

Hedgehogs and foxes in the twenty-first century.

Introduction

The philosopher Isaiah Berlin wrote that there are two types of people in the world – hedgehogs and foxes. Hedgehogs know “*one big thing*”, and they know it well, relating “*everything to a single central vision*”. They are specialists, and they have dedicated their lives to honing a particular skill. Foxes, on the other hand, have developed a repertoire of skills and tricks. They “*pursue many ends, often unrelated and even contradictory*”. While not as proficient as the hedgehog in its “*one big thing*” (Berlin 1967), the fox is wily and adaptable - its skills are wide-ranging, allowing it to handle threats more easily than a hedgehog ever could.

A polymath, or the fox of this analogy, is defined on the challenge homepage as someone who is “*well-rounded, broadly knowledgeable and capable across the arts and sciences, and able to approach problems holistically*” (Peter Drucker Challenge 2019). While the overarching theme of the challenge is ‘the renaissance manager’, I think that this extends to the everyday renaissance worker too. After all, Peter Drucker did not hesitate to extend the concept of management to personal life (Drucker 1999) – in a way, we are all renaissance managers, whether of a business, our families or even just in our own lives.

When I first set out to write this essay, I intended to prove the superiority of polymaths over specialists, and how a changing twenty-first century world requires foxes who are able to adapt and adjust. While this is partially true, I also became increasingly convinced that in this, like most things, moderation is key. As I read more of Peter Drucker’s writings, it became increasingly clear that his opinion diverged from this thinking – while Drucker

believed in the value of lifelong learning and many of the traits of polymaths, he was also unequivocal in his stance towards overdiversification and stretching yourself too thin.

I found this to be consistent with my own experiences as a chemistry student, where I am aware of the need in the sciences to specialise. While during my undergraduate studies I was fortunate to have varied jobs and experiences, further advancement makes it increasingly necessary to choose an area and stick with it. The knowledge required to be a leader in any given field takes years to acquire, and staying at the forefront of science is almost a full-time job in itself. This dilemma makes a convincing case for specialisation. On the flip side, as I researched this essay I found that the need for creativity in the sciences is equally apparent. Many recent innovations and discoveries have arisen by either combining technologies in a fresh way, or using a completely new approach, a kind of creativity that seems to require something more than just a specialist knowledge. What is more, many studies today are multi-disciplinary, and cannot be confined to just a single subject area. So if we need to specialise, do we have to leave behind the ideal of the polymath? Or do hedgehogs and foxes both have a role to play in the twenty-first century?

How Drucker sees it

I think that it is important to begin by establishing what a polymath is not – they are neither “*dabblers in many different areas*” (Carr 2009), nor superhuman geniuses with only strengths. Peter Drucker himself, in ‘*The Effective Executive*’, is critical of this misconception of a polymath, stating that “*the idea that there are ‘well-rounded’ people, people who have only strengths and no weaknesses... is a prescription for mediocrity*” (Drucker 2006).

Drucker’s attitude towards this idea was profoundly negative in many of his writings – his focus was always on improving strengths, rather than trying to mitigate weaknesses (Drucker

1999), and he seemed to regard the idea of someone who excels at everything as pure fiction. He even reportedly went as far as to promote the value of ignorance, allowing his lack of knowledge to guide his questions on a particular subject (Cohen 2008). This intellectual humility allowed him to admit his inexperience in an area and, as a result, learn something new. The ultimate polymath, Da Vinci himself, had similar ideas, writing that “*the mind that engages in subjects of too great variety becomes confused and weakened*” (Carr 2009).

I personally found this to be relevant even while drafting this essay. Though I am a science student, I initially began by trying to write about business management – after all, to win a contest on management, surely I would need to write about business models and strategies. By dabbling in many areas of which I had no experience, my first draft tried to be everything all at once, and instead ended up confused and flat - I had become an ineffective fox, when what the situation really called for was more of a hedgehog approach. While I am certainly no Leonardo Da Vinci, Drucker believed that excellence can only be achieved in a limited number of areas for even the most talented among us. Da Vinci, he wrote, really only excelled in design, despite his many interests (Drucker 2006). Based on this, it seems that even our most accomplished polymaths were constrained in the areas they could truly master.

While he was critical of the common misconception of a polymath, Peter Drucker was actually encouraging of many of the traits that characterise polymaths. Indeed, in his own life, Drucker exhibited many of these characteristics, bringing a fresh liberal arts approach to the established practice of management. He also embraced lifelong learning, reportedly assigning himself a topic each year of which he knew nothing and studying it intensely (Buchanan 2009). The aforementioned ‘value of ignorance’ that he spoke of also attested to his curiosity and willingness to delve into areas that he had little experience in.

While it seems that he believed in the value of polymaths, Drucker urged caution against pursuing this idea to its extreme. I think that, rather than discouraging us from making an effort to become a more well-rounded person, instead he was warning us against focussing too much on improving our weaknesses and, in doing so, limiting ourselves in our strengths. So how do we embrace the best traits of polymaths without stretching ourselves too far? In *‘Management: Tasks, Responsibilities, Practices’*, Drucker writes of the danger of overdiversification and, equally, overspecialisation - instead, he writes that an equilibrium is needed between complexity and simplicity (Drucker 1973). While this advice was written in the context of business, I think that it applies equally well to people. In managing oneself, it is important to walk the line between diversifying and developing a fox-like adaptability, while also applying the traits of a hedgehog to achieve results. This way, the diversity of a polymath can be channelled with the focus of a specialist.

The value of foxes

So what makes foxes valuable in the twenty-first century? While considering this, I was reminded of a scene from Tim Burton’s 2006 adaptation of *‘Charlie and the Chocolate Factory’* in which Charlie’s father is employed capping tubes in a toothpaste factory. We watch as the company becomes more successful and modernises, eventually purchasing a toothpaste capping machine which leaves Charlie’s father jobless (Grey *et al.* 2005).

This is a scenario at the front of many people’s minds as technology progresses. Automation is changing the landscape of work, routinizing and streamlining many tasks that would previously have been performed by employees – like Charlie’s father’s job, many roles are simply able to be performed better and faster by a robot. Peter Drucker wrote of this fear back in 1969, and while he was sceptical that automation would cause widespread unemployment

(Drucker 1969), it is nevertheless a reality that technology represents a threat to those who cannot adapt.

The film provides hope for the audience however - in the final scenes, we find that Charlie's father is back at work in the toothpaste factory. This time, however, his job is maintaining the robot that replaced him (Grey *et al.* 2005). I think that this is a good example of the importance of adaptability. As Drucker wrote in '*The Age of Discontinuity*', the only real job security is the ability to learn fast (Drucker 1969) - knowledge work is always evolving, and the rapid development of technologies means that "*knowledge-based skills change often and without regard to traditional... jurisdictions*" (Drucker 1969). The adaptability that a wide knowledge base imparts means that polymaths may be more prepared for the inevitable evolution of their work.

The skills imparted by different types of work are encapsulated in the 'intellectual virtues' identified by Turriago-Hoyos *et al.* (2016). This paper identifies several categories which require different competencies - science, for example, imparts open-mindedness and objectivity, while the arts require curiosity and creativity. The worker who develops these traits in tandem is able to combine them to adapt to different types of work, and is therefore better prepared for a changing world.

The need to adapt will also be necessitated by the fact that new technologies often arise from unexpected sources. Peter Drucker believed that, if the Information Revolution were to follow the same pattern as the Industrial Revolution, new technologies would appear in unpredictable places (Drucker 2002), a prediction we have since seen borne out as innovations in industries as diverse as music, transport and dining arise from the development of mobile phone technology.

Furthermore, technologies increasingly cross each other and transcend the boundaries that previously contained them (Drucker 1969). The book *'The New Polymath'* identifies a growing number of companies that are *"creating incredible value by... amalgamating distinct strands of technology"*, taking ideas that had previously been separated and alchemising them into something new. Motor companies, for example, increasingly deal in not only the automotive business but in software and programming as well (Mirchandani & Benioff 2010).

Sometimes, however, it takes the prior knowledge and creativity of a polymath to connect two ideas in the first place. An interesting example is the recent Nobel Prize-winning work of Konstantin Novoselov and Andre Geim. It is reported that Geim likes scientists in his lab to collaborate on each other's projects and take on new topics every few months, an approach that led to an experiment that was considered crazy, with the scientists using simple Scotch tape to produce a graphene monolayer with unusual electronic properties. This idea has since produced a Nobel Prize in Physics and an explosion in graphene research and its applications (Pain 2011).

This is an example of the kind of creativity that is often important in innovation. The unconventional thinking that leads to using tape in the chemistry lab requires somebody who has the prior knowledge to make these connections in the first place – as one writer puts it, *"the more fields of knowledge you cover, the greater your resources for improvisation"* (Twigger 2013). The qualities of a polymath mean that they are often able to combine ideas and make connections that others would not be capable of.

The value of hedgehogs

So if polymaths are so well-suited to the twenty-first century, what role do specialists play? While polymaths obviously have characteristics that allow them to excel, for any fox to be

effective they must have developed some hedgehog traits. I think that the key word in the definition of a polymath that is used on the challenge homepage is “*capable*” in the arts and sciences. Someone can be experienced in both the arts and sciences, but capable in neither, and thus produce nothing of consequence. A hedgehog worker sticks with something until they have mastered it, and this stickiness is important to actually be effective in the twenty-first century.

I have watched PhD students spend years focussing on a specific aspect of a subject, learning about their field in the utmost detail. In science, as in many areas, this kind of focus has become necessary – in order to make a meaningful contribution and keep pushing the boundaries, it is necessary to first learn from our predecessors. Without this kind of focus, creativity can be wasted on false starts and futile efforts which could have been avoided.

Developing a hedgehog-like focus is especially important in the age of the knowledge economy. Knowledge work jobs have more than doubled since the mid-1980’s (Zumbrun 2016) and, correspondingly, the amount of information available has exploded – there were almost 1 billion websites on the internet in 2014 (Lafrance 2015). In the face of such a sheer volume of knowledge, it is true that being a polymath of old is now impossible – there is simply too much to learn. The vast resources available could even render some overwhelmed without an idea of where to begin. Like trying to find a film to watch online, it is easy to keep looking in search of something better. While in theory we have so much more available to us, often we end up flitting between shows and taking away less enjoyment or understanding than if we had just stuck with one in the first place. This kind of variety means that truly excelling in something requires us to eventually pick something and stick with it. Today’s polymath is no longer limited by the availability of information, but by their own ability to sift through it and use it to their advantage.

The twenty-first century polymath

So how do we maintain the balancing act between developing ourselves, while still maintaining focus? Drucker wrote that “*one cannot build on weakness*” (Drucker 2006) - to be effective, he recommended that individuals should aim to facilitate their strengths, rather than wasting time in areas in which they are not competent (Drucker 1999). Instead of dabbling in this and that, he regarded the real polymath as a specialist who uses their secondary knowledge in a variety of fields to accentuate their strengths.

This idea is supported by an article Drucker wrote for the *‘Harvard Business Review’*, where he says that intellectual arrogance is self-defeating - it is important to fill knowledge gaps and learn skills that will allow you to “*fully realize your strengths*” (Drucker 1999). This is not knowledge for the sake of knowledge, but knowledge that allows us to use our strengths to their full potential. In this way, Drucker believed in the importance of diversifying our skills, while still keeping an eye on how we are developing our strengths.

This is not to say that every pursuit need be directly related to improving strengths. Many activities are not directly productive, but enjoyable or beneficial in themselves. Oftentimes, being creative for the sake of being creative seems to benefit us indirectly, and many of our most revered geniuses have combined creative pursuits with analytical thinking. Equally, a sense of curiosity is a valuable characteristic, and by no means something that should be discouraged. I think that Drucker’s advice is rather intended to make us aware of our limitations and so save us from the mistaken belief that we can be experts in everything – to prevent us from dipping into many areas, but never properly plunging in and reaching our full potential.

Conclusion

In the end, a combination of hedgehog and fox is probably the most effective personality in the twenty-first century. Each has a role to play - the skills of polymaths are valuable in today's changing workplace, but at the same time need to be tempered by some level of specialisation in order to actually accomplish anything meaningful. Perhaps the real polymath in the twenty-first century is someone who combines specialisation with diversification – indulging their wide range of interests, while channelling them to support their strengths and achieve results.

References

Berlin, Isaiah. 1967. *The Hedgehog and the Fox: An Essay on Tolstoy's view of History*.

London: Weidenfeld and Nicolson.

Buchanan, Leigh. 2009. "The Wisdom of Peter Drucker from A to Z." *Inc*. Accessed 4 May

2019. <https://www.inc.com/articles/2009/11/drucker.html>.

Carr, Edward. 2009. "The last days of the polymath." *The Economist*. Accessed 6 May 2019.

<https://www.1843magazine.com/content/edward-carr/last-days-polymath>.

Cohen, William A. 2008. *Class with Drucker: The Lost Lessons of the World's Greatest*

Management Teacher. Saranac Lake: Amacom.

Drucker, Peter F. 1969. *The Age of Discontinuity: Guidelines to Our Changing Society*.

London: William Heinemann Ltd.

Drucker, Peter F. 1973. *Management: Tasks, Responsibilities, Practices*. London: William

Heinemann Ltd.

Drucker, Peter F. 1999. "Managing Oneself." *Harvard Business Review*, 77(2), 64-74.

Drucker, Peter F. 2002. *Managing in the Next Society*. New York: Routledge.

Drucker, Peter F. 2006. *The Effective Executive*. New York: Collins.

Grey, Brad (Producer), Zanuck, Richard D. (Producer) & Burton, Tim (Director). 2005. *Charlie and the Chocolate Factory* [Motion picture]. Village Roadshow Pictures, Warner Bros. Pictures, The Zanuck Company, Plan B Entertainment & Theobald Film Productions.

LaFrance, Adrienne. 2015. "How Many Websites Are There?" *The Atlantic*. Accessed 2 June 2019. <https://www.theatlantic.com/technology/archive/2015/09/how-many-websites-are-there/408151/>.

Mirchandani, Vinnie & Benioff, Marc. 2010. *The New Polymath: Profiles in Compound-Technology Innovations*. New Jersey: John Wiley & Sons.

Pain, E. 2011. "Sharing a Nobel Prize at 36." *Science*. Accessed 1 May 2019. <https://www.sciencemag.org/careers/2011/02/sharing-nobel-prize-36>.

Peter Drucker Challenge. 2019. *The Value of the Renaissance Manager*. Accessed 3 June 2019. <https://www.druckerchallenge.org/home/>.

Turriago-Hoyos, Alvaro, Thoene, Ulf & Arjoon, Surendra. 2016. "Knowledge Workers and Virtues in Peter Drucker's Management Theory." *SAGE Open*. Accessed 5 May 2019. <https://doi-org.ezproxy.waikato.ac.nz/10.1177/2158244016639631>.

Twigger, Robert. 2013. Master of many trades. *Aeon*. Accessed 6 May 2019. <https://aeon.co/essays/we-live-in-a-one-track-world-but-anyone-can-become-a-polymath>.

Zumbrun, Josh. 2016. "The Rise of Knowledge Workers Is Accelerating Despite the Threat of Automation." *Wall Street Journal*. Accessed 8 May 2019.

<https://blogs.wsj.com/economics/2016/05/04/the-rise-of-knowledge-workers-is-accelerating-despite-the-threat-of-automation/>.