adapt to their environment. During my observations at the science lab, I noted and recorded through time-lapse photography how cancer cells spread across the ecology, with their imitative, adaptive state in order to oppose or influence normal cells *in situ*. I also found some really interesting anomalies, for instance, if a cancer cell was not connected or close to other cells, the process of cell division took a lot longer than those already connected to a cluster or community of cells. Presently, researchers at MIT and Stanford University are currently working on synthetic social invention for an oppositional adaptation in order to inhibit cancer growth. Through the use of technology, researchers are working with the cell's genome in order to implement small computerized tracking devices into the single cell to record their activity. Drew Endy, a bioengineering professor at Stanford University explains: "[w]e want to make tools to put computers inside any living cell—a little bit of data storage, a way to communicate, and logic".[40] Therefore, the social relations and events that cells have with one another allow for metastases to occur, are providing scientists with the opportunity to survey the data in order to stop contagion.

[39] Jill Harley Dunham, Pam Guthmiller. "Doing Good Science: Authenticating Cell Line Indentity." *Promega Notes*, no.101 February 2009.
[40] Katherine Bourzac. "How to Make a Computer from a Living Cell." *MIT Technology Review* Web. 28 Mar. 2013.

Micro and Micro Culture

Since my research discusses micro culture as potentially exhibiting social, communicative properties, allowing for the connection between cancer and contagion, I would like to discuss the awareness of micro culture and its uses in society. Vital materialism aims at being more perceptive about living things or liveliness within non-human cultures.[41] So during my studies I took that into account and consequently made some side notes on other micro-forms and the assemblage of micro cultures. In an ethnographic study, Goodall states, "I ask students to keep either a diary or a professional notebook (in which they record self-reflection about their own experiences in everyday life) *and* a set of field notes (in which they record their observation and analyses of the others)."[42]

Sitting here, writing this text, I am surrounded by bacteria, which I experience as sublime unnoticed entities, as Anna Dumitriu refers to them.[43] In *Communicating Bacteria* (2012) Dumitriu uses textiles that are colourized with bacteria to draw attention to the presence and the visual aesthetics of often deadly, yet necessary micro-cultures or colonies.[44] This subliminal yet omnipresent encounter between the micro and macro is often unnoticed and is not usually studied. Their relational properties based on how they connect, interact and subsume similar forms of social assemblage have been a key focus in my research. My research has also sought to decipher the micro and macro worlds in order to make such comparisons.

If I were to consider myself a single cell within a culture of cells, would I consider myself micro? Although humans cannot see single cells, skin cells are very visible and are often all

[41] Bennett, p.14
[42] H. Lloyd , Goodall, Jr. *Writing the New Ethnography*. Walnut Creek: AltaMira, 2000. Print.p.92
[43] Anna Dumitriu. "Confronting the Bacterial Sublime Whole Genome Sequencing, Microbiology and Bioart". *MutaMorphosis* Web 22 May, 2012
[44] Anna Dumitriu. "*Bioart and Bacteria - The Artwork of Anna Dumitriu (Communicating Bacteria)"*. N.p., n.d. Web. 07 Dec. 2013.

around us, since we tend to shed dead cells every day. A more common form of micro cultures that is quite omnipresent and made up of dead skin cell is dust, or the thing I more commonly call furniture skin. Skin is interesting to contemplate about when considering cellular formations that can be seen by the naked eye. Since dust is also visible, bioparanoia surrounding it began relatively early. For example, in 1899, a company name Bissell created a house cleaning product advertisement that warned consumers: "Dust, a carrier of disease". [45] Along with this bioparanoia, came the production of vacuum cleaners, as a dust eater had become a very appealing apparatus for consumers and a lucrative product for businesses.[46] This interaction between the things humans can see and the things thought to be threats created this heightened awareness of illnesses that could be contracted through interaction. Unfortunately, the consequences of the interaction itself take precedence over the contemplation of what the thing (e.g., dust) really is in the first place. This can be seen as transferal of unseen microorganisms, amalgamating to create more than a mere physical appearance or effect. This grid of connectivity or too much connectivity[47] (like that of contagion) creating a solid form classified as dust within our own culture, and as seen in the picture below, allows for a physical visibility. It is also politicized through fear allowing for economic gain/power, which in turn concretizes its meaning and therefore is not identified by human perception for its true essence. Possibly, this could be due to its vile and disgusting form, like cancer, the need to get rid of it and possibly due to its common occurrence and presence within the human ecology. Whichever the reason, the matter's true "liveliness" tends to be misunderstood or hold an invisible meaning that is often missed by human perception. When discussing more specifically cancer and skin, we should note that

[45] Critical Art Ensemble. "Bioparanoia and the Culture of Control." *Tactical Biopolitics*. By Beatriz Da Costa and Kavita Philip. Cambridge, Mass: MIT, 2008. N. pag. Print, p 417.
[46] Ibid.
[47] Sampson, p.13

unlike cancer cells, skin is readily visible through human sight, and may be a good example of a micro-form[48]. Skin is an example of how we may miss the multiplicities that are part of what make up the entirety of who we are as humans. Some of the principal judgments that humans make in relation to skin concern its coloration and its form. These judgments, in turn, are used to set up social hierarchies on the basis of arbitrary traits. Such hierarchies can be seen in meaning of concept and stigmas attached to them, such as contagion. These are hierarchies that further work to undermine the intra-species cohesion among humans. If humans can't contemplate the micro-forms that we can see in our everyday lives, including assemblages that are part of our existence such as skin, then how can humans even begin to contemplate about vitality and reinvent new meaning?

Figure 1 A common household persistence seen as "dust" also equates to an amalgamation of live and dead cultures creating a "skin" on the surface of furniture.

I wrote a poem reflecting on the very culture with which I was working entitled *Rejuvenation*:

Our skin, the surface layer of one's presence
You see it, touch it, smell it, even inhale it
But how exercised are these senses in relation to it?
The epidermis, not contemplated about, disvalued
Crowded by other simplistic visions
The identifier, the performance space
Has one ever thought to feel the surface?

[48] A micro-form is visually perceived as a solid unit and not as a surface where micro entities are constantly communicating.

Not skin… the shifting, shedding cellular matrix
But the ebb and flow of our existence
The biggest organ attached to the body
Close your eyes… don't think
Just feel its shape, texture, subtle attachments to itself
Temperature, flaws, cuts, scabs, the healing process
The organ touching itself…
But try not to identify…just feel
This external moving matter, exposed to the environment, its aging
Divulging experiences
How do these variables affect our stratigraphy?
The constant renewal with its exfoliation process…
Shared and unnoticed

It is this perceptual disconnection that binds the skin cells together, making the outer layer of human bodies seem like a solid form. This unawakened cognizance of seeing multiplicities within the singular form of skin allows for this disconnect to occur. However, it is interesting to ponder the uncategorized possibilities, which can confuse and contort our perceptions, which in turn alters meaning.

But what does this have to do with cancer and contagion? Well like cancer, spreading and associating with others to assemble into a tissue, dust also produces a sort of "skin" over time and space. Similar contemplations were had when I was in the science lab about temporal and spatial "meshwork"[49] created by the cancer cells. This allowed me to contemplate about how cancer possibly exhibits contagious events/traits.

Microethnography: A Social Method Used in the Science Laboratory

A microscope housing a thick piece of glass separates the researcher from the subject at hand. This amplification of detail and this magnification of the case study establish a portal for the observer. The circular cylinder of the microscope acts as the visual tool, setting parameters

[49] Bennett, p.23

and limitations, outlining the borders needed in order to render the culture visible. But what is the method in order to capture the culture's existence? What social method should be adapted in order to philosophically and socially examine the existence of an often undermined micro culture? Does this micro culture stem from humans or does our culture stem from micro matter? Whether the glass is a concave/convex lens stuck on a microscope or a magnification of a specific topic in its outlined specificity, each approach uses the same tactics. Goodall relays Rabinow's thoughts on results within ethnography explaining, "[f]acts are interpretations […]. They represent conclusions drawn from partial truths, *partisan* perspectives and *problematic* methods of asking questions. Facts are interpretations derived from forms of learning or discovering, and from ways of knowing and being in the field. As much, facts are *social representations*".[50] I propose "microethnography" as the term that encapsulates the series of methodological choices that visually captures cellular communication as a means to re-evaluate their topographical movement, growth and reactionary state to others and their ecology. Through the use of microethnography, new forms and ways of seeing these microbes can be effected and this helps researchers understand material culture or at least allows for more dynamic observations to occur. These very same tools were used within my working microethnographic approach in the laboratory, by video recording cells, visually analyzing the movement and allowing the viewer to see cellular movement within the installation as a way to observe and interpret cellular interaction. By using this method to study cellular communication in it physical (movement) and visual forms (portrait), microethnography shows how cancer cells are capable of imitation, adaptation and proliferation within their ecologies. My research does not, however, see the fork in the road between science and humanities. Instead I am trying to build another lane on the highway for microethnography to exist in the former discipline, which will

[50] Goodall, p.92

run parallel to the position it already enjoys in the latter. Lanes on highways run parallel. Yet, it is also important to keep in mind that the lanes of discovery and methodology might separate and veer off in one direction, or come back and converge. This makes for an interconnected grid of methods used in disciplines that may or may not share consistencies. Their fabric, texture, appearance of identified matter and culture used can coincide and concur; therefore a method can

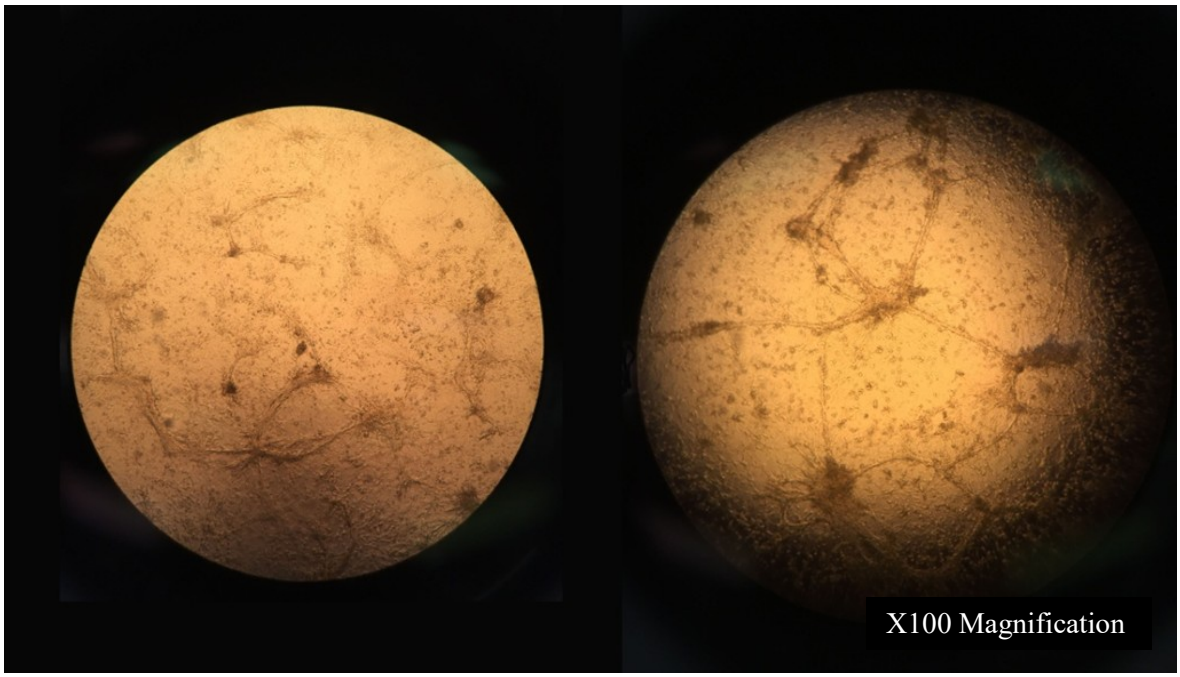

Figure 2 Images I took while taking care of a colleague's cells in the lab. These images are an example of a method I used within the science la that involved using a 8-megapixel iSight camera in a iPhone and guiding the lens down through the optic of an inverted phase microscope till it was focused. These oseteosarcomas shown above (Bone cancer cells) were cultured at Concordia University as part of WhiteFeather Hunter's research Biomateria and photographed by Tristan Matheson, 2015

become assimilated, thus altering the meaning of the subject at hand. Furthermore, when understanding communicative properties pertaining to disease such as cancer within microbiology, it is just as important to take into account as the visible cultures in the macro world. This forceful, collision/fusion between the micro and macro worlds, permeating traits between the two, allows for methods to be replicated in both contexts by using similar

approaches. Recognizing this could allow researchers to adopt and adapt some of the methodological approaches that are produced within either scale, and enable them to borrow or draw from the same methodologies in comparative ways.

In the above, I have attempted to define microethnography, to explain how I have adapted it and to identify the place it occupies within established paradigms. Further, my research project does not inject tropes or metaphors in order to clarify my case study; instead these are used as part of a strategy to stimulate the mind and to create questions that are focused on comparative understandings of the micro and macro worlds. The comparative study of micro and macro worlds is included due to the relational space each occupies with the other, and their association via the social assemblage illustrated by Deleuzean and Tardean social theories as discusses above, allowing for a re-evaluation of contagion by observing social events taking form. The method is also used to examine the topographical exploration and spread of the micro culture in question. This involves the interpretational observation often found in ethnographic study through the use of audiovisual devices, note keeping and analysis. The various pieces of the installation create a comprehensive whole. This has entailed taking the micro form and using the cells as the visual component of the study whereas the human supplied an aural presence. The cells are empowered by being visual, exhibited in a gigantic size and through the use of a 3D aesthetic to create an immersive environment. Although it allows people to visually see cancer cells that are normally invisible, the visual representation isn't meant to necessarily produce answers or cures to the subject at hand. Rather, it is meant to interpret cancer's social properties and formations in order to re-evaluate the contagion and material discourse found in biological life. In Keller's book, she states:

> Biology is scarcely any closer to a unified understanding (or theory) of the

nature of life today than it was a hundred years ago. The models, metaphors, and machines that have contributed so much to our understanding provide neither unity nor completeness. They work to answer some questions while avoiding (even obscuring) others; they satisfy certain needs while failing to address others; in short, they leave the project of "making sense of life" with an essentially –and perhaps necessarily- mosaic structure. [51]

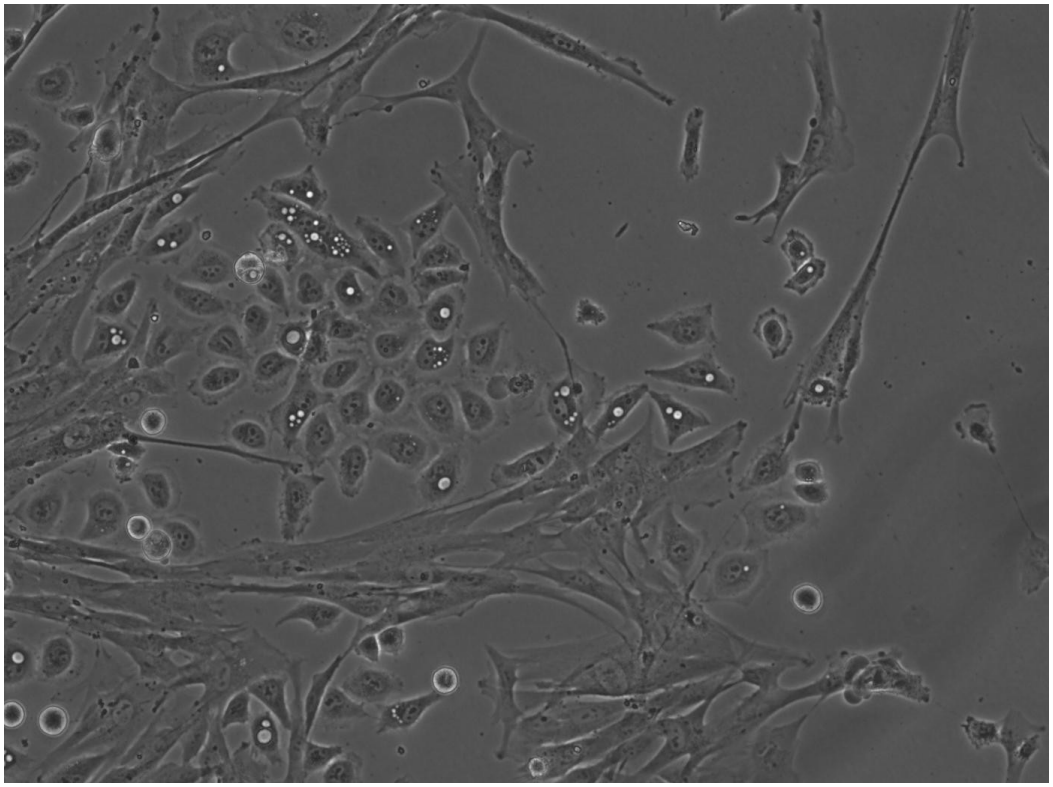

Figure 3 Photograph of HeLa cells (cervical cancer cells) and HFFs (Human Foreskin Fibroblast) at the Pelling Lab housed at the University of Ottawa. This communicative association between the two cultures illustrates their physical and individual uniqueness as well as illustrates concepts found in social theory, such as imitation, connectivity, adaptation and opposition.

Jane Bennett introduces this mosaic-like structure discussed by Spinoza, a structure that he believes to be "existing modes that are not actually composed of a very great number of parts". They are parts that "come to it from elsewhere".[52] Bennett also mentions that Lecretius'

[51]Evelyn Fox, Keller. *Making Sense of Life: Explaining Biological Development with Models, Metaphors, and Machines*. Cambridge, MA: Harvard UP, 2002. Print. P. 3.
[52] Bennett, p. 22

mosaicism also agrees with the "well-mingled seed" of life's constructs.[53] These statements intermingle in the sense that biology is perhaps not as clear-cut as it has been hypothesized to be, and that inconsistencies as well as the complexity of life's seed (e.g., mixing of cell identity and cross-contamination as discussed above), may highlight the uses of a more fragmented meaning than strictly utilizing concretized thought such as protocols and what one might see as "proper science".

It's the blurred lines and undetermined boundaries that formulate new "truths" and allow them to emerge through the use of metaphors. To elaborate more on the use of metaphors, Susan Sontag states that "[t]he most truthful way of regarding illness—and the healthiest way of being ill—is one most purified of, most resistant to, metaphoric thinking".[54] While I do agree with this statement, I do believe that metaphors can be used to understand the micro matter as living entities of life. Susan Sontag does say, "[m]etaphorically, cancer is not so much a disease of time as a disease or pathology of space. Its principal metaphors refer to topography (cancer 'spreads' or 'proliferates' or is 'diffused'; tumours are surgically 'excised')".[55]

Microethnography is positioned by social sciences scholars as a subcategory of ethnography that focuses on social interactions between human beings within specific circumstances or case studies.[56] This allows for closer inspection of the subjects' communicative or verbal/physical interactions with others. A new focus on post-humanism has shifted some scholars' focus from analyzing communication between Homo sapiens, to a willingness to

[53] Ibid.
[54] Sontag, Susan. *Illness as Metaphor; And, AIDS and Its Metaphors*. New York: Doubleday, 1990, p. 3.
[55] Sontag, pp. 14-15.
[56] Glenn, Phillip J., Curtis D. LeBaron, Jenny S. Mandelbaum, and Robert Hopper. "Orienting to the Field of Language and Social Interaction." *Studies in Language and Social Interaction: In Honor of Robert Hopper*. Mahwah, NJ: Erlbaum, 2003, p.33

become more attune to other forums for exchanges that exist in the material world.[57] I use my own adaptation of microethnography as a principal method that biologically examines the notion of living material in micro-form, and values them as vital entities worth investigating. Bennett states that, "a life points to what *A Thousand Plateaus* describes as 'matter-movement' or 'matter-energy,' 'a matter in variation that enters assemblages and leaves them'".[58]This living assemblage such as blood, urine, sputum or single cells, houses similar living parts making them function, produce and communicate physically with other matter intermingled in their environment. For example, the flagella or tail-like matter on a single cell (e.g., sperm), allows the cell to swim and transport itself.[59] It is the multiple parts of the whole that allow movement, functionality and vitality to occur.

Since microethnography is the method I am using to explore cancer as a contagion and posing the method as a way to relieve predetermined meaning in concepts, it is important to define its already established uses as a method. According to Garcez:

> [M]icroanalysis of interaction, as microethnography is also known, aims at descriptions of how interaction is socially and culturally organized in particular situational settings. Microethnographers typically work with audiovisual machine recordings of naturally occurring social encounters to investigate in minute detail what interactants do in real time as they co-construct talk-in-interaction in everyday life.[60]

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[57] Jane Bennett (vital materialist), Eugene Thacker (post humanist) and Jens Hauser (media scholar) are a few scholars who explore other forms of discourse such as communication between organic material, technology, living entities and performance as a method of communication within ecology ex. Micropreformativity: Realness Test in Post-Anthropocentric Times (Jens Hauser talk at Fluxmedia, Concordia University).
Jens Hauser, Micropreformativity: Realness Test in Post-Anthropocentric Times, Feb 5. 2013, Web https://vimeo.com/58987439

[58] Bennett, p. 54.

[59]"Echinoderms - Fertilization." Sperm Structure. Jeff Hardin, N.p., n.d. Web. 24 Oct. 2013

[60]Garcez , Pedro M. "Microethnograph" in *Research Methods in Language and Education*.N.p.: Springer Verlag,

This is one of the reasons why I chose to audio record my mother's narrative on cancer and video-record the cells in vitro in the science laboratory as part of my installation. Le Baron, who also wrote about microethnography and what it facilitates, concurs with Garcez. He also goes further by saying that microethnography makes "researchers focus on the social interaction, rather than the individual".[61] I, however, disagree with this statement, since sometimes it is imperative that the researcher have some kind of knowledge about the individual before observing the subjects in a more complex forum of interaction. For example, if a researcher were making a case study of abused children and how they interact with their peers in an educational institution, and contrast this analysis with a study of the interactions of children who have not been abused, one might be able to come up with some results. However, if that same researcher took the time to analyze the child on an individual basis, observing physical, communicative and emotional individuality in contrast to only looking at their communication in a collective group setting, the researcher would most likely obtain a more thorough analysis. This is why DiaTech, a cancer clinic housed in Montreal, has been viewed as a unique treatment centre, since the physicians at the laboratory treat each cancer patient on an individual basis. This means not only are the therapies different per case, but each patient at DiaTech is given a synopsis and taught about what each treatment does to their specific cancer. [62]

The study of ethnography deals with cultures and how humans communicate with one another, but also includes the environment and the culture's surroundings using qualitative methods.

"Ethnography may be defined as both a qualitative research process or method

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2010. p.187.

[61]Curt Le Baron. "Microethnography" in *The Sage Dictionary of Social Research Methods*. Victor Jupp. London: Sage, 2009. pp.178-80.

[62] *CorrectChemo*. Diatech Oncology N.p., n.d. Web. 20 Mar. 2016.

> (one conducts an ethnography) and product (the outcome of this process is an ethnography) whose aim is cultural interpretation. The ethnographer goes beyond reporting events and details of experience. Specifically, he or she attempts to explain how these represent what we might call "webs of meaning" (Geertz, 1973), the cultural constructions, in which we live.[63]

This qualitative methodology to which I am referring within ethnographic study is actually something Jane Bennett addresses pertaining to the sciences sector of research. "Nature was not for Bergson and Driesich, a machine, and matter was not in principle calculable: something always escaped quantification, prediction or control. […] their efforts to remain *scientific* while acknowledging some *incalculability* to things is for me exemplary". [64] Microethnography allows this qualitative observation to occur, rather than quantifying the "incalculable" in nature. The resistance that exists in the sciences to any method that does not quantify results and that recognize subjectivity within research can, in effect, limit the scope of our understanding. We should be open to ideas that not only can shift meanings, but can also alter the ways we analyze living things. Marcus states that, "multi-sited work does not guarantee that ethnography will be about its expected tropes. This threatens the identity of ethnography itself but also produces a sense of excitement in finding new terms for ethnography within the doing of field work itself". [65] The bacteria clouding the results or the political agendas of the human mind, making abstract realities within this study, hopefully result in forcing questions about survival and the pertinence of life. It's the act of digging through one's own thoughts that opens the door for challenging concretized facts, and for making allowances for previously

[63] "What Is Ethnography?" Brian A. Hoey, N.p., n.d. Web. 24 Oct. 2013.
[64] Bennett, p. 63
[65] George E. Marcus. "Multi-sited Ethnography: Five or Six Things I Know About It Now." *Multi-sited Ethnography: Problems and Possibilities in the Translocation of Research Methods*. Ed. Simon Coleman and Pauline Von Hellermann. Print. P.19

unaccepted possibilities and new meanings. So, since cellular anatomy can be rendered as living entities capable of spreading ideas, thoughts, rumours or gossip that may become "contagious," why can't disease?

During my artist residency, which took place the summer 2013 at the University of Ottawa, I attempted to situate microethnography in a scientific laboratory. My research aimed at defining the method as not just as a study involving human interaction, but also one that would be applicable to the study of material culture. Its main focus was passaged[66] into three areas of interest: visually recording and observing how cells move and respond to various ecologies and cultures in association with the concept of contagion, working with the social methodology within a scientific space while considering how the methodology can be implemented in the study of material culture (e.g., microbiology) and, lastly, how both micro and macro worlds relate to one another and how to use the method in order to connect commonalities between both worlds.

Since I was working with a method that visually examined culture, I decided to integrate some of the time-lapse photos of cells I took in the lab into my installation. Although the biological cells were not implemented into my final composition, I wanted to challenge myself by trying to artistically and digitally recreate a similar experience I had with the cells for the public. The installation constructed attempts to reconfigure itself to give a digital "synthetic" version of what can be observed and seen under the microscope. This allowed people to explore the spatial and temporal movements of cell culture, further strengthening the evidence of communicative properties and cancer's connection to the concept of contagion, while doing their own microethnographic study.

[66] Passage is a common term used in the laboratory, meaning to take or split a small concentration of cells and plate them in a new dish

Microethnographic Installations: The Open Source Forum

With the significant number of questions and contemplations this research project has produced, my answers to these queries morphed into two multi-media installations. The production of the multiple parts of the 3D environment produced merged together to form a comprehensive whole. The singular and multiple parts physically reflected the three sections (Microethnography, micro and macro cultures and the concept of contagion) discussed within my research through the use of traditional scientific and artistic practices. The traditional practices to which I am referring are the use of common cell culturing protocols as well as artistic practices such as painting, photography, video and audio narratives. Each part of the installation was constructed in various spaces in order to comply with the medium used at the time. For example, since I was working with BSL2 (Biosafety Level 2 Class) cell culture, I had to conduct all of the experiments in a scientific laboratory. Similarly, since I was using an industrial material that is quite toxic called epoxy and pouring it on my painting to create a "wet" look, I needed to find a space that would be apart from a living area, but that was still enclosed with no dust and that could maintain a constant room temperature. Each space had its challenges and each one was varied from the other, but it was really the medium being used that controlled my locale or place of application/experimentation. This convergence of various parts builds upon Deleuze's idea of singular entities or components interacting with one another to form a more complex whole. Taking a single anomaly, like a large-scale painting of a cell into a gallery, and contorting the image by casting a video projection of the unpredictable movement of the same "system" (cancer cells), allows for some abstraction and unclear delineation. This destabilizes the strata of definition of the topic at hand and allows for cultivation of a new perspective to

occur.

> "The force of collective, expressive emergence will be streamed into stratified functions of power. Unless: the collectivity in the making resists pick-up by an established stratum, insisting on defining its own traits, in a self-capture of its own anomaly. In this case, they will retain a shade of the unclassifiable and a margin of unpredictability in the eyes (or net) of existing systems of reference, no matter how hard those systems try fully to contain them. The collection will appear as what it is, a multiplicity in flux, an expressive "movement" or "orientation" still under formation (especially if the collective learns to creatively shed its traits as confidently as it cultivates them)."[67]

The parts of the installation address the conceptual links between cancer culture and contagion, the micro and macro associative cultures and microethnography as an observational/cultural study of material discourse. The installations gave the public access to interpret the cultural milieu via what they saw and experienced within the 3D cellular environment. This social and physical contemplation was provided in order to give a "lived" experience, in accordance with ethnographic practices and to provide an opportunity to understand cancer in its various forms, both in the micro and macro senses. Ethnography, as it was explained by Herbert, draws from Adler who in turn states that, "to engage a group's lived experience is to engage its full sensuality—the sights, sounds, smells, tastes and tactile sensations that bring a way of life to life".[68] This interpretative and sensual interactivity between the installation and its viewers within a gallery setting became the "synthetic" or digitized form of microethnography. As it was

[67] Brian Massumi. "Introduction." *A Shock to Thought*. New York, NY: Routledge, 2002: Web, p.23
[68] S Herbert. "For Ethnography." *Progress in Human Geography* 24.4 (2000): Web, p.552

the case in the laboratory, the gallery space allowed for a visual study, which generated ideas and connections among the audience and enabled an analysis. These ideas were recorded and written down in the laboratory books that were provided in front of each of the two installations.

Figure 4 This image shows both installations as seen at the FOFA gallery in November 2015. Their visual forms displayed a physical and social reflection on and about cancer culture. Photographed by Guy L'Heureux

It has been challenging to bring together, in an artistic rendition, the suturing of the multiple hybridized conceptual ideas posed in my research with the physical actions visibly displaying material discourse. The merged production of the multimedia installations, created in the context of my installation *Contagious Matters,* has attempted to show both the unseen cultural/material discourse via the use of technology, as well as its associated properties with the concept of contagion. The very idea of creating a visual form of my study through digitization, manipulation

and conceptual portrayal via human agency proved unavoidable since I was the one manipulating and conducting the social experiments the cells were having in the laboratory. Having said that, the installation attempts to bring to life the living micro culture in order to allow communicative properties to become visible and to be placed in relation with the social concepts present in my research. The concept of contagion is displayed visually within the recorded video, which exemplifies many of the concepts such as imitation, opposition, connectivity and adaptation, all of which can be found in Tarde's social laws as explained by Tony Sampson.[69] Reversing size and accessibility and giving the public access to cancer cells on a large scale and not access to the cancer patient (who is my mother), was all done in order to empower and emphasize the discourse of cancer cells rather than the human. This was also done to directly undermine the emphasis of what was being seen visually (micro) versus what was being heard aurally (macro) in order to possibly allow viewers to more easily see the social connections between the two levels of the same culture. For example, a comment during the exhibition at the FOFA Gallery in Montreal reads, "I wish my bedroom was full of this. […] I wish I could shrink myself into a single cell just so I could feel more like a part of this world. I feel really close and really far from these images. It's like the counterpart of what it would feel to be in outer space, but at the same time it feels like its precise duplicate". [70] This comparative contemplation of the micro and macro links is clearly visible within this comment and places aside the existence of "the human". The cancer culture seen within the installations, in their digitized symbolic state through the use of size, aesthetics and 3D motion videography, embraces the idea of being and being in the micro world and deters from the solid state of the human body.

The painted substrate, acting as a portrait or as a social platform, reflects the image

[69] Sampson, p 21-25
[70] Anonymous, Contagious Matters, FOFA Gallery, 2015

sequences taken of moving cells. This static, yet aestheticized image of the deadly disease, attempts to not only create a surface for "reflection" of the video, but becomes a romanticized image of the living organism that often effects and affects its ecology, both in the installations

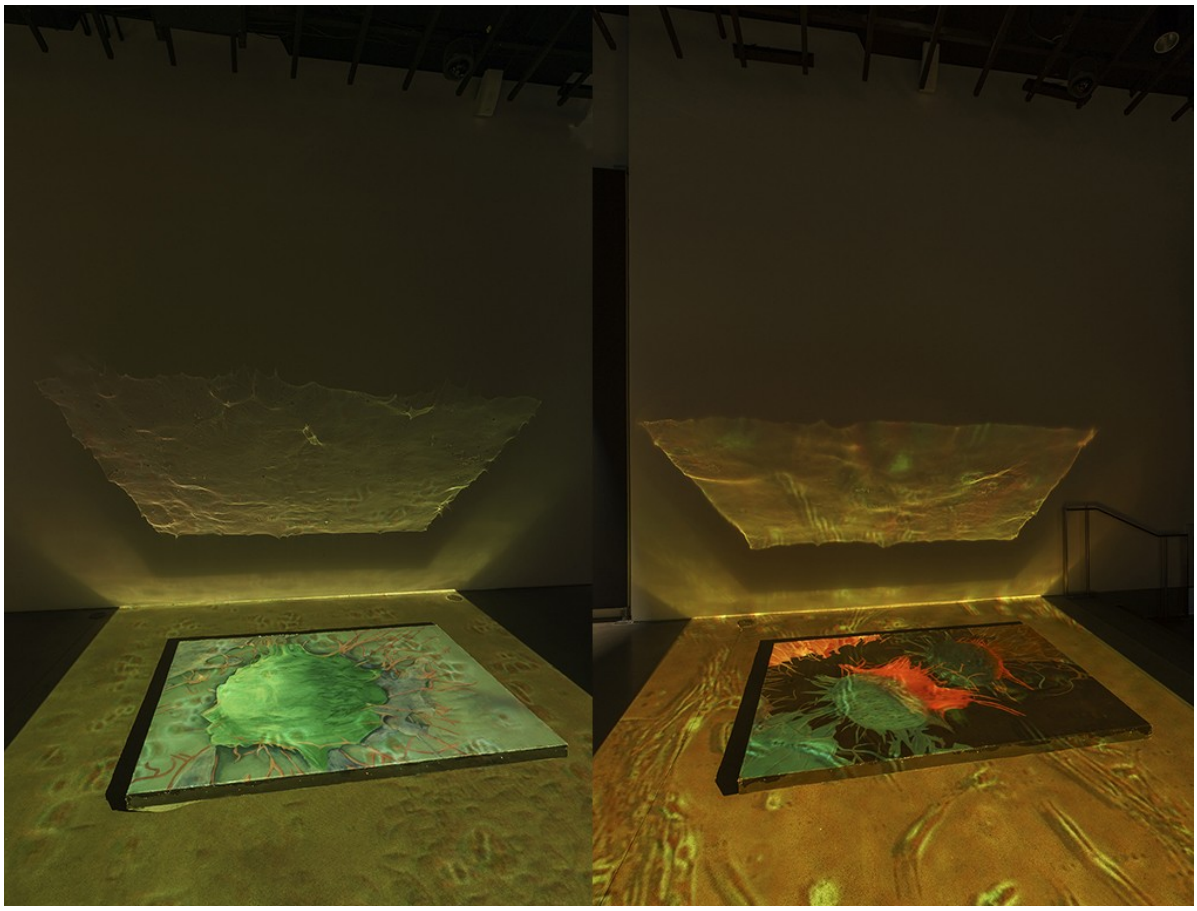

Figure 5 The installations, "Loner"(left) and "Outreach"(right), as seen at the FOFA gallery in November 2015. Photographed by Guy L'Heureux

and in real life. “Thing-power may thus be a good starting point for thinking beyond the life-matter binary, the dominant organizational principal of adult (human) experience”.[71] The time-lapse recorded at the Pelling Lab also instigates a reflection on concepts found in Gabriel Tarde's social laws, which reanimates the idea of the "thing power" discussed in Bennett's book *Vibrant Matter*. The titles used for the paintings were all chosen carefully and refer to concepts that have

[71] Bennett, p.20

associative meaning with social interactions. For example, the *Outreach* installation illustrates "[…] the social process of imitative encounter that actualizes desire and transforms it into social invention".[72] Whereas the *Loner* captures an isolated cell that is unattached and alone; it is more solid and less spread out in its physical state. The video, serving as a digital eye of sorts, became incorporated into the microethnographic study as a way to reflect about what had happened in the lab, both in physical and social terms, while I was doing my artist residency. As a former researcher in archaeology, the recordings of an excavation of a space which houses a new ecology, varied soil layers and things (artefacts) that inevitably tell a narrative was vital, and often induced an interpretation or analysis. In the book *Writing the New Ethnography*, Goodall delineates three stages of reflecting upon verbal exchange. The first is to write down what one observes pertaining to communication within the case study, then to determine the code of conversation (which, for this project, was spatial and temporal cell movement), and finally the reflection. Goodall suggests that one should "reflect on the meaning of the conversation as a 'type' of communication (the coding), as an episode with the evolving story you are encountering, and (perhaps, if it seems appropriate) as it interacts with your personal experiences".[73] The third stage was the more integrated part in my project, since not only was there a lot of reflection throughout the process, but the results ended up allowing the public to also reflect upon what I experienced in the laboratory as well as with my mother. The accuracy of the conversation between the cells and its portrayal within the installation, although scientific, was studied in a more social and philosophical way. In this sense, interpretations could vary and they did vary from one individual to the next among those who expressed their reaction to the

[72] Sampson, p.25
[73] Goodall, p. 98

installations by writing in the laboratory books provided.[74] This showed up in the laboratory book that I provided in front of one of the installations. It anonymously reads:

> First time I saw this exhibition was at Loyola. I didn't know anything about the work's context. I just started to listen to Tristan's mother talking about telling other people about having cancer. My own aunt just informed us she had breast cancer, so it really touched something inside of me. I went out of the room almost crying. I said, I'd never see that exhibition again, and here I am, testifying for my effect.[75]

This risk factor seemed like it turned into more of a reactionary understanding, whether the installation was medically educational, therapeutic or mesmerizing, the reaction written down seemed to have a pacified effect more than a provocative and harmful response. Oddly enough, even while considering cancer as something that can exhibit contagious events, a fear response proved to be less apparent than calming or therapeutic responses. This pacification in relation to the topic of cancer, while connecting it to contagion and to the understanding of both micro and macro culture, maybe enabled and encouraged understanding of its existence and maybe even spurred a curiosity to know more. Tony Sampson states, "the inventions of biopower play to the vulnerabilities people feel when they encounter disease". He continue by explaining that "biopower is further exercised through the exploitation of the entire valence of human emotion—not just through fear, panic, terror, and fright but via the positive affect that spreads through a

[74] Injecting science into a gallery space by exposing biological matter or creating a "risky space" due to the physical presence of living biological cultures for viewers has become increasingly popular in a lot of bioartists' projects. Bioartists such as Oron Catts with his *Victimless Leather*, Marta de Menezes' *Immortality for Two* or even my colleague WhiteFeather's *Biomateria* project all show biological culture *in vitro* within the gallery space, heightening the risk factor due to exposing biological entities that are foreign to the space and viewers. This risk factor of biological entities physically being installed in the space was not something that my research had to address as such, since everything was digitalized and defibrillated or brought to life through artistic processes. While the physical risk factor was not there, the social risk factor certainly reared its head several times, as this research was about a difficult subject matter (i.e., cancer).

[75] Anonymous, *Contagious Matters*, FOFA Gallery, 2015

population when it encounters, for instance, the intoxication of hope, belief, joy and even love".[76] This very biopower or powerful response to the visual presence of cancer cells was exercised and came out very clearly in the reactionary response above and their interaction with the installation. This could have been due to the visual aesthetics, the reflective (physical and social) performance happening within the setup or possibly with some of the positive effects specified in my mother's narrative about cancer. She states:

> I would perhaps like to say that this has been an incredible learning experience, physically and mentally and that […] if there is one benefit to having cancer, it's that one looks at the world in a completely different way. And one values things that one took for granted […] to a much larger extent, to the good things that one took for granted. And one sees the world with different eyes and…it's not all black. Some people might go into a deep depression or even a minor depression. Everybody who is told that they have cancer goes into shock, because nobody can quite believe that this horrible thing has happened to them. But after that wears off…some people become very depressed, very upset, et cetera, et cetera. And it's a very […] easy thing to do, and it takes sometimes a great force of will to get beyond it. But the rewards of getting beyond it, is that you come to do something which all these sages tell us to do, and which a lot of people go through their lives not doing, which is to seize the day. And appreciate each day as it comes and value it, because one never knows when it might be […] coming towards the end of our days.[77]

[76] Sampson, p.5
[77] Matheson, Dona. Audio Narrative, 2013

Another thing that may have "interrupted" social interpretation was the setup of the installations. Although I liked the format used, because of the size of the exhibition environment, the result was not as clearly 3D as expected. I plan for a screen to be mounted as part of the next rendition in order to see the original "live feed" more clearly. The next rendition of the installation will be done in an upcoming conference held at the University of Ontario Institute of Technology (May 2016), and will hopefully further microethnographic discovery during the event. If I were to develop a future rendition of this project using a different culture, I would consider delving deeper into the sciences by actually taking courses in science and not just getting hands on in a purely DIY fashion. This would allow me to probe these questions more deeply by undertaking a comparative case study between the methods and interpretations of living things used in the laboratory versus within the social sciences.

Conclusion

The submersion that occurred while being part of the science laboratory, has allowed me to see that getting past relating to communication as something strictly occurring among humans and avoiding anthropomorphizing discourse is harder than I would have expected. My conclusion about material culture, the culture found within a space and human interaction all really merge into one petri dish. The space and time my research took, the social amalgamations that occurred both in a micro and macro sense and the knowledge obtained all dealt with exposure and social connectivity. From learning how to passage (split cells), to cell track and to count cells, and the acronyms used within scientific language, each of these activities were adopted and adapted in my experience and research. The pipetting of the dish and the creation of mixed cultures and new connections allow for different outcomes. The repetition of protocols

and growth, the amalgamations of material and the collision of ideas have all worked to uphold my hypothesis about the relational properties that the micro and macro share and the need for and use of my methodology, which I used within my research/installations. Throughout this process, I had wondered whether or not to plan out the artistic rendering before going into the science lab. However working with the medium and experimenting with the methodology, it was really my research that guided the outcome of my artistic rendering. It was my creativity or the creative aspect of this written composition, which encouraged the visual form of my research which I housed in a gallery.

In reflecting upon my experience of going into gallery spaces and, conversely, going into science spaces in the context of working on and presenting this research project has shown me the discrepancies and similarities of the two spaces. In the laboratory, a researcher takes notes, images, performs the practice of cell culturing and envisages certain results. Walking into a biology laboratory and science laboratory as an artist, one becomes an enigma, an amateur and can maybe even be viewed as a contaminant.[78] As an artist, I went into the biology and physics laboratory knowing very little and came out unknowingly speaking the scientific jargon. This transferral of scientific language while doing my research has been very fruitful, and has allowed me to impregnate the work with common laboratory words, to become acquainted with hybridized social and physical words, and to understand new uses for words that I think are quite fitting when describing social thought.

The significance of connecting cancer as a contagion, via social properties was vital in order to contemplate on interaction had beyond the scope of mere human existence. Plus

[78] Being a transsexual in society, the enigma part was not that hard for me, since I have been viewed as one my whole life. This sense of belonging seems to always be important; it is something that everyone seeks to attain within a culture. Luckily, I was able to establish that and I was welcomed with open arms by my amazing colleagues at the Pelling Lab, who were not only open but were curious about my presence. I was eventually no longer considered as "the other" and was more considered as being part of the team, the whole.

personally for me it was a way to get closer to my mother's experience and a way to understand her existence once diagnosed with cancer. It was my mother's cancer and her strength that made me want to pursue the co-existence between the body and cancer cells and how I could possibly bring new meanings to that association. In conclusion, having established a convergence of the micro and macro spheres, my master's research-creation project helped develop and supported the idea of the disease of cancer as a contagion. The cellular form, so apparent and attached to its meaning, yet so detached in the understanding was what was explored and challenged. Understanding these definitions of contagion and disease, trying to differentiate the truths behind these similarly-structured biological entities, challenging the "truth" and detaching the commonly-asserted connection they hold with one another was indeed challenging. The multi-media installations entailed a co-existence between micro and macro culture, and attempted to create new and emerging "truths" and interpretations of culture. Representational and abstract forms fused on canvas, the images presented living and breathing entities that are similar to the human species and to the multiplicities of matter that make up one's existence. The death of a human is inevitable, and the reason for one's demise might be controlled by what the micro world has to offer. This is something both my mother and I found out when that slow unforeseen transition from "normal healthy cells" became something that caused both her and the cancer's death. Although cancer is hard to control and definitely was not my mother's choice, she co-existed and accepted her intertwined existence with cancer with understanding and optimism and ultimately at the end, when she refused to eat or drink for a week, controlled both the cancer's and her own plight. In the end with ending her life, and effecting the ecology, she finally "defeated" cancer.

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