pasted upon physics that may be turned on and off at will. Instead, the physics that describes the how and why of radioactivity is the same physics in the everyday world. If that part of physics is changed, then all of physics is changed. One can suggest that all of physics changed at the time of the Fall, but this change is not observable or testable, and would pose immense problems for explaining how the pre-Fall world could have functioned.

Second, the products of radioactivity are well known, and the products of such rapid radioactivity are not known in meteorites. Again one could hypothesize that radioactivity was sped up as a result of the Fall or at the time of the Flood and then later returned to normal, but again this seems to be a case of special pleading.

Third, even rapid radioactive heating does not produce instantaneous mechanical stress. One of us has attempted to do a back-of-envelope calculation on how rapid radioactivity could disrupt a planetary body. This does not seem to be possible.

Fourth, it is not possible to clear the solar system of most of the debris from an exploded planet in just a few thousand years. The distances between the planets compared to the sizes of the planets are huge. This is an objection that we have to the Froede and DeYoung suggestion,[2] though we understand that they favoured a fragmentation by collision rather than a single planet explosion.

Overall, we think that the root of Mr Hovis' objections to what we have written is a difference of opinion of the details of what the curse entailed and in how God created in the beginning. Did meteoroids exist before the Fall? Do craters in themselves testify to imperfection? Can the existence of craters be reconciled with a Creation that is 'very good'? Our answers to these questions and those of Mr Hovis would be very different.

The discussion of a cratering history of the solar system from a creation viewpoint is in its infancy. We expect to revisit this issue in the future and encourage others to join us.

Danny Faulkner
Lancaster, South Carolina
UNITED STATES OF AMERICA

Wayne Spencer
Arlington, Texas
UNITED STATES OF AMERICA

1. See for example, Faulkner, D.F., Comets and the Age of the Solar System, *CEN Tech. J.* **11**(3):264–273, 1997.
2. Froede Jr, C.R. and DeYoung, D.B., Impact events within the young-earth Flood model, *Creation Res. Soc. Quart.* **33**(1):23–34, 1996.

More on mountains

Brenton Minge in his letter '*More on mountains*'[1] argued that today's high mountains did not uplift after the Flood, but are of pre-Flood origin: *'"high mountains", before the flood mean exactly that — "high mountains"'*.[2] He mentions Mount Everest *'with spectacular evidence of parallel sedimentary strata, especially from an elevation of 8,300 m upwards to the summit'*, and asks how such parallel layers could be uplifted without distortion. I looked up the reference he gave to this in *Time*.[3] The uppermost 100 m in that picture however, do not look like parallel strata, and neither do the oval formations to the right of Camp V at 7,772 m.

The Himalayas are very similar to the Alps in Europe where I live.[4] The folding of the sediments is extremely chaotic and shows that the Alps were folded while the sediments were still soft, that is toward the end of, or shortly after, the Flood. The same is true for the Himalayas. There is an S-fold in the marine Triassic rocks on the Mount Qomolangma region of Tibet[5] which could have only been made while the sediments were still soft. This pattern is common in today's mountains everywhere. There are many examples of extreme folding of formations in Norway[6] which must also have occurred while the sediments were soft. Another excellent example is the 'Geislerspitzen' in the dolomites of the Alps,[7] which powerfully illustrate the tectonic uplift that occurred toward the end of, or after, the Flood. Some sedimentary layers can be seen to sit at an angle of about 20 degrees to the horizontal, while other layers are inclined at almost 75 degrees. I personally have seen sediments in the southern Alps of Europe, which are uplifted to the vertical.

Thus, the evidence clearly indicates that the highest mountains today could not have existed prior to the Flood, but were uplifted toward the end of, or after, the Flood.

Brenton also indicated that he objected to the idea of an ice age.[8] I would like to advise that we have very powerful evidence here in Switzerland for the ice age.

Hansruedi Stutz
Dietlikon
SWITZERLAND

References

1. Minge, B., More on Mountains, *CEN Tech. J.* **13**(2):70–72, 1999.
2. Minge, Ref. 1, p. 71.
3. Who got there first? George Mallory's last stand, *Time,* May 17, pp. 58, 59, doublespread Everest photograph, 1999.
4. Gwinner, M.P., *Geologie der Alpen,* E. Schweizerbart'sche Verlagsbuchhandlung, Stuttgart, Fig. 300, 1978.
5. Xizang Scientific Expedition, *Stratigraphy of the Mount Qomolangma Region,* Science Press, Beijing, China, pp. 206–207, 1987.
6. Baumgartner, A. *et al., Die Welt der Gebirge*, C.J. Bucher Verlag, München und Luzern, p. 85, Fig. 5, 1977.

7. Baumgartner *et al.*, Ref. 6, p. 115.
8. Minge, Ref. 1, p. 71.

Brenton Minge replies:

I thank Hansreudi Stutz for the positive tone of his letter, and respond to his comments in kind.

Upper Mt Everest does indeed show *'spectacular evidence of parallel sedimentary strata'*, as I stated, and this is demonstrated not only by the *Time* photograph in question (where the banding, in colour, is so clear that it seems impossible to miss!),[1] but also in the relevant literature. Walt Unsworth observes, in his book *Everest*:

> *'The strata can be seen stretching across the North Face in distinguishable bands. The most prominent of these is at 27,500 ft, [8,230 m] and* ***is a thick layer of yellowish limestone known as the Yellow Band*** *[emphasis added]. '*[2]

Indeed it was on the very day that Mallory and Irvine plunged to their death, in 1924, that their colleague, Odell, confirmed from the 8,200 m mark that *'limestones form the summit of Everest'*.[3] Thus Firstbrook says that

> *'Ironically, when climbers pose at the summit of the world's tallest mountain,* ***they are standing on marine fossils*** *[emphasis added]. '*[4]

Other Himalayan peaks show the same horizontal, or near-horizontal sedimentary strata — Kailas (6,714 m), the Annapurna Ranges (7,500 m plus), Nanda Devi (7,816 m) on its upper northern ascent, Lhotse, and so on.[5] So prevalent are such strata in the Sutlej region, that Blanche Olschak says an area ***'half the size of Switzerland'*** with sediment layers *'hundreds of feet thick, can be seen today****, still completely horizontal*** *[emphasis added]'*.[6] This is at an altitude of 4,000–5,000 m and spread over 20,000 km^2 — an astonishing extent of *'completely horizontal'* highland strata, possibly comparable only to the Grand Canyon on the other side of the world!

None of this is to deny, as Hansreudi points out, the presence of localised folding and faults in the geological record. This has never been in dispute, as my initial letter acknowledged.[7] **But it is the big picture that counts**, a point not lost by Schoch in his *Stratigraphy: Principles and methods*: *'[It] is a question of* ***scale*** *... planes may appear unhorizontal when viewed in detail, but from a* ***broader perspective*** *the overall stratification may be horizontal'*.[8] This 'big picture' is seen in the widespread upland horizontal strata from all over the world — not least in the very regions to which he refers, Norway and the Alps. In Norway we have the parallel strata peaks in the Svalbard-Spitzbergen region,[9] while a number of Alpine peaks too show similar level strata beds at their summit,[10] prompting Kenneth Hsü to summarise concerning the Alps:

> *'There are two major kinds of rock bodies: (i) the massive rocks constituting the basement, and (ii) the* ***layered, sedimentary formations*** *that form the* ***cover*** *of the basement [emphasis added]. '*[11]

Such 'layered sedimentary formations' are impossible to conceive of in the context of extensive uplift in the late Flood or post-Flood period, as there is nothing remotely approaching the **supraregional scale of strata deformity that such uplift would inevitably cause**. Thus Zeil says of the Andes:

> *'There is* ***no supraregional folding*** *.... Tectonic angular discordances occur locally, but are* ***weakly formed*** *.... The episodes described in the older literature as folding phases* ***must be regarded with skepticism*** *[emphasis added]. '*[12]

Not forgetting also the arbitrary and even 'mystic' (Upreti's term[13]) boundaries in models, Upreti notes in the Himalayan context:

> *'In most areas, the MCT [Main Central thrust] 1 is placed at the base of the augen gneiss ... or* ***arbitrarily*** *along the base of a rock unit ....* ***Interestingly, the French researchers, do not recognise this lower thrust anywhere in the Nepal Himalaya*** *[emphasis added]. '*[14]

What is more, both Himalayan and Andes strata combine abundant marine **and** land fossils, both flora and fauna, precluding their having 'risen' from under the sea, but quite consistent with their having been covered by the Flood. The Siwalik, or Outer Himalaya, for example, yields

> *'prolific ... elephants, rodents, birds, reptiles and fish ... the Siwalik fauna possess no less than thirty different species of elephant-like creatures, of which all but one are extinct. '*[15]

Likewise in the upper Andes, where *'terrestrial sediments ... predominate'*,[16] and fossil trees are found side by side with shells and corals.[17]

The current enthusiasm for mountain uplift/continental drift is thus, in my view, wholly misplaced. Not only do the Scriptures, as previously noted in Genesis 8:3 of the NIV, KJV, NRSV, LXX and Hebrew Harkavy texts, *inter alia*,[18] **require** a pre-150th day period of Flood abatement, prior to the Ark resting on Ararat, (notwithstanding a recent attempt to overly constrict the meaning of 'prevailing' several verses earlier[19]) but the evidence of a higher Alpine horizontal stratum **demands** it.

While Meyerhoff, Kamen-Kaye, Taner and Chen would probably not share my position, they certainly give short shrift to continental drift as an explanation for the Himalayas:

> *'Clearly the concept that the Indus-Yarlung Zangbo and Bangong-Nu Jiang fault zones are* ***"sutures" between once far-distant landmasses is mistaken****. Studies by Petrushevsky (1971), Saxena (1971, 1978), Meyerhoff and Meyerhoff (1972,*

1974, 1978), Crawford (1979), Auden (1981), Gansser (1981), Jin (1981), Wang and Mu (1983), Waterhouse (1983), Chatterjee (1984), Stocklin (1984), Dickins (1985), Helmcke (1983), and many others, point ***to the virtual impossibility of drifting of continental blocks to an ultimate collision and "suture" with Paleoasia*** *[emphasis added].'*[20]

Brenton Minge
Brisbane, Queensland
AUSTRALIA

References

1. *Time*, pp. 58, 59, May 17, 1999.
2. Unsworth, W., *Everest*, Allen Lane/Penguin, p. 2, 1981.
3. Gansser, A., *Geology of the Himalayas*, Interscience Publishers, London, p. 162, 1964.
4. Firstbrook, P., *Lost on Everest: The Search for Mallory and Irvine*, BBC Worldwide, London, p. 51, 1999.
5. Majrani, M., *Himalayas*, Swan Hill Press, pp. 48–49, 57, 64–65, 1994; Olschak, B.C., Gansser, A. and Büher, E.M., *Himalayas*, Facts on File, New York, pp. 46–47, 122–124, 192, 211, 1987.
6. Olschak *et al*., Ref. 5, p. 17.
7. Minge, B., More on Mountains, *CEN Tech. J.* **13**(1):69, 1999.
8. Schoch, R.M., *Stratigraphy: Principles and Methods*, Van Nostrand Reinhold, New York, p. 94, 1989.
9. Harland, W.B., *The Geology of Svalbard*, The Geological Society, London, facing title page, 1997.
10. Thom, B. (ed.), *Geographica*, Random House Australia, Sydney, photograph, p. 241, 1999.
11. Hsü, K.J., *The Geology of Switzerland*, Princeton University Press, Princeton, p. 32, 1995.
12. Zeil, W., *The Andes: A Geological Review*, Gebrüder Borntraeger, Berlin, p. 166, 1979.
13. Upreti, B.N., An overview of the stratigraphy and tectonics of the Nepal Himalaya, *J. Asian Earth Sciences* **17**:594, 1999.
14. Upreti, Ref. 13, p.177.
15. Jhingran, A.G., in: Lall, J.S. (ed.), *The Himalaya: Aspects of Change*, Oxford University Press, Delhi, p. 81, 1981.
16. Zeil, Ref. 12, p. 177.
17. Knight, C., *English Cyclopedia*, Bradbury & Evans, London, pp. 358, 359, 1866.
18. Minge, Ref. 7, pp. 70, 71.
19. Hunter, M.J., Scriptural constraints on the variation of water level during the Genesis Flood, *CEN Tech, J.* **14**(2):93, 2000.
20. Meyerhoff, A.A., Kamen-Kaye, M., Taner, I. and Chen, C., *China — Stratigraphy, Paleography and Tectonics*, Kluwer Academic Publishers, Dordrecht and Boston, p. 66, 1991. In similar vein, re the South Korean Highlands, Cheong,C-S., *et al*., *Precambrian Research* **102**:217, 2000: *'data do not support a previous idea that the Gyconggi and the Yeongnam massifs in South Korea are different continental blocks.* ***This observation contradicts a basic assumption of tectonic models*** *[emphasis added].'*

Flood models

In their peer-reviewed article *Flood models: the need for an integrated approach,* Andy McIntosh, Tom Edmonson and Steven Taylor concluded that *'only as there is greater interaction between the relevant scientific disciplines will some of the unanswered problems of the biblical Flood models be solved'*.[1] Readers might suppose from this, and from the concluding acknowledgements at the end of their paper in the same volume,[2] that the undersigned had had meaningful discussions with the authors; also, that we had seen the works before they went into print. Neither supposition would be correct. Had we had a chance to review them, we would have pointed out that our contributions to the *CEN Technical Journal*[3–7] had been badly misconstrued. We highlight the following in particular:

1) We did not, and do not, propose that *'most of the fossils found on the earth were buried by post-Flood catastrophes'*.[8] In the cited papers we proposed that rocks dated Permian or later were post-Flood. We did not go into the question of what proportion of the fossiliferous rocks might have resulted from post-Flood catastrophes, and we do not believe that fossilisation implies, let alone requires, catastrophic processes.
2) Garton did not attempt to show that there are dinosaur tracks all the way from the Cretaceous to the Tertiary and Quaternary.[9] Although he is said to have 'rightly' shown this, dinosaur tracks, like dinosaur bones, do not post-date the Cretaceous.
3) Garton did not suggest that dinosaurs were trapped in *'the Carboniferous floating forests'*.[10] Nor did he maintain that *'these creatures swarmed the inhospitable land in the final stages of the Flood'*.[10] Dinosaur fossils are not known from the Carboniferous.
4) The chalk deposits of the Cretaceous are not *'usually taken to be the crushed remains of marine shells'*.[11] The phrase suggests comminuted fragments of the kinds of shells one can pick up from the beach, whereas the dominant constituent is (intact) platelets of microscopic plankton. Bottom-dwelling shellfish, ammonites, etc., occur within this matrix as a distinguishable, generally macroscopic component. The composition of the deposits is largely a matter of fact rather than interpretation, as Tyler in his paper recognised.
5) None of us subscribes to the idea (in our opinion untenable) that only 350 years separate the Flood from the end of the dinosaurs or that the dinosaurs perished just before Abraham's time.[8]
6) Robinson based his argument that Genesis describes the blotting out of all animals without trace on the meaning of the word *machah* (i.e. 'blot out'), not *mabbul*.[12] A full reply to the contrary arguments of Fouts and Wise, which McIntosh *et al.* cite with approval, was offered to the editors of the *Tech. J.* but not accepted [Ed. note: because the external reviewer expert in Hebrew thought that Robinson's exegesis was flawed]. While we support Robinson's exegesis, it was never a key reason for espousing the Flood model proposed in our papers. For example, Scheven, who first proposed the model, has never expressed an opinion about the interpretation of the word *machah*.
7) We would not cite Genesis 10:25