

but with his approval, and by the hand & mouth of the very
next to him then living, who in any other age would have
been the first on earth. Halley explained it to the Royal Society,
(as I believe I reminded you) in 1694, though not printing it
till 1724. Not many of your R S Fellows of to-day would find
perhaps nothing to alter in a paper they had kept 30 years!
Now I never, till a few years back, knew of this paper's existence,
but always, from boyhood, had kept to Halley's and Newton's
view of the Biblical Deluge, simply because I had, in childhood,
learnt enough of rudimentary astronomy to wolve the same
obvious explanation for myself. I never regarded as possible
that in these post-Newtonian times, any educated people need
still regard it as at all miraculous (in Locke's sense) or in short
causeless, - physically uncaused, as you do. Unhappily indeed,
till a few years back, the traditional misreading of a single
clause in Genesis, that one half verse about the "fountains
of the abyss", drove me to assume like you, two different
sources of water, instead of the single one in God's threat and
warning, - both sea-water & rain, instead of rain alone. But
the pleistocene Geology contradicts any sea-invasion, and any
large seismic crust-movement. Where can you point to proof
of any strata since the glacial age, being tilted a single degree?
For years it has been growing plainer no such thing has
occurred in any land yet examined, nor any diluvial wash
inward, from sea to land. All the drift phenomena are of currents
downward, exactly as the present streams flow. But proof has also
accumulated of the paleocosmic world having more land than
ours, everywhere, extending out to the present hundred-fathom line.
In short, the soundings prove we have more water now than in
the flint-folks' & mammoths' age, by about 16,000,000 cubic miles.
That addition the planet has received. Now I beseech you, Sir, to

to consider whether you can set down any valid objection to that quantity having fallen from the sky in only 40 days, or in only six days, (those of which the Assyrian tablet speaks), or even in one day (as Christ said, "the day that Noë entered the ark"). If you would but condescend to write me briefly all objections or difficulties occurring to you, (Biblical, geological or other) to such a notion, I am confident I could solve them. Of course I could not have done so while combining the cometary downpour theory with your "subsidence" or crust movement; but remember I have totally abandoned this latter. Every syllable of the Biblical statements I accept; but the whole of your Deluge, your grotesque miracle of continent subsiding & then rising again, I reject as utterly as ever Lyell did, or as his poor dupé Colenso. Nothing in this world is so astounding to me as the blindness of modern scientists to this plainly settled result of the true astronomy, two centuries old! You talk of "our knowledge of Nature enabling us to conceive" so and so, - but good heavens! the question always was, what things does Nature show to be necessary, not what ones it "enables us to conceive"! Catastrophes as world-wide as Noah's, or as St Peter's predicted conflagration, it shows to be at least as frequent as 4 or 5 per million years (as I will undertake to prove to you) and as necessary as to-morrow's sunrise. Our annual risk of plunging into some comet is at least $\frac{1}{230,000}$; that is to say, our probability of avoiding all such for a year is hardly .999996. You can see then, by logarithms the chance our world has of a century's life, namely $(.999996)^{100}$, or of a million years, namely $(.999996)^{1,000,000}$. Pray look at the enclosed paragraph from the "Founder of the Universal Religion of Humanity". I beg to remain, Dear Sir

Yours very faithfully E L Garbett
(No relation to the Rev. E. G.)

(On the use of astronomy in school teaching)

"Pour mieux sentir une telle tendance astronomique, il faut l'envisager sous l'aspect moral. Car la véritable science céleste étend finalement la relativité de nos idées à nos espérances, et par suite à tous nos sentiments. En manifestant les diverses conditions planétaires, elle dissipe la sécurité absolue que nous les représentait comme exemptes de perturbations quelconques.

... Rien ne peut, par exemple, démontrer, quoi qu'on en ait dit, que notre planète est à l'abri de tout choc cométaire. En achevant ainsi d'apprécier notre vraie condition astronomique, on constitue mieux l'énergie et la dignité du caractère humain, qui doit trouver en lui-même sa principale ressource contre l'ensemble de nos ~~maux~~^{misères} — [The having to make the best of a world without God or King]. Sans nous préoccuper de vaines terreurs, nous tendons alors d'écartier d'avantage un excès de prévoyance et de présomption, qui altère beaucoup notre véritable bonheur, privé et public. Les affections bienveillantes, dont il dépend surtout, acquièrent ainsi plus de prix encore que lorsque chacun se confie trop aux garanties extérieures. Qu'on même la terre devrait être bientôt bouleversée par un choc céleste, vivre pour autrui, subordonner la personnalité à la sociabilité, ne cesserait pas de constituer jusqu'au bout, le bien et le devoir suprêmes. & & . . .

Surely this, by an atheist, should convince us that the actual universe, (God's universe) is better than Lyell would make it, — or would have us pretend it to be! A world in jeopardy at any hour, of instant destruction, Comte held better for us than one guaranteed!

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Dear Sir

July 190 3 Jan^y 1890.

The promise ending your former Contemporary
Review article alarmed me into writing to implore you to
pause and look further into geologic facts, (at least those
bearing on the last pleistocene change) before this your
threatened attempt at Lyellizing the Bible; but alas!
you have rushed on headlong, in the disastrous way led
by the late J. Pye Smyth DD, by poor Hugh Miller (who
shot himself) & the present Samuel Finns, whose book
("Moses & Geology") will certainly do more to écraser
L'inferme for Voltaire & Co. than Ingersoll or any of the
open anti-christians, and yet probably not so much
as you, with your excellent intentions, & your access to
great Reviews! Whether Fluxley will deem it worth while
to smash your Deluge up, I cannot tell; or rather whether
his owner will deem that more expedient, or letting your
fallacies have free course, for such as Fluxley have no will of
their own, but are like cattle of burden, their rider's property,
and must do as their rider will. I forget whether I quoted
to you Locke's definition of miracle, as distinct from special
providence. He defined a miracle as "a sensible operation
which, being above the comprehension of the spectator, & in
his opinion contrary to the established course of Nature, is by
him taken to be Divine". He then proceeded to insist that

any such, (indeed every miracle) must be such to some witnesses or hearers of it, and yet not so to some others. "For, it being agreed that a miracle must be that which surpasses the force of Nature in the established steady laws of causes & effects, nothing can be taken to be a miracle but what is judged to exceed those laws. Now everyone being able to judge of those laws only by his own acquaintance with Nature & notions of its force, (which are different in different men) it is unavoidable that that should be a miracle to one, which is not so to another" - You see he might have added, that what was miraculous to all men in one age, must cease to be so to any men in some later age, if men's knowledge of Nature be increased. And the most notable case of this, he might have added, was Noah's Flood, already in his (Locke's) time, a visibly natural event, entirely within men's established physical knowledge of what their environment or universe contained; whereas it had been, to all generations between Noah & Galileo's or perhaps Newton's time, utterly miraculous, praeternatural, or rather praeter-sciential, out of any men's scientific comprehension. It was plainly of divine appointment that so it should be, to all ancients, and so continue till the 17th Christian century, but no longer. As soon as the true cosmology or scheme of material things was to be in human ken, the perfect naturalness of Noah's record, as that of a physical accident, was to appear, - thus, for all later generations, attesting its truth. Accordingly, as soon as any visible part of Nature adequate to its causation became known, immediately, by more than one (or than two) of our physicists, this was set forth, - not personally by Newton,