
Book Reviews

Grand Canyon: Monument to Catastrophe

Dr Steven A. Austin (editor)
Institute for Creation Research, 1994

Reviewed by Dr Andrew Snelling

The Grand Canyon has been, and continues to be, a mecca for tourists and scientists alike. There are few other places in the world where such a large slice of the rock strata representing earth history are so deeply eroded, exposed to view and available for study. If ever there was a place on earth where the controversy between uniformitarian and creationist geology could be put to the test, then it is the Grand Canyon. So the Institute for Creation Research has been conducting study tours and research in the Grand Canyon for more than ten years, and this book is the culmination of the efforts of ICR's team of scientists under the leadership of Dr Steven Austin.

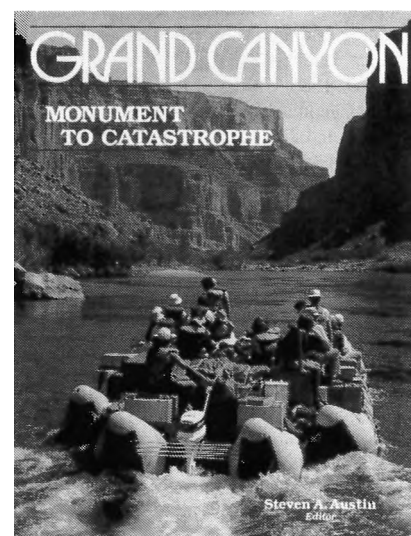
And what a book it is! This is the creationist textbook on the Grand Canyon that many have been waiting for. The chapter headings give a succinct overview of the book's scope — geologic structure of Grand Canyon, interpreting strata of Grand Canyon, a creationist view of Grand Canyon strata, how was Grand Canyon eroded?, are Grand Canyon rocks one billion years old?, fossils of Grand Canyon, biology of Grand Canyon, the atmosphere above Grand Canyon, early peoples of the Southwest, and things to see and do. This then is a complete guide to the Grand Canyon and surrounding areas, being therefore a must for every visitor to the Grand Canyon who needs this antidote to the ever-present, overpowering evolutionary/uniformitarian indoctrination. The text is enhanced by so many excellent colour plates, which to-

gether with the line drawings, diagrams and tables have great explanatory power.

However, this is more than a book on the Grand Canyon — it is a more general creationist textbook in its own right. For example, it deals with the principles used for interpreting rock strata and then discusses in detail the evidence for the depositional processes for different sediment types. Dr Austin here convincingly demolishes the claims of long-age 'creationists' such as Dan Wonderly and Davis Young that fine-grained limestones and thinly laminated shales (respectively) must have taken millions of years to be deposited.

Lime muds today are texturally, mineralogically and chemically different from many limestones, so the former can hardly be precursors of the latter. Furthermore, rapid accumulations of lime muds are known today due to hurricanes and fast-flowing, turbulent waters in tidal channels, and such catastrophic processes must have been required to bury and fossilize the fish today found 'perfectly' fossilized in fine-grained limestones. As for alleged fossil 'reefs' in limestones, Dr Austin points out that the coral- or sponge-reef structures, such as the rigid frameworks slowly built today, are absent from the limestones in the Grand Canyon. To the contrary, nautiloids found fossilized in a preferred orientation and cross-bedding in the Redwall Limestone both indicate lime sediment transport and deposition was due to the strong currents of rapidly moving water.

Similarly, drawing on his own ob-



servations of catastrophically deposited, thinly laminated strata at Mount St Helens and experimental work in sedimentology performed by creationist Guy Berthault, Dr Austin shows how laminated shales do not represent seasonally-varying deposition over thousands of years. Even burrows, trackways and so-called 'shrinkage' cracks are not evidence against rapid sedimentation of laminated shales.

Dr Austin also tackles the vexed question of whether the boundaries between rock strata, including eroded boundaries, really do represent long ages, and begins with the evidence of catastrophic erosion and boulder transport at the Great Unconformity, which is contrary to claims of gentle weathering over millions of years. Then he moves on to examine four representative strata boundaries within the Palaeozoic strata sequence of the Canyon walls and convincingly shows how in each case sedimentation was continuous, either because of no marked physical evidence of a time break due to a sharp planar boundary, or because the boundary is gradational due to an intertonguing change in the grain sizes of the sediments.

Readers will greatly appreciate how Dr Austin then presents a creationist overview of the whole Grand Canyon

CEN Tech. J., vol. 8, no. 2, 1994

rock sequence, from Creation to the present. Five divisions of the rocks are evident, beginning with the oldest, the deformed Vishnu Schist and crystalline Zoroaster Granite that probably represent Creation Week rock materials (though not necessarily still in their created form). Next follow the now tilted sedimentary strata of the late Creation Week (during the 'Great Regression') and the pre-Flood era, with the Great Unconformity of course marking the onset of the Flood. Each rock unit in the Grand Canyon is systematically described and the boundaries between them, ensuring that the evidence is clearly understood from the biblical view of earth history, before the late Flood strata (found particularly to the north and east) and the late Flood erosion surface at the Canyon rim are discussed. Finally, there are the isolated post-Flood volcanic rocks and sedimentary deposits.

To complete the picture, there is the question of the erosion of the Grand Canyon itself into this rock sequence, the top of which is now over a mile above sea level, and Dr Austin tackles this by systematically describing each of the uniformitarian theories before eliminating them with well-argued evidence and logic. He then presents the breached dam hypothesis, whereby leftover Flood waters were trapped behind the uplifted plateau country to form a vast lake system, only to subsequently

'break through' catastrophically — a lot of water in a very short time! Read the overwhelming evidence for this yourself — for example, other canyons now known to have similarly formed, accelerated drainage required by underfitness, relict landforms and catastrophic erosion processes such as cavitation.

Of course, my enthusiasm for elaborating on the geological details within the book betrays my geological 'bent', but then the great interest in Grand Canyon is surely its rocks and the details of earth history within them. So are Grand Canyon rocks millions of years old? In keeping with its value as a general creationist geology textbook also, Dr Austin first deals in great detail with the assumptions, principles and derivations of the key mathematical equations of radioactive 'dating' before answering this all-important question. Then he lists the K-Ar and Rb-Sr 'dates' obtained for the Cardenas Basalt and diabase sills (amongst the older strata in the Canyon) as published in the literature, which immediately signals that the two methods don't give consistent answers. However, even more damning is Dr Austin's Rb-Sr data for the Uinkaret Plateau Basalts (the youngest volcanic rocks at the top of the Canyon), which give 'ages' hundreds of millions of years older than the Cardenas Basalt! And the published Pb-Pb 'ages' are almost double the Rb-Sr 'ages'! This is an

outstanding assault on the radioactive 'dating' fortress.

Space doesn't permit a summary of every aspect covered by this outstanding book, but I wouldn't want my discussion of its contents thus far to give the impression that the other topics covered are any the less well written or of lesser importance or interest. There is in fact something to meet everyone's interests, whether it's the discussion of the fossils found in the Canyon's rocks and their significance, the description of the organisms and the different life zone communities, the weather in the Canyon, the night sky, or the archeology and peoples of the Canyon. Other places of interest in the area are described; there are details and maps of Canyon hiking trails, questions for discussion and study, a useful and comprehensive glossary of technical terms, and good indexes that make finding one's way around the book so much easier.

I cannot recommend this book highly enough, not only as a magnificent field guide to the 'canyon of canyons', but as a creationist textbook worthy of the attention of every serious student of creation science. Buy a copy and study it. Then you'll know all about the Grand Canyon without leaving home! But what's more important, you'll be armed with the latest and best creationist scholarship for witnessing, and for refuting the arguments of skeptics.

A. A. S.

Grand Canyon: Monument to Catastrophe is available from the Creation Science Ministries Group address nearest you at post paid prices:—

Australia	A\$34.50
USA	US\$24.95
UK	UK£16.95
NZ	NZ\$45.00
Other Countries (<i>send international money order to Australia</i>)	A\$39.00surface mail