

# Why storytelling matters...especially in mineral exploration

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## SUMMARY

There is an Indian proverb that goes: “Tell me the truth and I’ll believe it for a while. But tell me a story and it will stay with me forever.”

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## INTRODUCTION

As scientists, our major mode of communication is through writing and publishing of scientific papers. But a basic inference of knowledge management is that “we always know more than we can say, and we will always say more than we can write down” (Snowden, 2008). In reality, written knowledge is only ever a partial representation of what we know with an undeniable loss of content and sometimes, more importantly, context. Scientific writing also fails to capture the ‘softer’ aspects of knowledge generation and development. The flourishing field of behavioral economics is a testament to the important role that cognitive biases and psychological elements play in all manner of economic and social outcomes in various activities from economic forecasting to corporate decision making to government policy (Thaler, 2015). In acknowledging the importance of ‘softer’ skills, as a community of economic geologists, perhaps we should consider how they might impact economic geology.

## METHOD AND RESULTS

Before attempting to answer that question, it would be fitting to identify the main activities in the field of economic geology. Arguably a key component is the development of practices of discovering new ore deposits – termed mineral exploration. For the purposes of this discussion, we nominate mineral exploration as the key activity in economic geology. We understand that there are many other aspects of researching ore deposits outside of just mineral exploration. But arguably research to better understand ore deposits is done so with the intention of feeding those learnings back to the development or refinement of better methods for exploring, identifying and delineating ore deposits.

In this paper, we argue that mineral exploration is not a matter of pure analytical science. It combines aspects of psychology, economics, management, and maybe even randomness or serendipity. Most practicing (and practical) explorers are not economic geology researchers; nor do their practices seem to incorporate purely economic geology research. It is even debatable whether economic geology research has had any directly definable effect on mineral exploration practices or discovery rates in the last few decades – this does not exclude any indirect or accessory benefits that economic geology research may have had on the practices of mineral exploration.

If economic geology research is not the main source of tacit knowledge in mineral exploration, then what are some alternate sources.

Our attempt has focused on producing a podcast called Exploration Radio. A podcast allowed us an opportunity to have casual conversations with mineral explorers, giving them an opportunity to tell their stories, unfiltered and largely unedited in their own words. By changing the focus of knowledge transfer to storytelling, our guests were able to divulge aspects that were not purely analytical. They were able to deconstruct their motives, actions and decisions without the constraints of the narrow view of a singularly logical pathway constructed in hindsight – i.e. the narrative fallacy (Kahneman, 2011). An example of this is the deconstruction of the process behind the discovery of a mineral deposit. Often these stories are presented as either a) a purely analytical exercise of progressive data collection and anomaly identification, ultimately resulting in a discovery; or b) a hindsight biased exercise where all decisions were logical and rational based on the information at hand. Neither communicates the malaise and variability in decision making, particularly in the face of overwhelming uncertainty, that usually has to take place. A casual conversation allows the opportunity to divulge into the nuance of such an exercise; and stores the content as unfiltered case studies for others to pour over and interrogate at will.

Collating stories across the spectrum of mineral discoveries also provides the opportunity to understand the discovery process by utilizing the technique of “distant reading” (Moretti, 1985). Research into mineral discoveries is often done through the lens of “close reading”, whereby researchers analyze individual discoveries in exhaustive and meticulous detail – which allows the identification of idiosyncrasies relevant to each individual discovery but not the general laws that might be relevant to all of them. Distant reading involves studying all mineral discoveries through the same lens; explorers to talking about their decision-making process in light of the inherent uncertainties involved during each step. Taking a wider view of discovery as a process leads to a loss of detail but a gain in perspective. Maybe the lesson here is that the discovery is not a prescriptive analytical process but a set of general rules that need to be followed.

## CONCLUSIONS

Avenues of communication in economic geology have often favored structured, standard methods to communicate results and advancements made by researchers. However, we offer an alternative to this view for economic geology practitioners – a non-standard, non-systematic means of communicating their insights and knowledge.

The intention is to motivate a new generation of explorers. Those that are not limited by practices of the past, nor the infallibility of seeking purely technical or analytical solutions. Those willing to diversify disciplines involved in mineral

exploration beyond geoscientists and allowing other sciences and disciplines to contribute to solving the problems faced by mineral explorers.

There is power in non-standard methods. And we believe storytelling is one of them.

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