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Take Your Eye Off The Ball

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Economic geology education focuses on the biggest and most economic deposits, commonly referred to as “world class”. However, this is neither the best nor the most lucrative approach. First, studying complex and overprinted ore systems obfuscate important aspects of ore-forming processes, as multiple episodes of alteration and mineralization are superimposed and too often assumed to be the same age. Second, a small suite of disparate samples is often used to interpret the whole system, leaving observations and data without spatial continuity for sensible assessment.

Studying simple systems and parallel or ancillary processes give unexpected knowledge. Stepping back from the ore itself in favor of uncomplicated, yet representative samples can be insightful. Equally, studying simple, non-economic systems may reveal ore-forming processes.

Economic geology taught in university environments too often rewards singular “correct” answers. This neither encourages innovation nor stimulates creativity – essential for exploration success. Studying large classic systems whose genesis has been repeatedly endorsed by generations of geologists stymies the mind.

In reputable labs that routinely run standards and blanks, there are rarely bad data. Rather, there are complicated samples for which ill-informed or non-creative scientists are unable to forward evocative interpretations. That is why laboratory-based scientists must simultaneously follow two paths. One leads to excellence in quality of data and the other targets a knowledge-based interpretation of those data. Creative interpretation of complex data is seldom covered in university economic geology courses. Yet this is the foundation for tomorrow’s economic geology workforce. The present geopolitical climate and university culture are responsible for moving meaningful education in mineral exploration out of the classroom and into small clusters of expertise external to universities. In such clusters, persons with highly varied backgrounds and experiences form the essential creative core for advancing new trains of thought. Industry is increasingly realizing and supporting this.