

Dish Lives

Karen Jent, March '18

Over the past two years, I have been involved in a truly special initiative. Together with stem cell researcher Lorian Vitillo and writer director Chloe Thomas, I have created the award-winning documentary short film *Dish Life*. In eight minutes, we explore, from our interdisciplinary perspectives, stem cell researchers' affective and emotional relationship to the *in vitro* cells they grow in the laboratory.

Produced for the University of Cambridge as part of the 2016 Cambridge Shorts series, our aim was to place an emphasis on scientists' everyday routines and, in particular, to explore what it feels like to look after living cells in the laboratory. Together with the stem cell researchers we interviewed for the film, we found that living cells are special kinds of tools in the biosciences that, as animate matter, have certain needs. These needs co-constitute and heavily impact the work scientists can perform with them. Looking after those needs in the form of care of the cells, in other words, is a fundamental and constitutive part of scientific practice and laboratory culture.

While I focus on exploring these issues in my ethnographic research, our interdisciplinary collaboration has allowed me to investigate the complexities of cell culture in new ways: with the wide dissemination of the film, in particular, I have been able to talk about my work with a range of people I otherwise wouldn't have met. *Dish Life* has also allowed me to have new kinds of conversations with my research interlocutors and colleagues. And, perhaps most importantly, I have been able to build precious relationships with my two collaborators and I am learning from them every day.

The pro-cures paradigm

With our focus on care and affect in the laboratory, we placed an emphasis on scientific technique that is rather unusual in the context of regenerative medicine. Regenerative medicine is a growing branch in the applied biosciences that increasingly envisages stem cells as therapeutic agents. It views stem cells as standardisable 'products' that can be grown in the laboratory for the benefit of critically ill patients. Celebrated as replacement cells for diseased and aged tissues in an increasingly ageing population, many suggest that stem cells are at the core of a novel type of medicine that not only uses live cells as potent agents to develop new treatments, but that also aims to innovate more conventional medicines, for example by making drug testing more personalised and efficient.

Given this perceived revolutionary potential, it is not surprising that stem cell research and regenerative medicine are frequently evaluated in terms of people's hopes for, and scientists' promises of, new treatments as a growing social scientific literature suggests. For instance, as bioethicist Charis Thompson argues in her book *Good Science* (2013), a "pro-cural frame" has dominated discussions around stem cells. Advocates, she argues, emphasise a "pro-cures" stance to enable stem cell research, helping to procure embryo research and oocyte donation, and to legitimate the procurement of human tissue for bioscientific research and the bioeconomy. With these different meanings of the pro-cural frame, Thompson emphasises the ethical complexity of stem cell research and characterises a novel type of biopolitics that increasingly fosters particular forms of the living through a pro-cures stance.

It is not surprising then that many films on regenerative medicine choose to represent this pro-cural frame, to varying degrees, in the stories they tell about stem cell research.

Care as science and biotechnology

Our collaboration between sociology, biology and filmmaking was aimed at working towards a new genre of the science film that emphasises the emotions in everyday science routines rather than its sublime breakthroughs. Specifically, we wanted to emphasise care-giving as an important technology within stem cell research, representing an aspect of cutting-edge science that is not usually discussed in the public sphere. Bioscience today is still largely seen and represented as a process driven by meticulous reasoning tested in experimentation, while scientists' long hours of affect-laden care-giving are not widely discussed.

As sociologist Carrie Friese (2013) argues in her work, care practices in the translational biosciences are frequently represented as necessary preconditions that need to take place before the science can occur. They are not usually discussed at length in scientific publications and are generally not seen as part of the science, remaining undertheorised and undervalued. As Friese suggests, care is even viewed as “uncanny” by scientific practitioners since they raise doubts about the standardisability and reproducibility of scientific findings: they profoundly influence the cellular matter that is being studied. Friese writes: “Care becomes a way of enhancing or improving the potential of the model organisms scientists use and thus the findings that result.” (S130)

The fact that the technologies developed in stem cell labs are alive is, by consequence, not usually appreciated to its full extent: just as in animal husbandry and agriculture – other fields of human activity whose success depends on the care of live organisms – stem cell research and its biotechnological applications, too, require care (Franklin 2013). As I argue in my recently completed PhD dissertation (2017), the development of successful experiments and technological applications from cells requires that scientists know their cells intimately; it requires that they have developed particular embodied sensibilities for what “happy cells” and “unhappy cells” look like. In the words of plant scientist Barbara McClintock, as Evelyn Keller Fox (1983) writes, they develop “a feeling for the organism” and, by consequence, are able to tend to cellular needs efficiently because they pay continuous and painstaking attention.

The culture of care

Dish Life highlights the importance of care in the development of scientific findings. Moreover, it explores its effects on laboratory culture and scientists’ psychology. From the perspective of the scientists that tend to cellular needs, the fact that their cells are alive means relentless responsibility that never stops: for example, one of the threads in the film shows a stem cell researcher in conversation with her stem cells as she feeds them and makes a ‘bed’ for them in the dish. In another thread, a group of stem cell researchers reflect on the pressures of care work and describe the long hours of looking after cells, including their laborious observation and the continuous presence of a timer. Care never stops.

For the scientists’ everyday lives, care is thus not trivial. It frequently means subordinating personal plans to what cells require; it means going in on weekends, confinement to the isolated wet lab and organising a sitter when travelling outside of town. Care, in order words, is accompanied by an elaborate human sociality that goes through great lengths in order to look after the precious live material studied in the lab. From within this state of being enmeshed in responsibility, scientists frequently compare their work to the care of pets, or even children.

The political significance of care

Beyond an ethnographic characterisation laboratory cultures, my research suggests that a wider discussion of care in relation to stem cell biotechnologies is of critical importance. It not only explains some of the psychology and subject position of being a scientist, but furthermore provides a useful tool for society to gage and evaluate the pro-cural frame of regenerative medicine.

If scientists have to develop a feeling for the cells whose needs have to be taken into account constantly, turning cells into medical treatments is not an easy feat. It means that regenerative medicine is not only the application of scientific principles, but perhaps more importantly, it requires reckoning with living entities that are either compliant with human agendas, or not. Non-compliance is a frequent result, or even disobedience as also one of the interviewed scientists suggests in the film: “You cells, better behave yourselves!” Or else, he implies, both the scientific and regenerative project might come to a halt.

In other words, acknowledging that stem cell biotechnologies work with live entities at their core has a wider political significance. It partly explains the stunning difficulty of producing medical and diagnostic products from stem cells. It suggests that, despite the pro-cures paradigm, the actualisation of stem cell products might take time, might be difficult, or might not work out in the end. In addition to a hypothesis-driven process, stem cell research is also about care and emotion, observation and interaction, patience and uncertainty. Technological change and its societal ramifications, in this case, depend on the cooperation of tiny cells.

The relations of Dish Life

Since its premiere at the Cambridge Festival of Ideas in autumn 2016, the film and a prolific collaboration with my two collaborators have allowed me to discuss this important finding with multiple audiences.

To date, Dish Life has been in the official selection and won awards at over fifteen international film festivals all over the planet, including Melbourne Doc Festival, Bristol Science Festival, Scinema (all over Australia), Raw Science (LA) and Tech Doc Festival (Seattle).

In October 2017, we travelled to participate in Imagine Science Festival in New York, where we discussed our film with an international community of filmmakers and scientists. We were invited to give a talk at the prestigious Science Ethnographies Workshop at the Department of Anthropology at NYU. In additional screenings, talks and presentations at conferences and schools, we showed our film in professional networks to scientists and social scientists as well as to families and school children. Currently, we are undertaking the first step of turning Dish Life into a digital mobile game. This provides further opportunities to discuss our work with multiple audiences, such as game developers and designers.

Overall, Dish Life and the collaborations and connections that emerged from it have allowed for enriching exchanges and engagements, becoming both an invaluable network and what might be called an ethnographic research tool that builds new types of relations. Also, it allows me to work daily with two wonderful women who have expertises that are vastly different from my own.

Growing cells in tissue culture, the film suggests, is the labour of care and constant vigilance. It leaves both, scientists and cells, deeply affected – so much so that they dream about each other as the final lines in the film suggest.

Scientist "Sometimes, I dream about you."

Stem Cell "We dream about you, too."

Equally, the making of this film and the building of relationships and collaborations from it have left me deeply affected. Sometimes I dream about them, too.

Dish Life is available online [here](#).

References

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