

Strategies to Advance Geoscience Understanding and Engagement in Religious Academic Institutions

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Differing perspectives about the proper relative roles of science and religion can strongly influence the extent of student engagement with scientific fields of study that address key questions of origins. Within religious academic institutions, promoting engagement with the geosciences presents a particular challenge among groups that may perceive or adopt a *de facto* conflict model between science and religion. A proposed alternative approach to resolve the apparent competition between the claims of science and religion is to treat them as separate “non-overlapping magisteria” (NOMA) [1]. However, recent studies suggest that both the conflict and NOMA models are insufficient for describing how students and young adults accommodate different views on science and religion [e.g., 2-5].

Here we describe strategies for enhancing geoscience understanding and engagement in educational environments for which religious commitments comprise an important part of institutional identity. Contemporary geoscience understanding is defined using the major conclusions summarized in the NGSS [6] and the Earth Science Literacy Principles [7]: i.e., the Earth is an ancient (4.5 Ga) and dynamic system with a geological story that can be revealed by a careful study of the planet as we encounter it today.

We consider a geoscience-as-storytelling approach that involves: 1) identifying the assumptions of methodological naturalism in our scientific understanding of the world around us; 2) describing the scientific and cultural history leading up to the major discoveries and paradigm shifts in science (e.g., discovery of plate tectonics); and 3) exploring different ways that communities within religious traditions have dealt with questions of natural phenomena and the interpretation of sacred texts [cf. 5]. The goal of this approach is to promote well-informed and meaningful interactions between religious communities and the geosciences. This work was supported by a grant through the Scholarship & Christianity in Oxford (SCIO) program.

[1] Gould 1997 *Nat Hist* 106, 16; [2] Evans & Evans 2008 *Annu Rev Sociol* 34, 87; [3] Basel et al 2014 *J Bio Ed* 48, 179; [4] O’Brien & Noy 2015 *Am Sociol Rev* 80, 92; [5] Uecker & Longest 2017 *Soc Sci Res* 65, 145; [6] NGSS Lead States 2013, *Next Generation Science Standards: For States, By States*. Washington: Nat Acad Press; [7] Wyssession et al 2012 *J Geosci Ed* 60, 95.