From Telomeres to Twilight: A Letter on Immortality (Genre Translation)

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Pull Quote:

Dear Eva,

It's been way too long since we last caught up! I've been meaning to write to you for ages–I know you love old-school communication (maybe I'll send a carrier pigeon next time). Anyways, how have you been? Has London been treating you well? I remember the last time you wrote to me; you were complaining about the grey skies and how if you were a Cullen you would love to live in such vampiric weather. Ugh, I miss you and your nerdy talks about vampires. Also, your love for all things vampire immediately came to mind when I read this fascinating biology article on immortality!

I mean, if anyone can appreciate a real-life version of Twilight biology, it's you. The article was about cellular immortality, and it is one of the coolest papers I've read over the years. Did you know that some cells are actually immortal? Although most of the cells in our body are just boring mortals like us–they wear out over time, stop dividing, and eventually die–there are some rare cells that don't age at all and live forever. These include stem cells and cancer cells; they are literally the biological equivalent of the Cullens!

The article talked about something called the "cellular rejuvenation hypothesis," which might explain how stem cells and cancer cells achieve immortality. This idea suggests that these cells can undo the effects and damages caused by aging and therefore "rejuvenate." They do this by gathering up all the damaged parts of the cell, such as old proteins and worn-out mitochondria, and shoving them into tiny "trash bags" called vesicles to get exported out of the cell. Once they take out the old bits, they can keep on dividing and working without being slowed down by damage.

Of course, these cells have other tricks up their sleeves. Another way that they manage to stay immortal is to lengthen their DNA's protective ends called telomeres. Telomeres, consisting of repetitive nucleotide sequences, get shorter after every cell division. Think of them as "useless" protective caps that get chopped off so that the important parts of the DNA stay safe and intact! Stem cells, such as embryonic cells, along with cancer cells maintain the length of their telomeres using an enzyme called telomerase. Since these cells have "infinite" protective caps, they can keep on dividing without the important parts of the DNA ever receiving damage.

As a fellow biology major, have you ever heard of the HeLa cell lines? These cervical cancer cells, taken from Henrietta Lacks in 1951, are still dividing today, outliving the woman they came from by decades. The article suggests that HeLa cells carry out both processes I mentioned

above (cellular rejuvenation and telomerase activation) to avoid aging. They literally seem to be defying time and death like the Volturi!

By now, I bet you are thinking the same question I am: Is it possible for us to one day achieve whole-organism immortality? The article touches on this question, but it is not as simple as a vampire bite. Making an entire human immortal is far more complex. For starters, we would have to stop aging in all our cells without accidentally turning them into cancerous chaos (because cancer is just immortal cells gone rogue). Plus, even if we keep individual cells young, that does not automatically fix how aging impacts entire organ systems—declining immune function, organ damage, and other systemic issues would still need a major overhaul. So yeah, simply stopping cell aging probably won't cut it.

But hey, don't lose hope! The article suggests that by studying these forever-young cells, we might one day unlock ways to slow down aging or extend life. Maybe, we will figure out how to make rejuvenation more mainstream. Imagine sipping coffee at 300 years old, looking flawless, and saying, "Oh, these wrinkles? They're just so last millennium." Until then, I guess we'll just have to settle for sunscreen and fantasies about becoming real-life Cullens.

Anyways, enough about my nerdy deep dive. How's life treating you? Any exciting adventures in London? Have you found a vampire-themed club yet? Let me know when you do–we've been talking about going to one forever!

Write back soon–I miss you and our wonderfully nerdy conversations!

Immortally Yours,
Kelly Wu

Analytic Essay:

Research articles can be overwhelming; they are often packed with so much scientific jargon that even the people who are passionate about the field can struggle to follow along. In the article "Cellular Senescence, Rejuvenation, and Potential Immortality," A. Rupert Sheldrake explores the effect of aging on cells and discusses how some cells avoid aging through processes such as rejuvenation and telomere maintenance. While the article is full of fascinating ideas, it is written for biologists and not for the average reader. For this project, I translated Sheldrake's article into a personal letter to my friend Eva, who shares my interest in both biology and speculative ideas about immortality. My goal wasn't just to simplify the material, but also to present the scientific information in a way that makes the average reader feel engrossed in the content. In this essay, I will explain why I chose the personal letter genre, and how I used rhetorical techniques–such as analogies, humor, and direct address–to make dense scientific information more accessible.

The personal letter format seemed like the perfect choice for my translation because writing in this genre felt authentic to who I am as a writer. As I wrote, I transformed the scientific jargon that was difficult for me to understand into my own way of thinking. By expressing the material in a way that felt natural to me, I was able to deepen my understanding of the article's content and learn about cellular immortality along the way. It was just as Didion had said, "I write entirely to find out what I'm looking at, what I see, and what it means" (Didion 1). Another reason for my choice of translation genre was that it allowed me to write in a way that feels natural and engaging. If I had rewritten Sheldrake's article as a more traditional science summary, it would have still been dry. A letter, on the other hand, let me frame the article content in a way that felt like an actual conversation. It also allowed me to include personal touches that

wouldn't fit as naturally in other genres such as a children's book or a recipe. For instance, I opened the letter with casual greetings, asking about her life in London and reminiscing about her last message. This set the stage for sharing the following scientific content in a way that felt fun and personal rather than overly formal or simplified. As for the transition from casual greetings to the scientific content that I was about to introduce, it was largely inspired by our actual conversations and shared interests. Eva is currently residing in London, and I vividly remember her telling me about how the weather there is "vampiric" and how she secretly loves it a bit as a Twilight fan. That memory gave me the idea to connect the article's theme of cellular immortality to something that I know she would be interested in: vampires. The letter format allowed me to weave in our shared experiences and tailor the scientific discussion to her specific interests. Since we're both biology majors, I could include technical ideas like telomeres and stem cells, knowing she'd be intrigued and able to follow along. At the same time, I could tie these ideas to her love of Twilight, comparing immortal cells to vampires, which I knew would spark her interest. This combination of science, humor, and personal connection made the personal letter the perfect choice for my translation.

One of the main strategies that I used in my translation was analogy, where I explain an idea by comparing and relating it to something more familiar to the reader. Since the original academic article contained a lot of complex biological jargon, I wanted to make them more accessible in my personal letter. For instance, I compared how certain cells "excrete damaged cell components in extracellular vesicles" (Sheldrake 2) to shoving old parts of the cell into "trash bags" to take out. Similarly, I simplified the definition of telomeres–"structures formed of repetitive DNA sequences at the ends of chromosomes that get shortened through successive divisions" (Sheldrake 3)–by likening them to useless DNA protective caps that get chopped off.

These analogies helped break down dense scientific material into relatable, everyday concepts, making it easier for Eva to grasp.

Humor also played a key role in my personal letter. I incorporated humorous elements throughout the translation to make it feel less like a lecture and more like an enjoyable conversation. For example, I joked about sending a pigeon the next time I write to Eva, sipping coffee at 300 years old, and how immortal cells never have to worry about wrinkles or retirement. These playful remarks were crucial in shaping the tone of my translation as they helped me avoid an overly dry and technical tone that might have made all the scientific information feel overwhelming. By inserting lighthearted commentary here and there amid the scientific facts, I wanted to keep Eva engaged while she learned about the science of cellular immortality.

Additionally, I used direct address and rhetorical questions to make the letter feel more interactive and personal. I didn't want the letter to feel as if I was merely talking at Eva, so instead of presenting information in a detached manner, I asked Eva questions like, "Have you ever heard of HeLa cells?" and "Is it possible for us to one day achieve whole-organism immortality?" Not only did these rhetorical questions and the use of second person pronouns like "you" strengthen the sense of connection in the letter, but it also enabled me to transition smoothly between topics without losing the conversational tone. It was the perfect technique to use to make Eva feel like she was actively participating in the discussion rather than just passively receiving information.

The main challenge that I faced during this genre translation was achieving a balance between simplifying the information given and maintaining its scientific accuracy. This was especially tricky because, while oversimplifying could lead to misinformation, retaining too

much detail could bore the reader. To overcome this problem, I first read and tried to fully understand the academic article, and then carefully ranked my key takeaways in order of significance as good writing involves "locating what you believe are the most important writerly choices presented in the text" (Bunn 72). This approach gave me better insight when selecting which important details to include and which to simplify. As I overcame this challenge, I realized that scientific information doesn't have a rigid framework–it can be reshaped for different audiences without losing its core meaning. Although both the article and the personal letter address the same concepts, their purposes differed significantly because of the tone that was used. The academic article aimed to inform professionals through research-driven explanation, while the personal letter sought to entertain the audience. Writing conventions shift based on rhetorical situations, audience, and purpose, and this is illustrated when Kerry Dirk explains, "Different law courts make for different legal briefs, and different college classes make for different research papers" (Dirk 255). By experimenting with tone and style, I discovered the different ways in which scientific knowledge can be communicated, along with how the presentation of information can greatly affect how people engage with the material.

Overall, by using analogies, humor, and direct address, I was able to translate a dense academic article into an engaging and accessible piece. Translating an academic article into a personal letter showed me how, even with the same core message, writing can be shaped to fit different audiences and purposes. Writing isn't just about presenting information, it's about making it meaningful for the audience. This project also made me realize that scientific knowledge doesn't have to stay locked in technical jargon; with the right approach, it can be just as fun and relatable as a conversation between friends.

Works Cited

Bunn, Mike. "How to read like a writer." *Writing spaces: Readings on writing* 2 (2011): 71-86.

Didion, Joan. "Why I write." *New York Times Book Review* 5 (1976): 98-99.

Dirk, Kerry. "Navigating genres." *Writing spaces: Readings on writing* 1 (2010): 249-262.

Sheldrake, A. Rupert. “Cellular senescence, rejuvenation and potential immortality.” *Proc Biol Sci*, vol. 289, no. 1970, 2022, pp. 20212434–20212434, https://doi.org/10.1098/rspb.2021.2434.

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