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## THE ROLE OF AND LIMITS ON UNIFORMITARIAN PRINCIPLES IN CREATIONIST SEDIMENTOLOGY RESEARCH

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### ABSTRACT

James Hutton and Charles Lyell are widely considered the “fathers of modern geology”; they developed a framework for understanding Earth processes through the lens of uniformitarianism. According to their model, modern geologic processes extrapolated over long periods of time could deposit the sedimentary rock record and shape the Earth throughout its history. In other words, “the present is the key to the past”. While many now recognize the role of catastrophes in producing some geological deposits, modern processes are still used to interpret the rock record, especially in the field of sedimentology.

As creation scientists, however, we understand that the present is not the key to the past. We reject the long ages required by the uniformitarian paradigm, and recognize that the global Flood played a significant role in producing the rock record. Moreover, Whitcomb and Morris (1961) portrayed a dichotomy between uniformitarianism and creationism. Despite this, we still use modern processes to interpret ancient deposits – even if those processes are considered “catastrophic” by today’s standards. Numerous creationist-led studies have suggested that recent catastrophes and/or rapid sedimentation under experimental conditions may serve as small-scale analogues for sediment deposition during the Flood (Austin 2009; Brand 2009). In other examples, subaqueous processes were proposed to explain sediments previously thought to have been deposited by wind (Whitmore and Garner 2018). Although these models may provide the best explanations we have for a given dataset, they are typically not a “perfect” fit, and discrepancies remain.

While creationists cannot escape the necessity of using modern processes to interpret the rock record, we recognize that the processes which occurred during the Flood differed in many ways from anything we can observe or simulate today. This study combines a philosophical/historical discussion of the field of geology with practical application to sedimentology research. Its goal is to help researchers understand the limits of their own hypotheses, while also encouraging them to think outside the box. In doing so, these creation scientists will be better able to refine and build new models for deposition of the sedimentary rock record.

### KEYWORDS

Project design, sedimentary process interpretations, philosophy of science

### THE AUTHOR

Sarah Maithel is a sedimentary geologist and sandstone enthusiast: she received her BS in geology from Cedarville University and her PhD from Loma Linda University. Her research focuses on understanding sedimentary processes and deposits, and on developing new laboratory methods for analyzing those deposits. She currently lives in Southern California, and enjoys proximity to all of the great geological resources of the western US.