

ADVERTISEMENTS.

SINCE 1885, the "ONE HUNDRED PROOFS" have appeared in twelve successive editions, and reached 100 pages, the extra matter being, as many correspondents have averred, more interesting than the original. But, the appended matter was more or less antagonistic; and it is not too much to say that we have been asked a hundred times whether Professor GILMAN, of Johns Hopkins University, has answered the several letters which were published, or accepted the Challenge, running through nearly all of the twelve editions. Of course, we have to say, "No!" until it has become tiresome—for the mouths of ALL the professors are closed. And are we to keep on, after 33 years at it, hammering at these hard heads? God forbid! If, with more than ten thousand copies of the PROOFS sold in the city of Baltimore alone, the PEOPLE show no interest, why should we fight for such people? We have the satisfaction, as we retire from the fray, of announcing our greatest confidence in the advocacy of U. G. MORROW, Esq., Allegheny, Pa., who is the learned editor of the Herald of Glad Tidings, and also in the efforts put forth by the staff of the Earth Review, London, England. We will combat no more. We respectfully urge, however, that authors find their own titles for their books—"Theoretical Astronomy Examined and Exposed" being the title of our own work, the copyright of which was purchased by the late John Hampden, for one hundred pounds, twenty-five years ago. One more request: if our poetry is borrowed, do not chop it up: only doggerel should come in for such treatment. WM. C.

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we living on a whirling flying ball of sand & water.
NO!

Is the Newtonian Astronomy True?

GLASGOW, 15th MAY.

SIR,—Your correspondent seems to think this a question entirely of flatness or convexity: whereas there are four sects of globists all at loggerheads:—(1) The Ptolemaists, represented by J. Gillespie, of Dumfries, who suppose the "earth" globe a centre for the revolution of the sun, moon, and stars; (2) The Koreshans of America, who suppose the "earth" a hollow globe for us to live inside; (3) The Newtonian Copernicans, who suppose the sun a centre, keeping the planets whirling in orbits by gravity; and (4) the Copernicans, who suppose the planets to whirl round the sun, without the necessity of gravity, Sir R. Phillips heading up this school. However, here are a few nuts especially for Copernican teeth:—Why are railways and canals constructed without any allowance for terrestrial convexity; and why do artists in marine views represent by a straight line the horizon, whether running east and west, or north and south? How can all the vast continents, with convexity only imaginary, along with the oceans, stick together to make a ball something like a little schoolroom globe, able to whirl on an axis only imaginary—that is, no axis at all; and though very many million tons in weight float light as a little cork in ethereal fluid found only in Copernican brains? How can gravity, which no one can describe, or prove, toss nineteen miles in a twinkling the great oceans and continents over the sun, and yet we are not accordingly killed outright, or even conscious of any such horrible motion? Is not this pagan Aristotelian gravity only a disguised theory of heaviness, representing the moon as falling 16ft. per minute towards the earth, but somehow deflected into an orbit; also the "earth" as falling towards the sun, but likewise deflected? Why do astronomers differ so much as to the size of the "earth" and as regards distances of sun and stars? Why believe antiquated fables devised thousands of years ago by stick worshippers, such as Thales and Pythagoras, who foolishly believed the sun a god to govern all, and hence the centre of whirling worlds, instead of the true God, who has declared that "the earth stands in and out the water," and is so fixed that it never can move.—I am, &c., A. M'INNES.

[All calculations of the earth's size, and therefore of the distance; and magnitude of sun, moon and stars, depend wholly in the length of a terrestrial degree. The land and sea are first supposed to unite into a sort of ball, shaped like a turnip, orange or lemon, and then the circumference is divided into 360 parts called degrees, but not all equal, as is evident from Newton's supposition of ellipticity. Aristotle, about 300 B.C., said that mathematicians fixed the globe's circumference at 40,000 stadia (or 5000 of our miles). Fifty years afterwards, another Greek, Eratosthenes, first devised the plan of measurement still generally followed, that of determining by celestial observations the difference of latitude between two places on the same meridian, and then measuring the earth's distance between them. He calculated the earth's circumference to be 250,000 stadia (or about 32,000 of our miles). Various attempts have been made within the last three centuries to measure a degree, but with results so unsatisfactory, up to this hour, that the International Geodetic Association have lately resolved to hold a conference at Berlin during the summer to consider this much vexed question. The common method of measurement supposes the sky for the nonce a hollow globe corres-

ponding precisely to the terrestrial one which it completely envelopes, and hence a degree as measured on the sky is believed to be the same as a terrestrial one; though again astronomers suppose the sky to be boundless space. Thus God's challenge to Job thousands of years ago may be repeated to the modern astronomer, "Hast thou perceived the breadth of the earth?" The terrestrial base line being therefore unreliable, all calculations of terrestrial magnitude, as well as distances of sun, moon, and stars founded thereon, are as fabulous as the monkey-man of evolution, or Lord Kelvin's third guess of past time at 4,000 million years.]

GLOBULARITY.

SIR,—Mr Harpur assures us that "surveys for canals and railways are made without mention of curvature, because the levels are taken by a succession of short tangents which overlap; so that, in surveyor's slang, "the backsight cancels the foresight." Now, we know that surveyors require back and foresights for uneven ground, and that their "datum line" must be parallel to the horizon, which is invariably level; nor have I ever seen it otherwise. Mr Harpur is challenged to prove that this cancelling allows for the fall of 8 inches per mile, increasing as the square of the distance. Nor can he prove his short tangents to be less imaginary than the globe itself, whirling on an imaginary axis, with an imaginary lurch of $23\frac{1}{2}$ degrees on an imaginary plane, driven along an imaginary orbit by the imaginary centripetal and centrifugal forces. Since the earth is alleged to whirl 1,000 miles an hour, how many billion tons of centrifugal force, according to mechanics, does Mr Harpur grant to pitch us off, seas and all movables, against the man in the moon? Again, if the lightning globe flashes over the sun about 19 miles every tick of the clock, how many billion tons of orbital centrifugal force will dash us, perhaps, against Neptune, whose imaginary inhabitants get only a 900th of the sun's heat and light compared to us? Now, isn't this sea earth ball a curiosity; nobody able to explain how all the great continents and oceans stick together to make it? Over its shape, size, distance, &c., how star-gazers squabble! Herschel will have it like an orange with two axes, but Ball with three axes, and Airy thinks it like a turnip. Herschel makes an astronomical degree 70 miles, but Airy 69, so that the globe's circumference may be either 25,200 or 24,840 miles. Again, according to Lardner, its distance from the sun is 100 million miles to Herschel's 95 millions, to Airy's 92 millions, &c.; but whilst to "Copernicans" the phantom's whereabouts is uncertain, common sense knows that it exists only in Newtonian brains.—I am, &c.,

A. M'INNES.

SIR,—“C. H.'s” supposition of the difference in levelling are surely exploded by the letter from the Manchester Ship Canal Office denying all allowance for curvature. It seems to be forgotten that the sun's distance is the astronomer's unit rod of measurement, and that seeing the astrologer Copernicus started with three million miles, now swollen up to some hundred millions, why, according to Newton's rule, we being now thirty times further away, have only a nine-hundredth of the sun's light, heat, and gravity formerly enjoyed. Further, the speed of our lightning ball is increased from less than one foot per second to nineteen miles. Indeed, as regards distance, speed, light, heat, gravity, the whole machinery of the solar system, without leaving out the millions of twinkling globes outside, has been for 300 years getting such a tinkering as must gladden the heart of “Topsy-

Turvy” to behold. Moreover, Brewster and Herschel, in calculating the distance of the nearest fixed star, differ by eight hundred thousand million miles; but, of course, millions of miles are as so many paltry inches to star gazers. A correspondent cites in proof of globularity the supposition of boundless space, which in turn is the usual inference from globularity; but to prove this assumption would require a boundless astronomer accordingly, without shape, centre or gravity, and bodily organs; or an astronomer of organic protoplasm, but endowed with unending life, to explore creation through endless time, therefore, never to get at the evidence sought for. If our “globe” needs tangential force and gravity to spin it round the sun, just as does the moon to spin round us, why not the sun to spin round its vaster centre towards Hercules, whilst the sun's centre needs another centre still more monstrous? Thus there must be an infinity of globes. Then omnipotent gravity, operating everywhere, yet nowhere to be found or seen, a universal cause without beginning, to operate on uncaused creation, itself uncaused, is hence another god, yet to be everywhere opposed by a nameless, invisible, utterly mystical rival, equally omnipotent, tangential force; lest the infinitely many globes be mutually smashed into infinite molecules and atoms.

SIR,—Are not Newtonians logically bound to look fairly and fully in the face the contradictions, the assumptions, and the absurdities of the whirling, flying globe? They stoutly contend for curvature on land and sea, yet, *mirabile dictu*, they allow flatness at the poles, which no Arctic or Antarctic expedition has ever reached, claiming at the same time an extra amount of curvature for the equatorial region, where the earth, they say, bulges out, turnip-fashion. Thus the earth is flat and not flat, globular and not quite a globe. Well, if there be flatness at the poles, how do they know but the flatness may be of so wide an area as to make the earth's shape cylindrical, quite according to some old Greek scientists? Astronomers also suppose that there is no roof overhead called heaven, as if there could be blueness without a sky to be blue, where sun, moon, and stars may move: or space without a substance possessing the three dimensions of space. Still, the fact of heaven is again granted by them, but only as a celestial globe, whereon latitude, longitude, declination, and right ascension may be calculated—a heaven and no heaven! How can the earth globe, so like a wheel, turn on an axis only imaginary, the ends or poles of which, though imaginary also, nevertheless nod without causing fearful earthquakes, the north pole waving so as to describe a circle in 25,868 years? Since, too, a plane and an orbit merely imaginary cannot support a globe millions of millions tons heavy, won't astronomers mercifully scratch their heads for a new supposition, to save us from tumbling down into the horrible gulf of boundless space? Now, if we pour water on a school globe, the liquid runs off; then must we accordingly grant that all the oceans are frozen hard as steel, lest they spill, and that all the high mountains are flattened down level with the plains. So that all, holus-bolus, may unite into a smooth ball, turning round as nicely as a clock wheel, to make days and seasons? Next, there is the stereotyped trick of calling the real size, motions, and distance of sun, moon, and stars, apparent; whilst magnitudes, motions, distances, only supposed, are called real. Herschel, by persuading us that our eyes are nothing else but a cheat, would have us believe that what we see moving, stands still, and what stands still rushes faster by far than any express

railway engine ; but no astronomer has yet even attempted to prove the globe's exact whirl of 1,000 miles an hour, or the fling over the sun of 19 miles per second, any more than that the globe so knowingly preserves the parallelism of its axis at an angle of $23\frac{1}{2}$ degrees. And since a Newtonian is accustomed to hang head down from the earth twelve hours in every 24 hours, may he not, by way of experiment, hang himself by the heels from the ceiling of his bedroom? Isn't a horse running 50 feet per second reckoned smart, as well as a whale swimming a mile a minute? But a man able to fly 19 miles per second when hooked on by gravity to a big globe, ought surely to be able to bear being tied to a cannon ball and shot from the mouth of an Armstrong gun. Our opponents are challenged to name anything outraging to common sense and reason more than the phantom globe of ancient heathendom.

To Editor of "Halifax Courier."

SIR,—“The distance,” says Dr Rowbotham (*Zetetic Astronomy*, p. 102), “from London bridge to the sea coast at Brighton in a straight line is 50 statute miles. On a given day at 12 o'clock, the altitude of the sun at London Bridge was found to be 61 degrees of an arc ; and at the same moment of time the altitude from the sea coast at Brighton was observed to be 64 degrees of an arc.” With these data he calculates by the method called “construction.” However, I shall here follow J. Layton's method, taking his diagram ; the base A B being 50 miles, the angle at A 61 degrees, and the angle D B C 64 degrees. Then multiplying the sine of 61 degrees, or .87,462 by 50, and dividing the sine of 3 degrees, angle A D B, or .052,336, we have about 835 as B D. Next multiply the sine of 64 degrees, or .898,794 by 835 and divide by the sine of 90 degrees or 1, and the result is approximately 750 miles.

Will your Halifax correspondent kindly tell us, if he can, where he found his data of 151 miles as a base line, with the altitudes of 55 and 53 degrees? Does he really accept the astronomy of Pythagoras, who, as a worshipper of the sun, imagined it to be the centre of worlds depending on it as a god for light, heat, and rain, and every blessing? If so how does he calculate the sun's distance by parallax so as to reconcile the conflicting opinions of Pythagorean astronomers? Accordingly, he must believe himself tied by the gravity of the infernal regions to the end of a globular wheel with spokes 4,000 miles long, to be unceasingly tossed thousands of miles either upwards or downwards, and at the same time pitched over the sun, 19 miles a twinkling. Moreover, he is liable to be tossed, off his big ball by a centrifugal force of about 116,000 billion tons, due to diurnal motion ; by another of 24,000 billion tons due to annual motion ; by a third force due to an imaginary flight of his solar system towards Hercules, 46 miles per second ; and by how many more forces is a wretched globist tormented in the hell of “endless space?” Further, there is an atmospheric pressure of 24,000 million tons per square mile, to squeeze the poor globe into a monster jelly ; and how many million tons of coal are daily shovelled into the sun to keep up its heat and light?—Yours, etc.,

SIR,—Your Halifax correspondent fires his Copernican popgun, then runs away. Yet the book from which I get my data for calculating the sun's height is by “Parallax,” the *nom de plume* of the late Dr Rowbotham, with whom I corresponded before his death ; and I am not aware that zetetics, according to J. Layton, believe that the sun's dis-

tance is approximately 4,000 miles, far less 6,000. We must calculate by plain trigonometry, seeing that the surface of water is level, whilst the Bedford Level, the Salisbury Plain, &c., are what their names imply, and not arcs of a globe. Canals and railways are constructed without any allowance for a convexity which necessitates the rule of mechanics,—“The difference between real and apparent levels is equal to about eight inches in every mile, and increases as the square of the distance.” As one example among many, the Suez Canal is 100 miles long, and therefore there ought to be a difference in deviation of $1\frac{3}{4}$ miles, whereas it is a dead level from end to end.

J. Layton would have us believe without proof and in opposition to sense, that the sun which we see moving westward, is in reality moving the opposite way, and that the moon, with Jupiter, is moving east and west at once, therefore standing still! These contradictions, he assures us being explained (and how?) by modern astronomy taught by the idol worshipper Pythagoras 2000 years ago. He asserts, however, that zetetics assume that the earth (meaning all the vast oceans and continents) has neither axial nor orbital motions ; whereas we believe our senses, which testify that the continents do not fly through the air, especially with the awful speed of 19 miles a twinkling. Copernicus himself confessed that the whirling lightning globe of heathendom was not even a probability ; Herschell, that we must take it for granted ; Professor Wodehouse, that it cannot be proved, &c. Further, as John Wesley, founder of Methodism, long ago pointed out, astronomers prove the distance of the stars by their great magnitude, and the magnitude by the great distance. Zetetics hold according to common sense, sound argument and God's revelation, that the earth or land floats in the great abyss of waters fixed there by the Creator so that it cannot move, the ocean being surrounded on all sides by the Antarctic icebergs (*Psalm xxiv*, 104 ; *Job xxxviii*, 10, etc.), and that the sun, moon, and stars move in the vault of heaven always at the same altitude above the earth, neither rising nor setting, but as the Hebrew Scriptures say going forth and going in, from horizon to horizon (*Gen. xix.*, 23 ; *Eccles. i.*, 5).

Here are nuts for Copernican teeth :—(1) How can the continents extending thousands of miles with vast mountain ranges, great plains, and rivers, along with the immense oceans (the Arctic and the Antarctic unfathomable), be rolled together into something like a little school-room globe, and the whole mighty mass be tumbled over and over, and heaved about the sun with more than lightning speed, without the earth and all its inhabitants being at once destroyed thereby? (2) How is gravitation or attraction proved—first taught by the idolater Aristotle of ancient Greece—which supposes almighty power not up in heaven but down in the infernal regions or heart of the earth? (3) How is the imaginary globe proved to be 24,000 miles or so in circumference, without supposing the sky, otherwise called “infinite space,” after all a vault for the sake of measuring degrees ; and how is it possible to reconcile the conflicting calculations of distances of sun and stars, differing by millions of miles? (4) Are the Copernican diagrams, mathematical “proofs,” the schoolroom globe and maps of a turnip-shaped earth ; the technical terms, such as parallactic motion, spheroid, terrestrial axes, plane, orbit, equator, poles, &c., anything else than the tricks of a disguised atheism now misleading multitudes? (5) Is not the parallelism of the globe's axis with the lurch of $23\frac{1}{2}$ degrees on an imaginary plane, as well as centripetal and centrifugal forces to account for orbital motion,

polar nutation, infinite ether, infinite space, stars with men hanging from them by the heels, globes of many million tons floating on nothing, light as feathers, moonshine being sunshine, &c., mere suppositions, unsupported by one fact or solid argument, but making up one huge anti-Christian fiction for simpletons to swallow?—I am, &c.,

SIR,—Mr Layton still dissatisfied, yet too nervous for your arena, writes to me confessing an "Atmospheric" squeeze for the poor globe sides of only 27 millions tons. Then by mensuration, multiplying the supposed circumference of 25,000 miles by the diameter of about 8,300, we have a surface of something like $207\frac{1}{2}$ millions square miles, which again must be multiplied by 27 millions to get the whole pressure, so that we may well wonder why we are not balancing our bodies on something like a jelly inconceivably large. But the "atmosphere" (a word from the Greek, meaning "smoke of the ball") is said by physicists to be just as high as their theory will allow, 40 or 50 miles, and as a kind of outside ball for the earth whilst squeezing it so terribly, it whirls as fast or 1,000 miles an hour, and flashes along with it quicker than forked lightning round the sun. Now, why does the air press down and not up, though astronomers conveniently deny anything to be either up or down, there being therefore neither east nor west, north nor south, nor, indeed, any direction for the big ball with its air envelope to turn? What makes the "atmosphere" or the sea-earth globe whirl top-fashion, astronomers can't tell, and whether the "centripetal and centrifugal forces," which push the "Earth" along the imaginary rails of the annual orbit, do the same friendly job for the air, astronomers don't say, perhaps thinking nobody would ask. Proctor, with 22 figures for the "Earth's" weight, or six sextillion tons, makes his dupes scratch their heads utterly dumfounded; and yet the monster mass floats light as a little cork on a boundless sea of unknown ether found only in Copernican heads. Then as the globe flashes along faster than a red thunder-bolt, according to Herschel it nods and waves its enormous head as if seized with St. Vitus's Dance. Yet what common sense can't see is, how with all this constant tumbling head over heels, we don't choke or get pitched against the man in the moon. Ah! but don't we always carry on our head and shoulders an aerial pillar 50 miles high, some tons in weight, enough to crush us outright, whilst the devil with his gravity far down in the infernal regions hauls us towards himself? Still that we may bear all this squeezing, tugging, and tossing, ought not astronomers to say men are not flesh and blood but malleable iron?

Moreover, the scientists say the stars are not stars, any more than the sun and moon are what they are, but tremendous globes as many million miles off as they please to put them, with men hanging from the heels in danger of being burnt by flying comets. Also in "words of learned length and thundering sound" the evolutionist tells his "tale of wonder to gull the mob and keep them under,"—that our great, great, grandpapas were monkeys, baboons, apes, or gorillas—what a beastly pedigree! So we have a new edition of Genesis 1: "In the beginning, somewhere (says Lord Kelvin) between 20 million and 400 million years ago, was fiery gas; and gas after many years hardened somehow into solid rocks, which partly softened at length into cabbages, &c., whence sprouted long after tadpoles, and the tadpoles begat a donkey, and the donkey begat a monkey, and after many ages the monkey begat Adam." These tales are great theories, of course, because fathered by men great

because of their theories. Yes, but there are mathematical "proofs"—aye, and as mystical as Egyptian hieroglyphs, entitling the scientists to a monopoly of mutual squabbling.—Yours, etc.,

To Editor of "Hebbon Bridge Times."

SIR,—Since a blundering translation answers a pagan astronomy, Job 26, 7v, is rendered, "He stretcheth the north over the empty place and hangeth the earth upon nothing." The Hebrew is *Notheh tsaphon ab tohu toleh erets al-belimah*; the correct rendering being, "He stretcheth out the north over desolation, he hangs the earth on its fastenings." The north was called by the Romans, Septentriones, rendered by Max Muller "the Seven Stars," which are in Ursa Minor, that part of the heaven being spread over a desolation of snow and ice. The Hebrew verb *talah*, to hang, excludes the idea of motion, applying to the suspension of shields, harps, vessels, dead bodies, as in Psalms 137, 2v; Ezekiel 15, 3; 27, 11. Can lightning be hung up, *a fortiori* the globe of Copernicus flashing 19 miles every tick of the clock? The verb *balam* signifies according to Parkhurst, and Bresslau, to fasten, bind. Col himself declares the earth fastened in the mighty abyss of waters, Job 38, 6. The cuckoo cry that the Bible is unscientific needs also a reply. The other day in the University here the fact was mentioned to the mathematical class, that the value of the ratio of the diameter to the circumference of a circle was given in the temple of Solomon by the molton sea ten cubits from brim to brim, and thirty cubits in circumference (2, Chronicles, ii, 9); Solomon, according to Gould, of America, having measured the diameter from the outside and the circumference from the inside of the circle. Let "Leo" tell the breadth of the rim, and he solves the problem that has baffled mathematicians for 2000 years. This ratio is the key to the harmonies of all plain figures. Then the solid geometry of the temple itself, which was built without the sound of a hammer or workman's tool, the stones having been "made ready in the quarry," may well astonish the moderns, who cannot even restore the lost books of Euclid. Next look at the arithmetic of Noah's ark, the model for shipbuilders, fitted to accommodate every species of land animals zoology can mention; also the deep significance of numbers as used in Christ's parables, the Apocalypse, and Moses' tabernacle; the seven lamps, the five virgins, ten talents, the New Jerusalem, a perfect cube whose side is 12,000 furlongs &c., &c. Solon and Lycurgus were bunglers compared to Moses, by whose wise legislation every Israelite was made a land-owner, paying no rent or taxes except a voluntary tithe in kind to the Levites, there being no need for jails, police, navy, standing army, coinage, paid judges, or king. The wondrous summaries of history in Daniel and the Apocalypse, particularly the metallic image of Nebuchadnezzar's dream, supply us with the "philosophy of history" which historians have failed to construct. What glowing tableaux of the future universal restoration are in the prophets, contrasting with the beggarly emptiness of the pagans Homer and Virgil! The Puritan Fleming was able 200 years ago to predict with the dates of the Apocalypse the fall of the French Monarchy in 1792. Descartes 300 years ago proved the ancient syllogistic logic a fraud; whereas the Scriptures identifying speech with life and mental light (John 1), lays down the great rules of proving all things and calling everything by its right name, and supplies the models of reasoning in Paul's infallible dialectics and Christ's dilemmas that silenced all oppon-

ents. What ancient sage, pagan, or Jewish, ever conceived the Christian ethical precepts of peace, love, self-denial, perfection? For definition of soul and spirit I turn to *Levi. 17, 11, I. Cor. 2, 11, &c.* The structure of the universe, the aqueous origin of the earth, &c., I learn from *Gen. 1*; the fact of the earth's arrangement in layers from *Job 38, 5*; the universal deluge accounting for geological remains. Let the agnostic name a true science which is not discussed in the Great Book. Even electricity, inexplicable to Lord Kelvin, is explained in *Ez. 1*. By means of the Bible, Mr Dimpleby, of London, has rectified the calendar and reduced chronology to an exact science. The true use of astronomy, he contends, is the measurement of time. By the classification and enumeration of eclipses (giving cycles of 18 years) and transits, they have been reduced to a system of metrical indicators proving the whole or any fractional part of past time. "All Biblical history is astronomical, and hence all the dates of Scripture fall with precision on the lines of scientific time like the cogs of a wheel." The book of Genesis supplies that point of time which chronologists and astronomers had long been desirous of obtaining in order to rectify all subsequent periods of history and celestial phenomena." "All Past Time," p. 143.—Yours, &c.,

To Editor of "Lincoln Chronicle."

SIR,—Two queries by C.D. may be answered with the help of Solomon's proverb, "A wise man carries his eye in his head." We see, as the Hebrew prophets reveal, "the earth stretched out upon the waters," and the vault of Heaven spread overhead, whilst, on looking all around, we find a limit to our range of vision, called the horizon, towards which the earth appears to slope up, and the Heaven to slope down. Now, whatever point of the horizon we look at becomes a point of convergence, being on a level with the eye, and all lines above the eye-line must descend, whilst all lines under it must ascend to that point, where, indeed, we see an object vanish. Hence a ship receding from view appears to ascend to the horizon, but approaching to descend towards us, though when about to disappear the hull (on account of the obscurity) becomes confounded with the watery base; yet, with a good telescope we see no "hull down." What artist would represent a ship "hull down" by a mast like an indiscoverable north or south pole, sticking up behind a hill of water? Also when a ship has disappeared we have but to climb some eminence to see it again, and whilst it goes away it appears to go up, but never goes over the imaginary hill. Likewise the sun appears to rise and go down, but the Hebrew Scriptures, with scientific accuracy, speak only of the sun going forth in the morning and going in at night. In page 20 of "Herschel's Astronomy" there is a cut representing a man looking down on the horizon. The pillar he stands on is supported by a curve of the "earth," fully 60 degrees, and, therefore, one-sixth of an entire circle, or 4000 miles in extent; whilst the man with the pillar equals in height one-fourth of the curve, so that, according to the scale, the man is 300 miles high and the pillar 700! A line is drawn from his eye, as a tangent to the circle, representing him as elevated thousands of miles above the horizon, which, according to true perspective, can never be below the level of the spectator's eye! The third question by C.D. is seemingly about the "phases of the moon," which he wishes "fully explained." Herschel, in his "Astronomy," by way of explaining, gives a diagram representing the moon in eight different positions circling round the "earth" globe,

but shining only by the reflected light of the sun. Yet he only presents new mysteries even more inexplicable than the lunar "phases." How can moonshine be sunshine, or Moses a liar when he called the moon a light, his writings being endorsed by Christ himself? How could all the oceans and continents adhere to make up a whirling lightning globe, or a globe of such an unconceivable weight need no support, and whirl on an axis only imaginary, that is, no axis at all? Further, what causes the big globe to lurch over at an angle of $23\frac{1}{2}$ degrees on no plain at all, and preserve the parallelism of its imaginary axis with more than the nicety of a clock wheel, or by what power does it revolve and pitch itself over the sun with more than the speed of a thunderbolt? If we are told that gravity explains some of these mysteries, we ask what is gravity and its cause, but receive no reply. We are only treated to old Pagan fables set forth in big words, and spiced with lying diagrams and mathematical jargon. Now, I challenge any professor or scientist to prove that the geography and astronomy of the Bible was ever known to the ancient heathens; but I am not aware that God has revealed, through His prophets, the causes of eclipses and lunar "phases," which I hold, therefore, to be inexplicable. Have not self-styled philosophers, esteeming themselves gods in omniscience, vainly sought to explain how they saw, heard, perceived, &c., instead of being content with the wise use of their senses and faculties? In like manner speculation is rife as to the causes of "celestial phenomena," whilst the use of the sun and moon as the clocks of the universe is entirely over-looked, with the results that scientists cannot agree as to the date of creation—chronology and the calendar are in helpless confusion. Yet, by star-transits, eclipse cycles, lunar and solar years, lunar seven days' phases, all past time may be reduced to a most wonderful order, in accordance with the date of creation as given by Moses, and other scientific data supplied by the sacred Scriptures generally.—I am, etc.,

SIR,—Isn't it as hard to open the eyes of a bigotted Copernican as to convince a Bedlamite that he is not butter? In vain we show the lunatic that his body has none of the qualities of that dairy produce, for he stubbornly persists in denying his senses. Also we show the globist that the earth has none of the qualities of a globe, and that not one of his senses witnesses the horrible motions supposed by astronomers; yet he persists in believing the old pagan delusions, in opposition to all his senses, to all facts, reason, and God's own revelation. He believes himself glued by gravity to his big globe, flying with it among the stars of Heaven, far faster than a rifle bullet, and tumbling head over heels once every 24 hours. He gapes in wonder at Herschel's lying pictures, mathematical gibberish, and long-winded outlandish words—all of them to him infallible unanswerable proofs. Nay, he even thinks some tons of atmosphere are pressing on his shoulders lest he jumps too high, that his great-great-great-grandpapa was an ape or some such beast, and that all creation began to evolve from involved eternal gas, somewhere, says Professor Thomson, between 20 millions and 400 million years ago! The mesmerised simpleton must be right, forsooth, for everybody around believes as he does, great men have taught the great delusions, and infinite self-created nature, with self-imposed omnipotent laws, is virtually his god, but with no commandments to keep nor judgment to come. Poor Mr Fieldsend, over flats and sharps, is as funny as a clown in a Christmas pantomime, so that children may laugh;

but were he sharp and not a flat at reasoning, he might see a logical connection between the general belief in Copernican fables and the latest saying of Carlyle, his theological teacher, that this is "a generation of conceited fools," aye, too, with engineering inventions to fill the world with accidents, and warlike engines to destroy mankind.—Yours, etc.,

To Editor of "Dundee Weekly News."

SIR,—Mr Gillespie, whose book I have long ago read, supposes with Thales, Ptolemy, and other pagans of remote ages all the oceans and continents rolled into something like a monster turnip or apple, and whirling mysteriously round itself upon nowhere 1000 miles an hour, though he denies the thunderbolt dash of 19 miles a twinkling round the sun. But even if to the Pacific and Atlantic along with the unfathomable Arctic and Antarctic Oceans we add all the islands and continents, how can they unitedly have the quality of solidity, without which there can be no globe? unless the astronomers want us to imagine all the oceans frozen into a huge iceberg and somehow soldered to the land. Yet, again, how can we all endure the awful daily somersaults caused by what is quietly called axial motion, to be pitched as often heels uppermost as heads thousands of miles down into a fearful gulf, and after being hurried under, to be tossed aloft to a giddy height of thousands of miles, being all the while bound as to a vast wheel like the fabulous Ixion? Then as for gravity, that ties us on, and moves the sea-earth wheel, 8000 miles high: what is it? Hobgoblin or fiend, that Newtonians suppose everywhere, yet is found nowhere, unless in astronomers' brains, though guessed by Mr Gillespie to be lurking far down in the earth's centre or infernal regions, and hindering our escape into the Copernican boundless space where world's fly more plentiful than cannon balls in battlefields? Moreover, as drums, poles, pennies, cups, &c., are round without being globes, let Mr Gillespie show (though not yet done anywhere) that everywhere on surface of land and sea, there is, according to mechanics, a fall of eight inches per mile, the increase being as the square of the distance. Hence, our island being about 700 miles long, John o'Groats should be at least 60 miles higher or lower than Land's End in Cornwall. Also, the Atlantic cable was laid over 1656 miles without any allowance for rotundity, and yet there should be at the centre, according to globularity, a hill of water 150 miles high.—Yours, &c.,

ECLIPSES.

To Editor of "Birmingham Mercury."

SIR,—A "Curious" correspondent thinks globularity proved by lunar eclipses; the difficulty, however, being to prove the darkness on the moon to be a shadow, and that shadow a terrestrial one; unless, as usual, after proving globularity by the shadow, he prove the shadow by globularity, just as the sun's great distance is generally proved by its size, and its great size by its distance. A hat, a saucer, a-cheese, &c., have round shadows, and to prove roundness is not to prove globularity. The tendency of everything not to the centre of a globe, but to fall off, except at the top, &c., is conveniently unnoticed by Newtonians. More than 2,000 years ago the Chaldeans presented to Alexander the Great at Babylon, tables of eclipses for 1,993 years; and the ancient Greeks made use of the cycle of 18 years, 11 days, the interval between two consecutive eclipses of the same dimensions. The last total eclipse of the sun

occurred on Jan. 22, 1879, and the preceding one on Jan. 11, 1861. Now, have not mere theorising about the sun and moon—the great unerring clocks of time—thrown chronology and the calendar into confusion, and hence scientists cannot agree as to the world's age; and the year absurdly begins on Jan. 1 instead of at the vernal equinox, the months consisting of 31 or 30 days, one of 28? However, it can be shown that with eclipse and star transit cycles, the greatest accuracy as to dates may be attained.

Going back, for example, from Jan. 11, 1861, through a period of thirty-six eclipses, or 651 years, we find that a total eclipse occurred also on Jan. 11, 1210; and, continuing backwards, by such cycles we arrive precisely at the date of creation as given by Moses in Genesis. Also, as related by Josephus, the moon was eclipsed in the fifth month of 3998 A.M., when Herod the Great died, and Christ being then two years old, His birth occurred 3996.

GRAVITY.

SIR,—Your Newtonian correspondents have only one string to their tuneless fiddle, curvature, so that they may prove the "earth" a big drum, a barber's pole, a Cheddar cheese, or the fixed globe of Ptolemy; but they carefully shirk the dynamics of gravity borrowed by Newton from the ancient pagan Aristotle. Well, how could the old serpent deceive Sir Isaac with the fruit of an apple tree? Our philosopher did not believe anything up or down, light or heavy; though sitting once in his garden, he saw the apple hanging up, whilst he sat down below. Then, he saw the apple fall or go down, and if stooping down he lifted it up, he would have seen it was too heavy for the branch to hold. Still, might it not have fallen either up or down, since his science supposed it neither light nor heavy? Yet, down it must fall after all, obedient to the power far down in the earth's centre. Again, if there is nothing up or down, why should there be north and south, right and left, or any direction whatever; then why any space, especially infinite, where unnumbered worlds of apple shape may fly? And since apples are so obedient to gravity, why do feathers, smoke, steam, balloons mount on high in defiance of gravity's almighty downward pull? Further, if the apple was neither heavy nor light, how could it be hard or soft, large or small, round or coloured, or, in fact, an apple at all? Now, take away Newton's apple, and where can scientists hang up their wonderful tales of astronomy, geology, and evolution? Accordingly, Sir Isaac announced that "every particle in the universe attracts every other with a force whose magnitude is proportional to their masses divided by the square of their distance from each other."

SIR,—"C. H." supposes a lunar eclipse proves moonshine sunshine, just as a solar eclipse might prove sunshine moonshine. Does "C. H.," with his eyes open, see himself by his unsolid globe whirled heels over head, whilst securely hooked on by friendly gravity? Surely the mystical ether theory needs cobbling, as Lord Salisbury lately hinted. Newton affirms of the undiscoverable gravity, denied 2,000 years ago by Lucretius, that "every particle in the universe attracts every other." From this it follows that the smallest crumb between "C. H.'s" wireless teeth pulls every drop of oceans, streams, &c., all the particles making up continents and islands, as well as the numberless globes of "boundless space." Whence the wee crumb has got the infinite power, or by what *modus*

operandi it pulls the whole universe, are surely difficulties not less inexplicable than the mysteries meant to be explained. A "Lover of Nature" believes with Hutton, though contrary to Lord Kelvin, that there is as much hot lava under our feet as could make all the seas boil; and that as Copernicus, with many others, thought, not the moon, but the daily whirling of the globe, causes tides, though why the whirling does not empty all the ocean beds is another mystery of scientific Babylon.

SIR,—“C. H.,” believing Newton’s assumption that “every particle in the universe attracts every other,” grants consistently enough that the crumb between his teeth pulls the whole universe or all the unnumbered globes of “countless space;”—the crumb, however, being accordingly omnipotent and a god! Then, if the crumb really draws, we ought to see all creation move towards it; and as “C. H.” confesses he sees the pulling, shouldn’t he also see the motion towards the crumb? Further, according to gravity the whole of creation in turn combines to pull the crumb—and yet contemptibly small as the plucky little bit is—in spite of the awful tugging it sticks as lovingly as ever to “C. H.’s” teeth. Moreover, a living flea no bigger than the dead crumb ought *à fortiori* also to move the whole universe; consequently the drawing of a 100-ton gun should be a very easy job for the clever little insect. And wouldn’t the wee crumb require, moreover, to be infinitely large so that, in order to pull, every one of the particles infinite in number may get a hold of it? But how does the crumb pull all in turn? When a man, a horse, or an engine draws, it must be by hands, ropes, claws, with some sort of couplings; therefore, how could the crumb pull all creation except with an infinite number of hands, ropes, &c.—all, of course, being invisible, that is, as imaginary as the hauling itself. “C. H.” would have us believe in the omnipotent crumb without any proof whatever, though he refers to gravitation as a “common element (!) among many observed facts,” not one, however, of the “many observed facts” being named. The Latin name “gravity” or “gravitation” has its Saxon equivalent—weight or heaviness, which certainly our senses witness as a fact; but that there is a power miscalled gravity down in the infernal regions drawing us and all on the surface to itself is evidently an absurdity as destitute of proof as the belief of Aristotle, father of gravity, that a painted stick was a god.

THE GLOBE’S MOTIONS.

SIR,—Surely “Copernicus” knows as much of mensuration as to be aware that a globe is entirely solid, and though the earth or land is solid, yet the oceans are fluid, with three times more surface than the land, the Arctic and the Antarctic being unfathomable; so that the broad solid continents, with unfathomable oceans still broader, uniting as one vast solid called a globe, must be opposed to common-sense. Also, when a lunar eclipse is supposed to be caused by the earth’s shadow, how much more by the shadow of the oceans—the proof being of the circulus in probando kind. Then, if the circumnavigation of the earth proves globularity, Ireland, and all other islands ought, as well as the continents, to be globes, requiring axes, poles, planes, orbits, with the rest of the astronomical gear. In vain have I sought a discussion of the dynamics distinguishing the Copernican globists from the Ptolemaic, because the former, fearing an exposure of the gross absurdities involved, cobble away at curvature—an *ignoratio denchi* argument.

Who, since the idolater Aristotle, the father, has ever proved gravity; or what Newtonian, tangential force, so that the rolling globe may flash along an orbit elliptical?—elliptical forsooth, not because the parallelogram of forces has been proved, or any other reason exists why the resultant velocity should not be in a straight line; but because the Pythagorean sun-worship requires the globe’s course to be circular, yet, after all, not quite circular, but elliptical to a trifle of six million miles. Of course, all the terrible nodding, tossing, whirling, flashing of the big ball (because imaginary), the Darwinian progeny of apes may easily endure, but could they believe if they were men? Yet dare they dispute the fables taught by scientific gods with titles so lofty, gowns so learned, and words of such thundering sound?

CONFESSION OF COPERNICUS.

SIR,—Can “Novelist” show that it is not disgraceful for so many reputed educated and Christian people to believe, contrary to sense, reason, and God’s revelation of nature, the globe fable devised by ancient Egyptian priests and Chaldean astrologers; denied in modern times by the theologians, Luther, John Wesley, Bacon the philosopher, Goethe the German poet, &c., nay, confessed by Herschel and Professor Wodehouse as incapable of demonstration? What said Copernicus himself, according to Humboldt? “*Neque enim necesse est eas hypotheses esse veras, imo ne verisimiles, quidem sed sufficit hoc unum, si calculum observationibus congruentem exhibeant* ;” or, “For neither is it necessary that these hypothesis (globular) be true, nay, not even probable; but this one thing suffices, that they show the calculations to agree with the observations.” Moreover, none of your correspondents have yet given one proof of globularity. Since “Novelist” is so much at home in starology, let him prove terrestrial motion (earthquakes excepted), hitherto a mere *petitio principii* with astronomers; also Newton’s dynamical laws and Kepler’s planetary laws; the nebular hypothesis of La Place; the alleged distances and magnitudes of the sun, moon, and stars by trigonometry; the velocity, refraction, and aberration of light; the atmospheric pressure of 2,160 lb. per square foot; that the stars are inhabited, or that there is a man in the moon; the reality of ether and infinite space; that the stars called “fixed” are not stars, but suns, and that the planetary stars are not stars, but globes, with axes, planes, poles, &c.; that moonshine and starlight are sunshine; that the moon causes tides and solar eclipses, whilst the earth causes lunar eclipses, and the sun lunar phases; that the sky is no sky at all, yet a celestial globe; that flesh and blood can bear to hang head downwards twelve hours daily, and tied to a big ball, to be flashed along the sky quicker than a red thunderbolt, &c. I engage to discuss with “Novelist” all these various points in turn.

ATMOSPHERIC PRESSURE.

SIR,—“Novelist” grants that the earth is not proved a globe by circumnavigation, any more than Ireland itself, though it again being surrounded by water, cannot be part of a solid called a globe. Then, if we start, as he suggests, from Cork in a direct northern course, we come at length to the impenetrable central region of desolation haunted by the north pole, where we must make a detour of 180 degrees to regain our straight line; and, continuing, we go south through the Pacific until

stopped, as were Ross and other navigators, by the antarctic walls of ice. Again we must make a detour, but east, passing Cape Horn into the Atlantic, thence on to Ireland once more.

"Novelist" thinks that the ability of Newtonians to calculate eclipses, transits, &c., is a proof of the solar system; not knowing that the practical astronomy, as a science of observation, is independent of all theories, whether of Aristotle, Ptolemy, Tycho Brahe, or Copernicus. Does "Novelist" not know that the interval between two consecutive eclipses of the same dimensions is 18 years, 11 days, 7 hours, 42 minutes, 44 seconds; so that a schoolboy, knowing the eclipse of March 10, 1876, could easily calculate its return in 1894, March 21, at 2 hours, 3 minutes, 46 seconds p.m.? Hence the great utility of eclipse, transit, and other astronomical cycles in chronology. Has "Novelist" never read that 4,000 years ago the mean notions of sun, moon, and stars were known to a second, just as at present; that Alexander the Great was shown Chaldean tables of eclipses for 1,900 years; and that the ancient Hindoos knew trigonometry and sexagesimal arithmetic?

In turn, I ask "C.H." how does the air-pump prove an atmospheric pressure of 2,160 lb. per square foot, according to my original terms? If he can prove that men hang by the heels from that twinkler Mars, I shall grant him the man in the moon for his cleverness. Further, since "C.H." asks me to prove that the sun does not somewhere dip, surely he believes it does dip or drop itself down into something—salt water, perhaps, as a refresher after the day's race; but how could Newton's ghost permit the bath?

SIR,—Is not atmospheric pressure another name for weight of air—after all, the old gravity pulling to the centre? The air being supposed to be forty or fifty miles high, an ordinary-sized man carries continually on his head and shoulders fourteen tons of oxygen and nitrogen, though how he can is a nut yet to crack; and why, when inside a house, and, therefore, under an aerial pillar only a few feet high and about one pound weight, can't we jump with ease to the roof? Strange, too, the pressure is down, though Newtonians deny up and down; but if, as with water, the pressure is perpendicular to the surface, our sides ought to be sore as well as head and shoulders. A slate, 10 inches by 5, allowing 15 lbs. to the square inch, sustains 750 lbs. of air, and yet I can balance the slate on my finger's end. Moreover, scientists to account for trade winds say the air lags behind the globe as it spins on its axis, but is there no danger then of the atmosphere altogether slipping off the globe as it flashes round the sun, so as to leave us all choking with incurable asthma? Again, there being a pressure of twenty-seven million tons of air upon every square mile of sea and land, multiply the supposed circumference of 25,000 miles by the diameter of about 8,300, and we have a surface of about 207½ millions square miles to multiply by the twenty-seven millions—and what a terrible squeeze for the globe's poor sides!—a squeeze endured, too, during how many million years of evolution? Lastly, what pressure does "C.H." allow for undulating ether, which, filling infinite space, ought to give an infinite squeeze to the globe, reducing it to an invisible atom infinitely small?

SIR,—For experimenting purposes, "C.H." would have us swallow the cunning bolus that "heaviness is 1-289th part greater" at the poles than at the imaginary equator—poles and equators being essential to his ideal

earth. He prefers, of course, to calculate by metres—because the metre, as elementary arithmetics say, is supposed to be a ten-millionth part of the distance between the pole and the equator, being calculated on a circle of longitude." Now, is not heaviness, according to common sense, due chiefly to bulk and density; and has "C.H." not seen feathers and smoke mount on high in spite of resisting boundless ether, millions of tons of air above, and gravity's omnipotent pull below?

LIGHT.

SIR,—Will "C.H." explain how all the oceans, mountains, and flat plains can unite two or three times a year to cast their shadows up to the sky, making after all such a small shadow on the moon? Surely "A Lover of Nature" ought to believe we may have daylight without sunshine, that is, the sun does not cause day; though if we stand on a globe of fire with a very thin crust, our feet ought to be uncomfortably hot, and all the seas to disappear in a cloud of steam. However, if light is a fluid, or consists of material particles, with a velocity of 192,000 miles per second, every ray, as Franklin confessed, ought to crash down upon us more terribly than a 24-pounder from a gun. Then, the rays being without number, what awful showers of cannon-balls to wreck the earth! And yet light does not move the smallest speck of dust. What a tug-of-war there must be between ether and gravity? An ancient sophist used to argue—"Whatever body is in motion must move either in the place where it is or where it is not; but neither of these is possible, therefore there is no such thing as motion." Some logicians have answered, *Solvitur ambulando*.

MYSTERY.

SIR,—If we grant "C.H." his sea-earth globe, because, as he says, it is scientific, then—since a globe or ball is made to roll, we may also grant axial motion; and with the rolling ball, the sun's distance by parallax is calculated as immense. Hence that light must be a million times larger than the earth. Again the sun being vastly larger, is surely more likely to be a centre of revolution for the earth than the earth for it; and so it is easy by arithmetic to calculate our orbit, and consequent rate of motion with the globe lurching 23½ degrees to account for the seasons. Next, we may grant the moon's distance to be 60 times the earth's radius, and a lunar diameter one-quarter that of ours; and surely, when sun, moon, and stars, as they go merrily round, happen to be in a straight line, there ought to be lunar or solar eclipses! However, when the globe is shown to be nothing but an old pagan myth, the gigantic astronomical bubble bursts.

Life still defies our imitation and scrutiny, its origin being yet unaccounted for by Darwin's "Natural Selection;" whilst the mathematicians, led by Lord Kelvin, grant only 100 million years for the period of organic life to the evolutionists, whose theory needs almost an eternity. But beyond our little oasis of knowledge, bounded by common sense and Divine revelation—what but clouds and darkness? On sun, moon, stars, clouds, and winds, on every drop of stream and ocean, on every blade of grass, on every leaf and tiny insect thereon, on every bone, muscle, member of fowl, beast and man, has not the all-wise Creator written the humiliating word—MYSTERY? And do not our hearts in consciousness beat responsively a life-long Amen?

SHIP ON THE HORIZON.

SIR,—Allusion has been made to the disappearance of a ship below the horizon, whereas that phenomenon exposes their fable. Standing on the shore, we see the sky appearing to slope down to meet the ground plane, which seems to slope up, the union making an angle in which the ship vanishes; whilst the horizon is on a level with the spectator's eye. Could the earth and sea possibly make a globe, we should look down at the horizon; hence a vessel in approaching would come up and in receding go down; but the very reverse is apparent. Whilst the masts, standing up against the clear sky are visible, the hull in the distance is readily confounded with its watery base, though made distinct with a good telescope. Also if, after the ship has disappeared, we mount an adjacent hill, the hull with its masts is again visible, always seeming to go up, but never actually to tumble over the marine hill imagined by prejudice. If, again on the shore we look in quite the opposite direction, the surface we stand on seems to slope upwards, indeed doing so in every direction we may look, just such a perspective as a level surface presents. Then if, fixed in the same spot, the spectator looks all around, he finds himself the centre of a circular plane, the boundary of which is entirely due to his eyes. Next, if in a balloon we mount a few thousand feet into the air, the horizon, according to Glaisher, the aeronaut, is still on a level with the eye, whilst the earth beneath appears not convex, but concave.

COMMON SENSE.

SIR,—Newtonians from a blundering perspective infer curvature, and from that, again, globularity, just as bottles, hats, &c., having curvature may be globes. Then, objects seen to move are said to be fixed, and *vice-versa*, objects apparently small to be incredibly large, and the vast oceans with continents to shrink into the bulk of a little star, with the sky as a nonentity. Now, last century the metaphysician Berkeley, with much smart sophistry, gained dupes for his idealism, similarly Hume for nihilism. Herschel would have us believe the opposite of what our senses declare, saying that "in the disorder of our senses we transfer in idea the motion of the earth to the sun, and the stillness of the sun to the earth." But had Berkeley and Hume met the astronomer, they would with subtle reasoning have persuaded him that the earth, ocean, sun, moon, stars are only apparently outside realities, yet, after all, but ideas inside his head, and his head also a mere idea inside a brain nowhere; that there is globularity as well as motion, but no globes to be round or roll; stillness and brightness, but no sun to be still or to shine; distance, but no stars far away; vastness, but no worlds to be vast; seeing, but no eyes to see; sensations, but no senses to deceive, as astronomers say. Hume by himself, would have added, "You imagine, Sir John, that there is everything and everywhere, but I can prove that there is nothing and nowhere." Yet Hume and Berkeley would not have walked into fire and water believing these only ideas, any more than Herschel would have hung himself by the heels at a butcher's door to prove the whirling of his big globe.—A. McINNES.

"Earth not a Globe Review." London: 32 Bankside, S.E.

"Debate on Moses and Geology." Id. W. Love, 221 Argyle St., Glasgow.

Debate in the Birmingham Weekly Mercury

THE BIBLE AND SCIENCE.

THE following letter, an invitation to discuss being addressed to the Agnostics of London, appeared in April last in the "Birmingham Weekly Mercury":—

SIR,—A discussion recently arose between Lord Kelvin and Professor Perry over the earth's age, the former Professor, assuming that the earth is a homogeneous body cooling at a fixed and uniform rate, and, therefore, somewhere between 20 million and 400 million years old. The latter regarded these numbers as insignificant, assuming the earth's centre to be in a highly molten state. His lordship spoke as confidently of the world's primeval state as if he had witnessed the creation; whilst Professor Perry seemed as familiar with the infernal regions as if he had been down there making a personal inspection! What a wide gulf of 380 million years Lord Kelvin makes light of!—a period of time to count which at the rate of 60 per minute, twelve hours daily, would consume 24 years of a man's life. Finally, to honour Professor Perry, the Glasgow scientist is willing to widen the gulf enormously from 20 million even to 4,000 million years, thus confessing a possible blunder of 3,600 millions. What of Moses' chronology making the earth's duration about 6,000 years, as defended by the London Chronological Society with tables of eclipse and transit cycles?

In Dr Dick's "Natural History" we have a specimen of the geological method of calculating. He supposes (no proof whatever) that God did not make the bed of the Niagara, but that the river cut for itself a passage of six miles below the Falls. Supposing it cuts at present about one foot yearly, then it must have been so working for 31,000 years; or, if it cuts, as others think, only one inch yearly, the period is 300,000 years. Then, the rocks of the quartary, or present period, being 500 feet thick, and those of the previous, or tertiary, period being six times thicker, we have six times 31,000, or 300,000 years, to add for the earth's age! Next, the thickness of the secondary rocks being 15,000 feet, we have thirty times the duration of the quartary period. The primary rocks, also, are three times, and the primordial rocks five times, thicker than the secondary. The duration is thus somewhere between eight-and-a-half and eighty-three million years! Now, further, we must take into account the incalculable period of the igneous rocks, or chaotic state.

Now, according to Genesis i., God made heaven and earth, with all therein, in six days, all the rocks on the third day, and in strata, according to Job xxxviii. 5. Finally, we believe Moses's writings because we believe Christ, who said, "If ye believe not his (Moses') writings, how can ye believe My words?"

ALEX. McINNES.

Now, the publication of all my opponent's replies would be inconsistent with the limits of a cheap pamphlet. Besides, they only con-

tain the usual cunning sophisms along with ample quotations from that shallow-pated apostate Colenso, and Huxley, the recognised pope of the many wrangling infidel sects to which he applied the fitting name Agnostic (of Greek derivation) signifying Ignoramus. Here, however, is the first of the series, of course full of impudent bounce and profane sneers.

SIR,—Theologians, generally, have become very anxious to make their peace with science, and to convince us that the palpable contradictions between its teachings and those of the Bible are not real, but only apparent. It is quite refreshing, therefore, to come across an honest, old-fashioned believer like Mr McInnes. He sets the scientists at defiance, and, taking his stand upon the Hebrew cosmogony, asserts his conviction that "God made heaven and earth, with all therein, in six days; all the rocks on the third day, and in strata, according to Job xxxviii. 5." He concludes his argument by saying, "Finally, we believe Moses's writings because we believe Christ, who said, 'If ye believe not in his (Moses's) writings how can ye believe My words?'" Now, I do not propose to enter into any lengthened discussion with Mr McInnes; I simply ask to be enlightened on one or two points that are not quite clear to me. If God made all the stratified rocks on the third day, how came He (since animal life did not make its appearance until the fifth day) to put in them, in the shape of bones and skeletons of countless animals, what He knew would come to be regarded as demonstrable proofs that the earth existed millions of years before it really did? Fancy the Almighty playing a trick like that upon earnest inquirers after truth! How does Mr McInnes propose to prove that the account of creation contained in Gen. I. which he speaks of so confidently as Moses's, was written by Moses? Does he know nothing of the "higher criticism?" How does Mr McInnes know that the Book of Job, to which he appeals, is the Word of God? Who was the author? When was it written? Canon Driver and Dr Dale have said that it is a dramatic poem. That being so, how can it be used as a scientific textbook? Again, two Hebrew commentators, Aben Ezra and Spinoza, say that the Book of Job carries no internal evidence of being a Hebrew book, that it has been translated from another language into Hebrew, and that the author was a Gentile. I defy Mr McInnes to prove that Christ used the words which he attributes to Him, and which, in the dogmatic way of the orthodox apologist, he says Christ did say. How can we possibly know with certainty what Jesus said and did, when, as Matthew Arnold says, "The record, when we first get it, has passed through at least half-a-century, or more, of oral tradition, and through more than one written account?"

AGNOSTIC.

But is the Bible responsible for the bungling attempts of theologians to reconcile it with some cunningly-devised fable, tricked out in big words and mathematical jargon for simpletons to swallow? Moreover, are not Dale and other enemies of Moses infallible oracles for Agnostics who strut as Biblical Critics, though more ignorant of the Greek New Testament than a schoolboy, and unable to tell a Hebrew yod from a vav?

I answered, first, as to

"THE HIGHER CRITICISM."

SIR,—In turn I challenge "Agnostic" to prove his old-fashioned fable of geology, which supposes fire and water the creating gods, and was taught more than 2,000 years ago by Thales and Pythagoras. As for the Gospels, let him prove that the early Christians held the modern theory of canonical Scriptures and a peculiar inspiration to write them; and surely as to authenticity he will grant the same fair play to the Gospels as to other ancient books? However, let it be noted that in Apostolic times historians wrote on wax tablets, a copy being then made on papyrus by an attendant, which the bibliopolist could afterwards multiply as ordered. Hence, who can find the autographs of ancient authors? The four oldest MSS. of the Gospels in Greek are those of Sinai, the Vatican, Paris, and the British Museum (4th and 5th centuries), and contain Christ's saying as to Moses' writings in John v. 46; that of Wolfenbüttel being fragmentary. In all there are forty-five codices, some entire, others fragmentary, extending down to the 10th century. Then we have 661 of the cursive sort, ranging from the 10th to 14th century. From any MSS. of the entire Gospels can "Agnostic" prove the disputed passage excluded?

Further, as to versions in languages other than Greek, there are the Old Latin, or *Vetus Italia*, of 2nd century; the Coptic, *Peshito* Syriac, and *Thebaic* (fragmentary), of 2nd or 3rd century; the *Vulgate*, *Ethiopic*, *Armenian*, *Jerusalem Syriac*, and *Bashmuri* (fragmentary), of 4th century; the *Georgian*, *Slavonian*, *Frankish*, *Arabian*, *Anglo-Saxon*, &c., of 5th and 6th century. Again, the epistles of *Barnabas* (companion of Paul), *Clement of Rome* (97 A.D.), *Ignatius* (80 A.D.), and *Polycarp*, disciple of the apostle John, contain facts and sayings found in the Gospels. Of 2nd century, *Quadratus*, *Justin*, *Apollinarius*, *Athenagoras*, *Melito* in apologies, refer to Gospel facts; *Papias* to Matthew and Mark; *Theophilus* and *Tatian*, having written harmonies of the four Gospels. *Irenæus* (177 A.D.) mentions the partiality of particular sects for a special Gospel. Moreover, we have the testimonies of opponents, *Pliny*, *Lucian*, *Tacitus*, and *Celsus*, of the 2nd century. We have, too, the internal evidence of the Gospels, the heavenly teaching and Christ's perfect character, of which the world had previously no conception.

Thus the denial of Moses is also that of Jesus, whose Christhood can be proved by incontrovertible evidence. Next, as regards the "higher criticism," I ask "Agnostic" if he has read near the end of *Deuteronomy* how Moses declares himself the author of the book of the Law, requiring the Levites to lay it up in the Ark? Has he heard of the ancient Samaritan *Pentateuch*, of the Alexandrine and other Greek versions: of the *Talmud*, the *Gemara* *Targum* saying that Moses wrote the *Pentateuch* and *Job*? In Arabia, where *Job* dwelt, did not Moses tend cattle forty years? No traces of a later era are to be found in the book, but an identity of style is evident between the poetry of *Uz* and that of *Moses*. Has "Agnostic" heard of the testimonies of the Hebrew prophets, of the *Apocrypha*, *Josephus*, *New Testament* writers, and *Christian Fathers*, as to the genuineness of the *Pentateuch*? Has he heard of the labours of the early Rabbins; and of *Christian* scholars, from *Origen* and *Aquila* down to *Michaelis*, *Kennicott*, *Havernick*, &c.,

over the text of the Law? Can he distinguish the peculiar Hebraisms of the three periods, of the Law, David, and Ezra? Long ago, in opposition to German Neology, now smuggled into our midst as "higher criticism," Havernick, of Konigsberg University, pointed out the characteristics of the Pentateuch, its lofty poetry and concise prose, the peculiarities of its grammatical forms, noun forms, verbal suffixes, pronouns, expressions, and phrases, not found generally in later writers. He pointed also to the absence of Greek, Chaldee, and Persian words, which occur in the age of Ezra, as due to the intercourse of Jews with the nations speaking those languages. Strange that Moses was credited with his own Torah all along until modern times, when Spinoza and Hobbes denied Moses that they might deny Christ.

SIR,—In reply to "Agnostic," permit me to touch briefly on some internal evidences of the Pentateuch's authenticity. If the events narrated there did really occur, surely, then, we have the *a priori* argument of tradition, oral and written. The Creation and Fall as related in Genesis is somewhat confirmed by the Greek and Roman traditions given in Ovid's *Metamorphoses*. The Hindoos and Chinese still believe that all nature is contaminated and the soil under a curse; the Ceylonese, that from Adam's Peak the first man took a farewell view of Paradise; and the Christian Fathers, that he was buried at Calvary, in the very spot where the Saviour was long after crucified. The fact of the universal deluge is yet to be dealt with. Josephus quotes from the Egyptian Manetho and Hieronymus, Nicolaus of Damascus, Berosius the Chaldean, &c., to show that the ancients lived about a thousand years. As regards the Tower of Babel, the ancient Sybil says:—"When all men were of one language, some of them built a high tower, as if thereby they would ascend to heaven; but the gods sent storms and wind to overthrow the tower, and gave every one his peculiar tongue, and for this reason the city was called Babylon." The old historians, Berosius, Nicolaus, and Hecataeus, supply facts regarding Abraham remarkably confirmatory of the Pentateuch; and to this day the Patriarch is honourably mentioned all over the East. Again, Strabo reckons thirteen cities, Sodom the chief, as once standing on the spot now occupied by the Dead Sea. Justin Martyr quotes ancient Egyptian traditions regarding the wise government of Joseph. Manetho, who quoted from the records of Egyptian priests, and is confirmed by the translation of hieroglyphic inscriptions on existing Egyptian monuments, likewise Diodorus, Siculus, give accounts of the exodus of Israel from Egypt under Moses, Diodorus also referring to the drying up of the Red Sea. Quotations might here be made from Herodotus, Eratosthenes, Strabo, and other early writers in corroboration of the Pentateuch.

SIR,—Can "Agnostic's" vigorous crowing cover his utter inability to grapple with my historical evidence for the genuineness of the Pentateuch? To bring him to bay I now challenge him: (1) To give what he considers proof for the genuineness of any book of antiquity, such as that ascribed to Herodotus, Xenophon, or Cæsar; and I undertake to produce better evidence for the Torah; (2) To point out in the Hebrew of the Torah any words, phrases, grammatical forms, anachronisms,

&c., betraying a post-Mosaic date; (3) To prove that any other than Moses wrote the great national book of the Israelites, regulating so long the civil and religious institutions of the Israelites, and still read in synagogues; (4) To show that before this age of neologists and agnostics there ever was any serious doubt of the Torah's genuineness; when infidels are forced by their very position to attack the sacred records; the friends of Moses having formed an unbroken line, from the ancient rabbins, through the New Testament writers, the Christian Fathers, onwards to the famous Hebraists, Havernick, Hengstenberg, Kennicott, Stuart, &c.; (5) To name beyond a very few learned works denying Moses's authorship, and written by Christians; (6) To show why the Jewish targums, the Samaritan Pentateuch, the Alexandrine Version, Origen's Hexapla, the Apocrypha, Josephus, Herodotus, Diodorus, Strabo, &c., as already cited by me, are of no account, as well as those ancient traditions so convincing to Humboldt, who believed the great fact of the Deluge despite geological prejudice.

Next as to

MOSES AND GEOLOGISTS.

SIR,—“Agnostic” wonders how I can account for broken strata and fossils, out of which geologists make up so much capital. I answer by the universal Deluge, respecting which the learned Humboldt says:—"The ancient traditions of the human race, which we find dispersed over the surface of the globe (earth) like the fragments of a vast shipwreck, present among all nations a resemblance that fills us with astonishment. There are many languages belonging to branches which appear to have no connection with each other, and those all transmit to us the same fact. The substance of the traditions respecting the destroyed races and the renovation of nature is about everywhere the same, although each nation gives it a local colouring." Moses, supplying the very date, represents the water as falling from the sky and rushing in from the ocean, so as to destroy mankind and the earth (or strata), the flood covering the highest mountains, and continuing a whole year, surely sufficient to petrify the dead animals and plants imbedded among the rent and piled-up masses. Besides the references in the New Testament, Josephus describes the flood, quoting from Berosius the Chaldean, Hieronymus the Egyptian, and Nicolaus of Damascus. Further, Plutarch, Plato, Diodorus Siculus, show that the ancient Egyptians believed the Deluge to have been universal; and the Flood of Deucalion, as believed by the ancient Greeks and Romans, is narrated in Ovid's "Metamorphoses," in striking harmony with the Mosaic narrative. Accounts are quoted by Sir W. Jones, from Hindoo poets, as well as from Confucius and other ancient Chinese writers. Nor are traditions of a universal flood wanting among African tribes and the Celtic Druids. Humboldt found legends among the ancient Mexicans and other American aborigines; Ellis and Sir A. Mackenzie, too, among the Polynesians. Finally, does not the denial of the Flood involve the denial of all history, so that we may be as ignorant of the past as Darwin's monkeys?

SIR,—The following is the humiliating confession of Skertchley ("Geology," p. 101):—"So imperfect is the record of the earth's history

as told in the rocks, that we can never hope to fill up completely all the gaps in the chain of life. The testimony of the rocks has been well compared to a history of which only a few imperfect volumes remain to us, the missing portions of which we can only fill up by conjecture. What botanist but would despair of restoring the vegetation of wood and field from the dry leaves that autumn scatters? Yet from less than this the geologist has to form all his ideas of past floras. Can we wonder then at the imperfection of the geological world?" Accordingly it is before a geological tribunal forced to confess its extreme imperfection and consequent incapacity to judge that agnostics would drag the Saviour Himself for immediate condemnation because of his endorsement of Moses. In opposition to the Huttonians, who suppose the earth a ball of fire with a thin rocky crust, Lord Kelvin believes the earth-ball as rigid as steel, with only as much internal fire as may cause volcanic eruptions, &c., allowing for its age only a few trifling hundred million years, though evolutionists require almost an eternity for their theory. Hutton fancied that from the ruins of old worlds new ones are being made. But Kelly, vice-president of the Royal Geological Society of Ireland, holds that this the only earth was made during six successive periods corresponding to the six days of creation recorded by Moses, and to six different systems of rocks; also that particles of mud and sand decomposed from rocks and carried down by rivers to be deposited in sea bottoms could only become rocks of a heterogeneous mixture, but never such as the primary with sub-divisions having each its own marked peculiarities. "Neither the brown gneiss, nor the primary red sandstone, nor the yellow quartz rock, nor the gray mica slate, nor the blue limestone. Not one band out of all these could be formed out of the river sediment coming down from the pre-existing continents, because not one of them has mixed particles. The quartz rock has no lime, the limestone is purely crystalline, &c." (Errors of Geologists p. 15.) He wonders how a continent composed of a variety of rocks could send down at one time particles only fit to make 2,000 feet of the gneiss in the West Highlands of Scotland, then yield only particles fit to make primary red sandstone, 3,500 feet thick, as in Ross-shire; next the yellow quartz beautifully homogeneous and *stratified in thin*, smooth, hard flags, &c. Kelly further denies the existence of a wondrous order of fossils among rocks, and that fossils are a guide to strata, narrating various personal examinations of fossils which he found common, for example, to two different systems, Carboniferous and Devonian. Moreover in classifying rocks, Kelly divides the systems into six—primary, Cambrian, transition (*including* Silurian and Devonian), carboniferous, secondary, tertiary. Dr. Page gives five—primary, transition, secondary, tertiary, recent; next Dr. Dick—primordial, primary, secondary, tertiary, quartary; then Wylde names—palæozoic, secondary, tertiary, &c. How many more squabbles will Agnostics tell? As regards the accommodation of Noah's ark, zoologists allow that there are in all nearly 1,700 species of mammals, 1,242 lizards, 10,000 birds, 980 reptiles, and 100,000 insects. Then the ark was 300 cubits long, 50 cubits broad, and 30 cubits high. The length of the cubit has varied from 1½ ft. to 1¾ ft., and therefore the cubical extent was from 675,000 to 787,500 cubic feet. The ark had a window (which was 1 cubic square) rather as an outlook, and the three stories must have consisted of one deck and two galleries above. Multiplying 300 by 50, length by breadth, we

find the area of the deck to be about 4,500 square cubits, or from 33,000 square feet to 45,540. Then allowing 20 square feet for an ox, as do the New York steamers, there was room on the deck alone for 1,650 oxen or 2,272. But the average size of a mammal is allowed to be less than one-fourth of an ox, therefore there was accommodation for, instead of the 3,400 mammals, actually from 6,600 to 9,088, so that ample space was left for stores of food, "Agnostic" asks why "human remains have never been found in the primary and secondary rocks, which abound in those of lower forms of life?" I deny the classification, but at Predmost, in Moravia, a few years ago, Hert Mascha found in a cave alongside mammoth bones the entire skeletons of six human beings, a discovery which, says the *Standard*, "contradicts the assertion of those specialists who deny that the mammoth was contemporary with man." Lastly, can "Agnostic" account for his creating gods, fire, and water; also life and organisation, natural laws, human speech, reason, morality, and his own freedom from the monkey's skin and tail?

SIR,—In reply to "Agnostic's" last letter I now invite him to prove—(1) that the granite and trap rocks are, as affirmed, of igneous origin, and that the metamorphic are of aqueous, and by heat and pressure are being changed, sandstone into quartz, clay into slate, &c.; (2) that the sedimentary systems (chalk, clay, &c., being manifestly not rocks, though called so) were ever formed by the alluvial deposits of rivers in sea bottoms; (3) that geological systems and groups, or even the natural strata, can represent different vast periods of past time, or that they can tell the earth's age; (4) that the classification into primary, secondary, and tertiary systems are not mere moonshine, or that the boundary lines drawn between them can be logically justified. I have already proved man and the mammoth to have been contemporaneous, contrary to geology, which assigns them to different periods. Of the tertiary Dr. Page says, "Even yet the limits of the system may be regarded as undetermined." (p. 355.) As regards the line between secondary and primary, what was formerly the new red sandstone group is now divided into the permian beds to be driven down among the primary, and the triassic to be pushed up among the secondary, all because of a new discovery of fossils. Where, too, are the transition rocks that used to lie between secondary and primary? Can we forget that the twelve sedimentary groups "are not everywhere found," as says Dr. Page, "all lying above each other; but on the contrary, only *one or two* of the groups may be developed, and that very scantily? "All that is meant by order of succession is that where two or three systems occur together they are never found out of order; that is, the chalk is never found under the oolite; or oolite beneath coal, or coal beneath the old red sandstone." Further, let it be proved (5) That all the pieces of coal, limestone, etc., called fossils (over which professors themselves squabble), because of a fancied likeness to leaves and branches, or bones, were, instead of being so formed originally by God, portions of plants or teeth and limbs of animals living millions of years ago; and too, despite such a confession of great imperfection in knowledge by Skertchly (Geology, T. Murby, London), we are accordingly to reject the Pentateuch and our Christianity, though both are so fully established! Forty years ago, Hugh Miller, in his "Testimony of

the Rocks," regarded Dr. P. Smith's reconciliation of Genesis and geology, attempted eighty years ago, as inconsistent with the scientific progress since then made; but now Hugh Miller's six periods for creation are in turn left behind by palæontological advance, and what a cobbling the rocks must have for the next forty years! According to the "Testimony of the Rocks," fossils prove the primary to have been pre-eminently the period of immense forests and gigantic plants; the secondary that of sea monsters, flying serpents, and mighty reptiles; and the tertiary, the period of huge quadrupeds, such as the lordly mammoth; so that the present ought to be a degenerate age. My figures for Noah's Ark were taken from Geikie's article on the Deluge, in Kitto's Dictionary; and let "Agnostic" prove by mathematics insufficiency of room for the necessary food. As for Noah's skill in gathering and feeding the animals, we know he was assisted by God, without whom how can "Agnostic" account for the fire and water, supposed to have created the earth?

THE TORAH OF MOSES.

SIR,—“Agnostic” now tells us he cares not a straw whether Moses wrote the Torah or not; though, after all, he does care, as he promises to do what Colenso vainly tried—to disprove Moses' authorship. “Agnostic,” overlooking the philological and historical tests considered as essential by critics, believes the works ascribed to Herodotus, Thucydides, and Tacitus, in so far as they relate what he judges probable, because those ancient writers tell who and what they are, with their purpose—as if Moses did not do as much, and with far more fulness. But why should “Agnostic,” smiling at the supernatural, scorn the many accounts of Egyptian gods in the Euterpe, since ancient Paganism is only the worship of nature, above which does he believe any possible existence? • Yet does not this very word “nature” signifying by its root “nascor” that which is produced, imply the higher and antecedent producer? and so the Mosaic record of creation necessarily recognizes the supernatural—the personal living God, without whom how can nature be accounted for? Can “Agnostic” find in the Clio any other claim to the authorship than the passage, “Herodotou Halikarnesseos histories apodesis,” or, “The publication of the history of Herodotus of Halicurnassus”? Also, is he aware that the critics doubt the 8th Book of Thucydides; and can he quote the passage in the “Annales” proving Tacitus the writer?

That the “fire and faggot” of sectarian zealots hindered an earlier outburst of infidelity is only the supposition of “Agnostic,” who ought to know that since Christ forbade the sword, enjoining the return of good for evil, persecuting sects are no more Christians than the French atheists who a century ago reddened the Seine and Rhone with human blood. I have already quoted Humboldt and Hugh Miller concerning the Deluge. The Caithness geologist adds, “Sir W. Jones, perhaps the most learned and accomplished man of his age, and the first who fairly opened up the great storehouse of eastern antiquities, describes the traditions of the Deluge as prevalent also in the great Chinese empire with its 300 million inhabitants.” Likewise Dr P. Smith, in his book on “Geological Science” (p. 74), “The historical traditions of all

nations, ancient and of recent discovery, furnish ample proof that this great event (the Deluge) is indelibly graven upon the memory of the human race.” Besides, is not Christ's own reference to the Deluge, Noah and the ark (Matt. xxiv. 36), found in the three oldest Greek MSS. of the New Testament? “Agnostic” wonders how Noah managed the ark with its inmates, as if the Deluge so well attested is less a fact because we do not know all the mechanical arts of antiquity. How can he explain the building of the pyramids, or the morning cry of Memnon's statue? Were those ancients only stupid Darwinian apes that built Babylon, surpassing in splendour Paris, or any other modern city, and executed those works of art we can imitate, but cannot equal? I do not expect “Agnostic” to do more than either touch or overlook entirely the following questions:—The ancient national records of the Jews being divided into (1) the Law or Torah, (2) the Hagiographer (Job, Psalms, &c.), (3) the prophets—all in Hebrew excepting some Chaldee passages in Daniel, Ezra, &c., where is the evidence that the first was divided originally into five books? At the end of the Torah is appended a brief notice of the lawgiver's death, as says the Gennara Targum, by Joshua. Now, are there not traces of the Torah in every other Jewish National book, Joshua and Judges naming the Book of Moses, the Psalms giving abstract of the Mosaic narratives; the “Kings” relating how Hilkiyah the high priest found a temple copy of the Torah, Nehemiah as an eye witness relating how Ezra read the Book to all the people, &c. Then why believe the mere supposition of the Atheist Spinoza, relating to a matter 2,200 years before him?

What is proved by the Torah written in Syriac characters, not in the square Chaldee letters, along with an ancient Arabic version, both possessed by the Samaritans, who claimed descent from the ten tribes that revolted from Rehoboam four centuries before Ezra, separating for ever from the Jews? Do not the Apocryphal books and the Septuagint existing centuries before Christ, Josephus' history (first century), the Talmud Commentaries on the Torah with the Targums or Chaldee versions, Origen's Hexapla, and other Greek recensions, the Vulgate, the labours of the Massorettes, and rabbins, &c., form an unbroken chain of literary evidence extending through thousands of years? Are not the chief events of the Mosaic history the Creation, the Fall, the Deluge, Tower of Babel with dispersion, Abraham's piety, the march out of Egypt under Moses into the desert, confirmed by ancient writers and others—Hieronyous, Strabo, Manetho, Berosius, &c? Do not the abundant allusions to primitive geography, customs, &c., in the Torah prove the writer to have resided (as did Moses) in Arabia and Egypt? That is evident from the absence of Chaldee and Greek words in the Torah, as well as the following peculiarities not found, or rarely, in the later national Jewish records:—The Hebrew text makes no distinction in gender in the use of the third personal pronoun singular, preferring the older form of the demonstrative, as well as a peculiar abbreviation of the imperative, with original forms of certain verbs; also certain strong noun forms, phrases, expressions, &c., which might be quoted.

With the date of Creation found in Genesis, along with eclipse and transit cycles, is not the earth's age known, rather than by the vague conjecture of Lord Kelvin? Do not the following predictions prove a Divine origin?—(1) That of Jacob, the Messiah to spring from Judah; (2) that of Moses, the Jews, as we now witness, to be a hissing and a

bye-word on the earth, also to be scattered among all nations; (3) that regarding Ishmael, fulfilled in the greatness of the Caliphate empire, also in the independent and predatory life of the Bedouins; (4) that of Noah, African slavery, also the dwelling of Japhet in the tents of Shem, fulfilled in the colonisation of America by Europeans, and the division of Asia chiefly between Russia and Britain, the Buddhist empire of China now becoming the prey of the sons of Japhet.

Can "Agnostic" show from the Hebrew any other rendering of Gen. xlix. 10, than—"A sceptre shall not fail from Judah, nor a lawgiver from between his feet, until Shiloh come?" (Shiloh signifies Saviour). Is it not a fact that the servitude of the sons of Ham to those of Japheth has occurred only in modern times? As regards Noah's curse (Gen. ix. 25). Negro slavery followed the discovery of America four centuries ago, and was vigorously maintained by the American colonists, Portugal, Spain, France, Holland, and England. This kingdom alone exported 300,000 slaves from Africa between 1680 and 1700, carrying during the next 80 years 610,000 to Jamaica. Why does "Agnostic," whilst believing without sufficient evidence the books ascribed to Thucydides, Tacitus, Herodotus (the supernatural excepted), reject every fact in the Torah, though he dares not grapple with its evidence, particularly its peculiar Hebrew? Again, though Christ taught his followers to love their enemies, does not "Agnostic" plead that the saying, "I came not to send peace but a sword," was a command to shed blood? though the apostle explains that "the weapons of our warfare are not carnal, but spiritual." Where in the New Testament do we find that after the Apostles began to disciple the nations any Christians ever used violence, even in self-defence? Does not Hebrew iv. 12 show the spiritual sword to be truth—Christ's wondrous utterances (never before known to Jew or Gentile) with which a spiritual war has been waged against the polytheism of the world? I have quoted from Humboldt, Miller, and Smith by the way of *argumentum ad hominem*, showing how conclusive is the fact of the Deluge, because incapable of being denied even by geologists, whose theory it overturns, the fossils found in every region having been regarded generally as the evidence of a universal flood until last century. But has not the device of Miller and Smith been to plead that the Deluge was confined to a level district near Ararat, where they say all mankind originally dwelt? And their ingenuity was taxed to explain away the universal terms applied by the Torah to the awful catastrophe. Yet all the ancient traditions so convincing to geologists speak of an ark, the need of which is clearly absurd for a local flood, since Noah, with family and animals, would rather have emigrated in due time out of the doomed locality. In answer to Miller and Smith's supposition of the ark's inadequacy to lodge all the animals, I have already given a calculation with Geikie's estimate of species. However, according to Humboldt, there are 500 kinds of mammals, 4000 birds, 700 reptiles, and 44,000 insects. Now, the ancient cubit being 1ft. 9in., the ark was 525 ft. long, 87½ broad, 52½ high, with three storeys (each 15ft. high) or decks, the area of each being 45,937½ square feet. The New York steamers allow 20 square feet for every ox, and the average size of a mammal is one-fourth that of an ox, so that 5ft. for each of the 1000 mammals would leave 40,937ft. of area for the 4000 birds, as well as tanks, troughs, stairs, waterpipes, &c. A second deck could accommo-

date in separate rooms, as in the first, the 1400 reptiles, the tiny insects, as also the odd clean beasts (seven of every kind) for food to the *ni-vora*. Thus a third storey was left for the eight persons, and a year's provisions. As regards the feeding and the watering of the animals, the cleaning of decks, etc., how do the ocean steamers arrange that carry regularly thousands of cattle? Also, the window in the roof of the ark being used as an outlook; surely the builder would see the necessity of ventilators, and the insertion of transparent substances in the sides to give light. And why do zoologists differ so much in their estimates of species, unless they confound mere variety with essential difference? Humboldt gives 500 kinds of mammals, Philips 1200, and Geikie 1660. According to Humboldt there are of reptiles 700 kinds, and to Swanson 1500; whilst of birds, according to Humboldt 4000, but to Geikie 10,000; the species of insects varying from 11,000 to 100,000. Lastly, is not the Deluge inseparable from the miraculous, as Moses reveals, God Himself causing the Flood, Noah miraculously forewarned, and directed to make the ark? As is related, Noah with his family entered the ark first, then all the animals were led in by God's word; and after being shut in a full year, the eight persons went out first, God by His word causing all the animals to follow.—ALEX. MCINNES.

GEOLOGY.

SIR,—How do we know that all those pieces of chalk and limestone called fossils, instead of having been originally so created, were the bones of animals, and the leaves of plants living millions of years ago? Let me next ask "Agnostic" if he has ever heard of "simulative structures?" "The student," says Dr Page, "should be informed that its (*Oozon Canadense*) organic structure has been called in question by some who regard it as a peculiar mineral structure mimetic of the organic examples, such simulative structures being well known in other formations besides the Laurentian. Those who take an interest in this matter may refer to the Journal of the Geological Society for 1865-6." Ought not, then, the announcement of a discovery of new species, however pompous the names, to be received *cum grano salis*? As formerly quoted, Skertchly (F.G.S., H.M. Survey) confesses geology to be a history of which only a few volumes remain, the rest being mere conjectures. Indeed, is not the geological argument, without one living witness of the fabulous past ages, precisely that of Scott's antiquary who imagined he had discovered the remains of an old Roman camp? Eddie Ochiltree, however, suddenly appears to prove that twenty years before he was present at the rearing of the supposed camp, the "remains" of which were around. And how many fish scales, dry leaves, bits of coal and limestone, cannot the antiquarian geologist produce wherewith to fill up the fauna and flora of ages as vast as Lord Kelvin pleases to say?

Are not the remains of sea monsters satisfactorily accounted for by the existence still of the "sea serpent," of which we have ample evidence in the August magazines? And what is the Mammoth but a huge elephant, the bones of which were lately found in a Moravian cave along with six gigantic human skeletons? That beasts and birds have degenerated is in accordance with the fact shown by the Mosaic and other ancient records, that men in longevity and stature are far inferior

to the ancients, especially the antediluvians. "Agnostic" infers from the discolouring of the sea for 300 miles at the mouth of the Amazon that strata were originally formed by the sediment of rivers. But where is the proof that all that soft sand sinks far down to the bottom of the sea to harden into rock? Even granting the hardening process, the mud particles coming from a variety of rocks, and therefore of a heterogenous kind, could never form separate beds of the so-called primary or secondary red sandstone, blue limestone, yellow quartz, gray mica-schist, brown gneiss, white chalk, &c. That strata were formed from pre-existing continents Hutton could have learned from the pagan Greek Pythagoras, 2,300 years before him; but how can we account for the first continents unless we assume an infinite series of them, and call the earth a god?

The tyros in geology imagine that the twelve groups composing the metamorphic rocks, the primary, secondary, tertiary, and recent, are all piled above each other like so many shelves, with their peculiar fossils; whereas, according to Dr Page, there are generally only two or three groups together; whilst the only order is, that chalk is never found under the olite (limestone), nor olite under coal, nor coal under old red sandstone. Further, Dr Page confesses the tertiary limits to be yet undetermined, and when will the tinkering of the boundaries between secondary and primary cease so long as geologists use two principles of classification, fossiliferous and lithological? Where now are the seven zones once so orthodox, each, as affirmed with its peculiar fossils; and what of six creation-periods upheld by Hugh Miller and Kelly? Strange, too, that though we can dig down only a few hundred yards, and the greater part of the earth's surface is yet unexplored, acquaintance is claimed with the whole earth's "crust" even to 4,000 miles downwards. Now, all that is meant by huge beasts being of the tertiary rocks is, that their bones were found in caves or in the sand of the sea-shore, and by marine monsters being of the secondary strata is meant that pieces of stone shaped like peculiar bones were found in quarries. Of course, the miner also finds down in the pit bits of coal shaped like shells, &c., hence of the primary.

SIR,—Professors Keil and Delitzsch of Germany, in vindicating Moses, point out (vol. i. 42) the contentions as to the origin of rocks among the Neptunian, Plutonic, and other geological sects; though Gen. i. shows that on the third day of creation the earthy atoms in a chaotic state within the primeval waters, at God's word united into one great solid mass of land with a dry surface. The argument of Keil and Delitzsch may be given in the following questions:—(1) Is not the order of systems and sub-divisions of rocks as laid down by geologists often found reversed, crystalline primary rocks lying upon transitional (once put between primary and secondary) stratified and tertiary formations (granite, syenic, gneiss, &c., above both Jura limestone and chalk); (2) Do not the various systems and sub-divisions frequently shade off into one another so imperceptibly that no boundary line can be drawn between them, and the species distinguished by oryctognosis are not sharply and clearly defined in name, but that instead of surrounding the entire earth, they are all met with in certain localities only whilst

whole series of intermediate links are frequently missing, the tertiary formations especially being universally admitted to be only partial; (3) Are not the following mere assumptions:—(1) That each of the fossiliferous formations contains an order of plants and animals peculiar to itself; (2) That these are so totally different from existing plants and animals that the latter could not have sprung from them; (3) That no fossil remains of man exist of the same antiquity as the fossil remains of animals; (4) That in the strata there is progressive development of plants and animals, or that the transition rocks contain only fossils of the lower orders, that mammals are first met with in the Trias, Jura and chalk formations, and warm blooded animals in the tertiary systems; (5) That the fossil types are altogether different from existing families, though all the fossils can be arranged in the classes of existing fauna and flora, there being only specific differences, but no essential ones as regards genera, and many existing types being smaller than those of the old world; (6) Even if the old species differed from those now existing, which, however, can by no means be proved, would there be any valid evidence that the existing plants and animals had not sprung from these that have passed away:—remembering that the origin and formation of species is still a mystery to human science?

THE HEBREW AND GREEK,

SIR,—Is it not evident that throughout this discussion "Agnostic" has failed, (1) either to prove Moses not the author of the Torah or to name another instead; (2), to grapple with my historical and literary evidence for that book in particular and the Bible in general; (3), even to defend the popular theories of geology; (4), to prove the earth's age more than six thousand years? Now, at last, when he approaches the philology of this question, according to him the Hebrew of Moses had twenty-two letters without any vowels. However, according to the grammars of Parkhurst and Gesenius it had only nineteen letters; four being vowels—Aleph or A, Vau or U, Yod or I, and Ayin or O. The Chaldee square letters, not used by the Jews till after the captivity, amount to twenty-two, the three superfluous letters being Teth or T, Samech or S, and Zain or Z. Our (Roman) alphabet has nine redundant letters, Q, X, Z, being double consonants, C having the sound of K or S, I and J being identical, as well as V and U, the E as pronounced in Latin is the diphthong ai, and W is twice U, whilst Y is the triphthong uai. The a and i ought to be sounded as in Latin and the continental languages. The Hebrew vowels have now acquired a consonantal force owing to the innovation of vowel points after the language ceased to be spoken, to preserve the pronunciation. Hebrew, however, is still read without points with Parkhurst's Lexicon, the meaning of words depending on the stems, biliteral or triliteral; but as with all languages there may be ambiguity with an isolated word or phrase. In Latin, for example, the isolated phrase 'jus naturale' may mean either natural law or natural soup. Moreover, can linguists name a language more original, pure, picturesque, logical, than that of Moses, which speaks an age earlier than the eras of David and Ezra?

"Agnostic" refers to the various readings of the Greek and Hebrew

MSS., as if he could name any ancient book with MSS. of different ages without such variations. Do not the many readings and translations of the Bible prove that, being of divine origin, it has been copied, edited, criticised, read and circulated more than any book in existence? Scholars, of course, collate the various MSS. to make a *textus receptus* for translators; and, after all, can any essential differences between the MSS. be pointed out? Taking the three oldest codices, Vatican, Sinaitic Alexandrine, and opening at Mark i., we find the title is in the first two merely, "According to Mark"; but in the third, "The Gospel according to Mark. Again, at v. 4 the first two MSS. read "I will send," but the third "I send," etc. Thus, thousands of such petty differences may be found among MSS. Professor Gaussen, of Geneva, mentions that in 1817, Claudius Buchanan found among the black Jews of Malabar, who had no intercourse with the west, a Hebrew MSS., 48-ft. long, 22-in. broad, containing all the Old Testament except Leviticus and part of Deuteronomy, in thirty-seven sheepskins, which he deposited in the Cambridge Library. It was compared, letter for letter, with the Hebrew edition of Van der Hooght, and only forty small differences were detected. The extreme reverence of the Jews for the ancient text is well known. Besides, was Moses responsible for the errors, unavoidable or intentional, of all future copyists of the Torah, or of any possible translator? Moreover, a teacher of languages knows that if any two pupils give precisely the same rendering of a Greek or Latin author that there has been copying or cribbing; as verbal variations prove independent work. Yet, let "Agnostic" compare the old and new versions of the Bible, and tell how far they differ in sense.

As regards Gen. xlix. 10, Dr Young, reckoned the best oriental scholar of this century, gives it—"The sceptre turneth not aside from Judah nor a lawgiver from between his feet until the seed come"; whilst the new version is, "The sceptre shall not depart from Judah nor a lawgiver from between his feet until Shiloh come,"—both the same in sense. The Greek of the Septuagint is—"Ouk ekleipsa arhon ek Iouda kai hegoumenos ek ton meron autou, eos ean elthe ta apokeimena auto"; or, "A ruler shall not fail from Judah, nor a leader from between his thighs until the things stored up come;" a rather loose translation, the version having been executed under the pagan Ptolemy (3rd cent. B.C.) which Theodotus and Origen failed to improve. If "Agnostic" knew Hebrew, I could here give the original of Gen. xlix. 10 from the text of Van der Hooght, that he might justify Arnold's rendering. Then as regards the slavery of Ham's progeny foretold by Noah, did Plato, Aristotle, or any ancient sage ever condemn slavery before Jesus said, "He that would be greatest among you must be servant of all"—the death-knell of a then universal evil? Further, "Agnostic" repeats what all the sects of infidelity assert without a shadow of proof, that there are "glaring inconsistencies and contradictions in the Bible;" yet what says the poet? "Better had they ne'er been born: Who read to doubt, who read to scorn." The Mosaic record has come down to us through the long march of thirty-three centuries, during which how many a generation has come and gone, how many an empire with all its royal and priestly pomp has passed away! But the Torah still stands the monument of God's imperishable truth.

NUTS FOR AGNOSTICS.

A few weeks ago, this letter was inserted in the *Newcastle Chronicle*, but as yet no answer has appeared:—

Can any of your Huttonian readers answer the following queries?—Is it not mere supposition (1) That the granite and trap rocks are of igneous origin or that the metamorphic change by heat and pressure from sandstone into quartz, clay into slate, &c.? (2) That the sedimentary systems (clay, sand, chalk, &c., being manifestly not rock, though called so by geologists) were formed by alluvial deposits of rivers, which no one ever saw harden into rock, and being, besides, confused heaps of particles from various rocks could ever become separate beds of red sandstone, yellow quartz, blue limestone, white chalk, &c.? (3) That, living witnesses being wanting, the different systems and groups of strata can represent vast periods of past time, or can indicate the earth's age? Is not the division into primary, secondary, and tertiary mere moonshine, the limits of the tertiaries, as Dr. Page confesses, being yet undetermined, and the boundary between secondary and primary but lately changed again? Is it not confusion in classifying occasioned by sometimes arranging according to fossils, and, again, according to lithological character of strata? (4) If as Hutton taught, and as did the pagan Pythagoras 2,300 years before him, that the present continents were made out of antecedent ones, how were the first continents made, unless we suppose an infinite series of them and the earth without beginning? (5) Did not the earlier geologists, such as Dr. P. Smith, teach that the Mosaic six days of creation were literal, but with previous creations. Also did not Hugh Miller and others afterwards teach that the rocks exhibit six divisions answering to six ages symbolised by the six days of Genesis? whereas are not the strata now in three classes, and pray what next? (6) Is not the mammoth the only entire animal found as a fossil, all other fossils consisting of decayed bones, dry leaves, pieces of stone, coal, etc., geology being likened by Skertchley ("Geology," p. 101) to a history mainly conjectural, a few volumes only being left, so imperfect are the fossils? (7) And do we know that all the pieces of stone called fossils shaped like bones and leaves were the parts of animals and plants living millions of years ago, especially since, as Dr. Page says, there are structures mainly simulative or mimetic of fossils over which professors have had their squabbles? (8) Were not fossils and broken strata, up till last century, regarded as evidence of the universal deluge of Noah, attested too, by the traditions of all ancient nations? (9) Are not tyros apt to imagine that the twelve groups or rocks making up the systems are all piled upon one another like so many shelves stored with their peculiar fossils; where as no more than two or three groups are generally found together without being even contiguous, the only being, as Dr. Page confesses, that chalk is never found under oolite nor oolite under coal, nor coal under Old Red Sandstone? (10) When the bones of elephantine mammoth (beasts and men having degenerated since the Deluge) are found in caves or in sandy beaches, do not the geologists talk of finding extinct species of mammals in tertiary rocks? or, if in a quarry, is found a lump of stone shaped like a big bone, do not geologists rejoice over the discovery of the remains of ichthyosauri or plesiosauri, though the existence of the sea serpent (see August num-

ber of the "Strand Magazine") may suffice to account for marine monsters?

A. McINNES,

MORE NUTS.

(1.) Did any of the pagan sages of antiquity ever devise an ethical system so perfect as that of Moses; or can the legislation of Solon, Lycurgus, or any other ancient lawgiver be compared with that of Moses, which made every Israelite a landowner, without need of taxation, coinage, police, jails, paid judges, royalty, navy, or standing army? (2.) Did not the tree of knowledge of good and evil (Gen. ii.) symbolise man's mixed condition till now? But why cannot we have justice and truth without crime and fraud, peace without war, food without labour, life without death, and the whole earth one paradise of joy? Moses foretold a Deliverer to give the good without any evil, and whom can the Agnostic name? (3.) Do not the doctrines in Genesis of the Fall, the curse of labour, the command to multiply, man's power to subdue, the confusion of Babel, etc., harmonise with the facts of prevalent crime, the toil of millions, the advance of populations, the triumph of human art, etc.? (4.) Moses applied to God two names, Elohim or Power, Jehovah or Self-existence. Now, "nature" is either self-existent or not, that is, it either had a beginning or not. If it had a beginning, as Moses records, then it is rightly called "nature," which signifies that which is produced, and its existence is therefore originally due to a higher and antecedent existence, underived and possessed of all power—God. But how (and it cannot be so proved) could nature have had no beginning and therefore to be called Jehovah or God, seeing it is not a living personality with speech, intelligence, a moral will, &c., all of which man has, though said to be the product of nature, yet higher by far, though with a beginning; and whence then has he derived all his powers? Not from the fabulous, dead, impersonal, dumb, useless soulless, inorganic primeval gas of evolution.

A CHALLENGE.

I hereby Challenge any infidel scientist, professor, editor or lecturer, to debate in writing on the genuineness of the Bible or the truth of the Christian religion, and undertake to publish the correspondence in pamphlet form, granting my opponent equal space with my own letters.

ALEX. McINNES.

204 Dumbarton Road, Glasgow.

7 months.
 Debate in the Birmingham weekly Mercury
 between "Agnostics" of Birmingham &
 Alex. McInnes of Glasgow.

SCIENCE VERSUS CHRISTIANITY.

THE Universal Zetetic Society will pay, through their Secretary, 96 Arkwright Street, Nottingham, the sum of £100 to any Newtonian sending satisfactory answers to the following questions:—

1st.—Is popular science anything else than a disguised pantheism or deification of nature, expressed in all the pomposity and verbosity of technical terms, along with cunning and elaborate mathematical formulas and diagrams to mystify the multitudes and delude University students—a system of knowledge which originated 4000 years ago with the priest Hermes, Thoth, or Misrain, grandson of Noah, who founded the Egyptian monarchy? Is not, therefore, popular science necessarily opposed to the true religion of one God the Creator of Nature, and Jesus Christ the only Saviour?

History.—The German Ennemoser identifies science with heathen mythology (vol. ii., p. 17) remarking, "All the more profound modern inquirers say that the ancient myths had a physical foundation." Then after quoting from various authors, he adds, "We have already seen that the ancient philosophers treated theology (paganism) as a part of physical science, and that it is openly declared that the primeval doctrine of the gods was founded on natural philosophy. We have the propagation and the connection of the secret knowledge from Egypt and the East descending from the traditional period through the Greek and Roman mysteries, and that the ancient forms of the gods are not the ideas of the poet but of "the natural philosopher." Schweigger has shown "that the most ancient and influential mythic circle, viz., that descending from Phœnicia and Samothrace certainly reposes on a basis of natural philosophy, and that it was regarded as a hieroglyphic record of electricity and magnetism." It is well-known that the scientific mysteries of the Egyptian priests were imported into Greece some centuries before Christ by Thales and Pythagoras, the founders of the Ionic and Italic schools of philosophy, which subsequently branched out into many sects, whose doctrines are now taught in all our schools and colleges. The astronomer's globe was an object of veneration in the temples of ancient Egypt, and the Egyptian priest Manetho maintained that the world was moved by the magnetic attraction of the sun. The Greek Thales taught that the earth was a fixed globe round which sun, moon and stars revolved; but Pythagoras later on held that the sun was a fixed centre for the revolution of earth, moon and stars, yet a third theory is now held of an infinite number of suns with circling worlds. Baal, Helios or Apollo, the sun god of antiquity was believed to rule the universe, dispensing all possible blessings; and do not modern astronomers invest the sun with the same divine powers without

Religion. Is Electrical Science after all the ancient magic in disguise?

plainly calling it a god? Aristotle, Plato, &c., believed the stars to be moved by the gods inhabiting them, for which the moderns substitute mysterious forces and laws.

2nd.—Did not that astrologer Copernicus, in reviving the Pythagorean astronomy, plainly confess it incapable of proof and useful only for certain calculations? Then amid much whining that science was the handmaid of religion, and with the countenance of certain clergymen thirsting for popularity, did not Hutton and other self-styled geologists, further maintain, with the ancient magician Pythagoras, the self-creative power of the earth? But the latest pagan deception has been that of evolution—a modification of the old Egyptian and Buddhist myth of the metempsychosis, according to which man's soul after leaving his body enters that of a beast and continues to migrate through the whole brute creation for ages; whilst Darwin and his followers teach that the human soul after going the round of the animal creation for many fabulous ages, has at last entered a human body.

3rd.—Do not scientists now openly stigmatise the rational belief in God as superstition, and craftily invest nature with the Divine attributes, assuming without shadow of proof that creation is self-existent, without beginning and indestructible, or incapable of an end, with unchangeable, omnipotent powers called laws; as also infinite in extent, having evolved from itself all organised, living and intelligent creatures, without the aid of the one personal, all wise, and Almighty God, the Creator and Lord of all?

Are not these scientists by their inventions which enrich only a small class of capitalists, shareholders and speculators, filling the earth with accidents and woes; at the same time busy devising rifles, guns, explosives, and many murderous engines of war, that threaten to exterminate the human race?

4th.—All our youth by stern coercive laws being educated in the belief of this atheistic science, and crime now prevailing to an extent unexampled in any former age, is it not evident that a reign of terror is impending—the “time of trouble” predicted by the prophet Daniel and our blessed Saviour?

5th.—Is it surprising that the idolater, the atheist, and the scientist agreeing to deify nature, necessarily deny the Word of God Himself, who has revealed that at the creation He called forth the earth from the waters of the abyss, created on the fourth day two great lights (not vast globes) the sun and moon, as well as the stars (twinklers, according to Hebrew); causing them to move in the expanse or roof overhead called heaven; that He founded the earth upon the seas, so fixing it that it should never move at all; that Satan from a high mountain showed Christ *all* the Kingdoms of the world; that the sun and moon stood still at Joshua's order; that Enoch, Elijah and the Saviour ascended to heaven, &c., &c.? Is it not a fact that Christians have from the first opposed all worldly or pagan science, until these last days of apostasy?

6th.—Is not the Bible a most wonderful cyclopædia of universal history, perfect juris-prudence, the sublimest poetry and all true science, physical and spiritual? Scientists are challenged especially to dispute

the Bible's unerring chronology, cosmogony, astronomy, geography and geology, the universal flood accounting for the broken strata on which modern geologists build their fable. Additional questions are contained in the following letters which have been inserted in newspapers:—

ASTRONOMY.

SIR,—In “J.H.W.'s” letter there is no lack of Copernican bounce and mathematical brag; yet, could telescope or microscope detect in it one authentic fact or logical argument? What lunatic ever believed anything more opposed to common sense than the old Pagan globe of Pythagoras—that all the vast oceans and continents are really and somehow rolled together into something like a little football, where we all crawl as midgets, and whilst daily whirling heads over heels, and yearly tossed over the sun quicker than lightning, we are held securely on by the invisible chains of gravity, a mysterious power that lurks far down in the infernal regions? Now, can “J.H.W.” calculate how many million tons of centrifugal force are due to orbital and axial motions, and can he explain why (gravity pulling us in an opposite direction, lest we be pitched off among the stars), we are not torn asunder by the contending forces? Or ought not the resistance of infinite ether filling boundless space render the globes' motion impossible? Also, let him explain why the globe, with all on it, is not squeezed into one monster jelly by the many million tons of air that press all around, 15lbs. per square inch. Moreover, let him prove globularity by showing that everywhere on surface of sea and land, there is, according to mechanics, a fall of 8 inches per mile, the increase as the square of the distance. Hence, our island (a globe like the earth because circumnavigable!) being about 700 miles long, John O Groat's in Caithness ought to be 60 miles lower or higher than Land's End in Cornwall, neither railways nor canals allowing for such a curvature.

Then how cleverly “J.H.W.” begs the question by supposing a tangent to the earth's surface, as if there could be a tangent without a curve. How cunningly a circle is defined as “A polygon, whose sides number infinity; accordingly the sides or straight lines being so many are not straight lines at all, whilst infinity that cannot be numbered is numbered! And why is that old blind idolater Euclid infallible any more than the pope, that so many silly flies should be caught in those spider-webs called mathematical proofs? And though no mathematician has yet been able to tell precisely the ratio of diameter to circumference, yet the secret was revealed 3000 years ago in Solomon's temple (1 Kings vii. 24). Further, have not astronomers since the days of Eratosthenes who, more than 2000 years ago, devised the modern method of terrestrial measurement, squabbled over the length of a degree? Herschel now making it 70 miles, but Airy 69, so that the globe's circumference may be either 25,200 miles or 24,840. So, by parallax which supposes globularity, the sun's distance is, according to Lardner, 100 million miles, to Herschel 95 millions, to Airy 92 millions, etc. Moreover, the sun's distance, about which there is no agreement, being the unit rod of calculation, there can be no definite agreement as to the distances of stars, as also to the velocities, heat, light, gravity, etc., involved. Herschel reckons the distance of the nearest fixed star at 19,200,000 million miles, Brewster differing by the trifle of 800,000 million miles!

Moreover, there are brawls over the globe's shape, whether like orange, turnip, apple, or lemon; as to axis whether, 1, 2, or 3; as to motions, whether the sun wheels round the earth, or the globe flashes round the sun; or, again, if sun with planets dash like thunderbolts towards Hercules round a greater centre, as gravity requires—aye—even an infinity of centres and motions. Proctor, too, makes the globe's weight to be as many million tons as must dumfound simpletons, yet, supported by an orbit only imaginary; but the measuring rod transforms the monster into a mote in bulk compared to the sun, a million times larger, and, since a mote dancing in sunshine has no dark side, how can "J.H.W." account for alternation of day and night? Next, we are to imagine the mote changed into a school-room globe with a lurch (no proof) of $23\frac{1}{2}$ degrees, and with intelligence enough to preserve the parallelism of its imaginary axis, as it is dashed by fictitious forces round the sun, about 100 million miles away; and how then can there be any appreciable difference between sloped and perpendicular rays, so that the mystery of the seasons may be explained by "J.H.W.?" Still, do not astronomers calculate eclipses very precisely? How, let Professor Philips tell:—"The precision of astronomy arises not from theories, but from prolonged observations and the regularity of the mean motions, and the ascertained conformity of their irregularities." Did not the Babylonian astronomers, 22 centuries ago, present to Alexander the Great table of eclipses for 1900 years? Also, the interval between two consecutive eclipses of the same dimensions is 18 years, 11 days, 7 hours, 22 minutes, 44 seconds; the last total eclipse of the sun occurring January 22nd, 1879, and the preceding one on January 11th, 1861. With eclipses and transit cycles, together with the date of creation given in Genesis, the earth's age is proved to be nearly 6000 years, in opposition to Lord Kelvin's very vague conjecture of its being somewhere between 20 million and 400 million years. Navigators, such as Ross, have sailed through the unfathomable Antarctic Ocean round the earth thereby proving it to be a vast island ("founded on the sea," Ps. xxiv.), but they found all round (according to Job xxxviii. 10) doors and bars of ice, hindering progress southward. Moreover, if from any point of the southern boundary we go north, we arrive finally at the Arctic Region, round which the land is massed, thence extending in irregular triangular forms to the Southern Ocean, and terminating in capes (Horn, Good Hope, &c.) called in Scripture "ends of the earth." The sun, according to Moses, a light and set in the sky ("strong as a molten mirror," Job) performs with the seven stars of Ursa Major as a centre, its daily circle, contracted in summer, but expanded in winter, not going down or rising; but "going in and going forth," according to the Hebrew of Moses, lighting up the regions it visits, whilst those behind are left in darkness. Now whilst the ancient Pagans thought the earth and sea an extended plane UNDER which the sun travelled by NIGHT, or else a GLOBE governed by the SUN GOD, the Bible alone has revealed the true science. Again, on travelling north or south, we, by-and-bye, lose sight of the stars (Hebrew "twinklers") in the roof of heaven, because that roof is not as astronomers suppose millions of miles high, but a few miles as proved by the ascent of Our Lord to heaven.

Here is a distich by the Ayrshire ploughman, which I cannot help

thinking is a *multum in parvo* shoe for the moderas to put on:—

"The ancients tauld great tales of wonder
Tae gull the mob and keep them under."

Now, Sandy, Paddy, John Bull, &c., if not wide awake, are mightily astonished when told by the scientist that, instead of standing on level ground, they are perched on the top of a big globe, off which they are apt to tumble, more especially that they are whirling and flying faster than lightning; but their alarm is calmed down by the assurance of a mysterious power, "gravity," far down in the lower regions, holding them on secure. They are still more bewildered on learning that their shoulders carry about day and night an atmospheric column, some tons heavy, and fifty miles high; that the sun is a globe a million times bigger than the one they are on, whilst the moon and stars are also tremendous globes with men hanging from them by the heels, yet all hindered from dashing against one another by powers too mystical to be explained; that our own globe is found, without being put on scales, to be of an inconceivable but exact number of tons weight, yet needing no support; and that the stars are so many millions miles off that their light takes thousands of years to reach us. Lastly, amazement is at a climax when we are told that our great-great-great-grandfathers were apes, gorillas, or some such beasts. Accordingly, evolution calls for a new edition of Gen. i:—"In the beginning, somewhere (says Lord Kelvin) between twenty millions and four hundred million years ago, was fiery gas; and gas, after many ages, hardened somehow into solid rocks, which partly softened at length into cabbages, &c., whence sprouted long after tadpoles, and the tadpole begat a donkey, and the donkey begat a monkey, and after many ages the monkey begat Adam." These tales are great theories, of course, because fathered by men who are great because of their theories. Yes, but there are mathematical "proofs"—aye, and as mystical as Egyptian hieroglyphs, entitling the scientists to a monopoly of mutual squabbling.

SIR,—The mystification complained of by J. B. may be due to his ignorance of the Newtonian theory, especially the numerical calculations; but ought paunch-bellied parsons, even moderators of church assemblies, to stand hat in hand before Darwin and Holyoake's tribunal humbly apologising for the writings of Moses and the prophets as unscientific, unphilosophical and begging credit at least for the spiritual doctrines, at most a small percentage? Ingersol, the agnostic Goliath, throws down the gauntlet, saying—"If it shall turn out that Joshua was superior to Laplace, that Moses knew more about geology than Humboldt, that Job as a scientist was superior to Kepler, that Isaiah knew more than Copernicus, then I will admit infidelity may be speechless for ever." Now Humboldt, in his "Cosmos," quotes the confession of Copernicus, "For neither is it necessary that these hypotheses be true, nay not even probable, but this one thing suffices, that they show the calculation to agree with the observations." Then these very "hypotheses," not necessarily true, or even probable, are the essentials of popular astronomy, first taught by the Greek idolater, Pythagoras, contemporary of Daniel the prophet, which supposes, proves nothing,

that the universe is governed not by God, but by self-existent, eternal, omnipotent laws (a mere atheistic necessity), and that space, or, virtually, creation, is infinite, with an infinity of globes or inhabited worlds flashing about central suns, all originally evolved from gas or vapour, itself uncaused or unaccounted for—thus deifying nature as invested with the attributes of God himself.

Must we believe, forsooth, that at the very time the ancient idolaters were luxuriating in the light of globose science the great Architect of creation should speak ignorantly or falsely of His own works and so as to keep in darkness His own worshippers? Of course simpletons believe that because the Bible writers did not use the pompous verbosity of technical terms intelligible only to the few, giving celestial magnitudes and distances such as those of modern astronomers, of whom scarcely two agree, or the lying diagrams of Heischel, &c., that therefore the Bible is unscientific. In the good old Greek and Hebrew book, so long and so carefully preserved, I find the true scientific creed. The heathen astronomy, to cause mental confusion, craftily supposes ocean and land one impossible ball called earth, yet a planet or star shining in the heavens. Moses, however, carefully distinguishes the trinity of creation, saying that God called the dry land arranged in layers (Job xxxviii. 5) out of the abyss of waters, which are surrounded on all sides by the Antarctic icebergs; and made the expanse of heaven, or roof, setting therein the sun and moon with stars to regulate day and night moving always at the same altitude from horizon to horizon above the earth and round the central north. The date of creation, as supplied by Moses, along with the fact that the sun and the moon are the great clocks of the universe, has enabled Mr Dimbleby, of London, to rectify the calendar, and reduce chronology to an exact science.—I am, &c.,

SIR,—Mr Layton's perpetual motion bubble to be full blown begs three assumptions, instead of as many facts, with a logic granting nothing without proof. That the earth is a whirling globe shaped like an orange, lemon, or turnip, could we believe without proof, any more than that a lunatic, though himself credulous enough, is butter or glass; for the earth or land made up of the great continents would then be supposed revolving in the ocean like the paddle of a steamer?

But if by "earth" is meant all oceans and continents rolled into a solid called a globe, then as sure as the earth is solid and ocean fluid, such a globe is only the phantom of a disordered imagination. Next, that the earth's surface has a fall of eight inches in the first mile, the increase being as the square of the distance, is only an inference made by mathematicians from the assumption of the sea-earth globe, but totally disregarded by surveyors in the construction of canals and railways. Thirdly, elementary books on mechanics assume, but without proof, that a stone irrespective of its weight falls through 16 feet in the first second of its descent from any height. Yet cannot Mr Layton calculate how much faster a stone 4lbs. in weight (not a body any more than a soul) falls in any number of seconds than a stone weighing 1 lb?

However, behind the three beggarly assumptions is a fourth, exhumed by Newton from the grave of that ancient idolater Aristotle—

attraction or gravity, denying that stones fall because of heaviness, though the fact is undeniable that smoke, steam, &c., ascend because of lightness or lack of heaviness. Hence, heavy substances falling not because heavy, it is next assumed there must be a mysterious power far down in the infernal regions, pulling down us and all on the earth's surface, though what pushes up smoke and feathers is not explained any more than gravity. Surely, too, Mr Layton didn't need by the subtleties of Algebra, even with his own assumption of 16 feet in the first second, to infer that 8 inches answer to one-fifth of a second. A schoolboy of ten or twelve years knows that a stone taking one second to fall through 16 feet, would take only one twenty-fourth of a second to fall through eight inches; but if it takes one-fifth of a second to fall 8 inches, it must take four and four-fifths seconds to fall 16 feet.

Newton assumed, but of course without proof and in defiance of common sense, that "every particle in the universe attracts every other"; hence, the smallest crumb sticking to Sir Isaac's teeth would pull every drop of ocean, streams, &c., all the particles making up continents and islands, as well as the numberless globes of "boundless space." Whence the wee crumb could get this infinite power, or by what *modus operandi* it could pull the whole universe, are surely difficulties as inexplicable as those meant to be explained. Moreover, if the crumb did draw, all creation ought to have moved towards it; and, according to Newton, the whole creation should have combined to pull the crumb, and yet contemptibly small as the plucky little bit is, in spite of the awful tugging it would stick to his teeth. Why, even a living flea no bigger than a dead crumb ought *a fortiori* to move the whole universe; consequently, the moving of a 100 ton gun should be a very easy job for the clever little insect. And wouldn't the wee crumb, after all, require to be infinitely large, so that, in order to pull, every particle might get a hold of it? Again, how does the crumb pull all in turn? When a man, a horse, or an engine draws, it must be by hands, ropes, or some sort of coupling; therefore, how could the crumb pull all creation unless with an infinite number of hands, ropes, &c., all of course being as imaginary as the hauling itself?

Lastly, Mr Layton, in calculating perpetual motion round his phantom globe, must consistently take into account the centrifugal force due to axial rotation, also that due to orbital motion, not forgetting the resistance caused by boundless ether, which, being infinite, ought to make both globe and stone perfectly motionless.

SIR,—Can your correspondent, "R.E.O.," amazed and amused as he is, by his reply so full of specimens of the *petitio principii* type, lend even a crutch to his confrere, Mr Layton, now in distress? "R.E.O." confesses the wish to notice only two points in my letter, and why? unless from a painful consciousness of his inability to defend the heathen globe, about whose shape and size astronomers have all along so much squabbled, the length of a terrestrial degree being to this hour as great a mystery as it was 2,200 years ago to those pagan globists Aristotle, Eratosthenes, &c.; and hence the forthcoming meeting of the International Geodetic Association at Berlin to crack the

geodetic nut. The calculations therefore of terrestrial size and weight, as well as distance and magnitude of sun, moon, or stars being dependent on a precise knowledge of a degree, are as mythical as the man monkey of pantheistic evolution.

As regards falling stones (generally called bodies, though without any qualities of either body or soul), if "R.E.O." thinks that the *Evening Courier* and a ton of lead when let fall from a house-top simultaneously would reach the ground at the same time, let him try the experiment. Or let him say if he ever saw two stones, respectively one and four pounds weight, along with a feather, all drop through 16 feet in one second, in what is called a vacuum, remembering that Newton denied the vacuum, because, not squaring with gravity which requires a material medium. But, of course, gravity must be true, because Newton, its advocate, was a great man, though his greatness is also due to that of gravity—the usual *circulus in probando* argument. Yet what avails the assumption of a vacuum since popular science supposes also an atmospheric pressure of 15lbs. per square inch of surface, and let "R.E.O." now calculate the globular surface and tell how many million tons of air are squeezing the poor globe's sides—explaining how in spite of this wonderful superincumbent mass as well as almighty gravity, a little feather can mount so triumphantly on high. Then when the magical air-pump removes the awful downward pressing weight, ought not the feather to soar still higher?

"R.E.O." crows over a supposed analogy between gravity and "magnetic attraction." Sir R. Phillips, though a globist, says:—"La Place invents gravitating atoms, and gives them a velocity of 6,000 times that of light, which in some way (known only to himself) performs the work of bringing the body in; others imagine little hooks. As to drawing, pulling, &c., it becomes them to show the tackle, levers, ropes," &c., "Million of Facts," p. 383. Proctor, after imagining all the oceans, including the unfathomable Arctic and Antarctic, rigid as steel and soldered somehow to the vast continents, so as to make a big ball 8,000 miles high, puts them on imaginary scales, and gives the weight in as many million tons as can make simpletons gape with wonder. Another inexplicable wonder is that mystical gravity, everywhere and nowhere to be found, can, without ropes, hooks, or any coupling, drag the mighty load swifter than lightning along an imaginary orbit, that is, no orbit at all; and let "R.E.O." say how many tons the magical magnet can pull or drive, especially along nowhere. Yet another wonder; the globe, 8,000 miles in diameter, with the enchanted rod of Proctor collapses suddenly into something like a little pea before a turnip-shaped sun a million times larger, which in turn contracts into the bulk of an apple as it flies towards Hercules, driven by gravity round a mightier centre than itself! Accordingly, how many worlds like cannon balls on battlefields are flying through the "boundless space" of astronomers' brains, all the while multitudes of men and other living creatures being wheeled, tossed, and flashed up, above, around, along, without choking outright or tumbling off? Lastly, is it not the greatest wonder of all that men outside lunatic asylums should swallow down those silly fables invented by Egyptian priests and Chaldean astrologers in the heathen darkness of past ages.

15 THE SCIENCE OF ELECTRICITY AFTER ALL ONLY A REVIVAL OF THE ANCIENT MAGIC?

Three hundred years ago certain physicians and university professors in Europe began to observe what had been known to the Greeks 2000 years before, that amber, when rubbed with the hand, attracted light substances, as feathers, paper, etc. Subsequently, many other substances were discovered to have the same property, and with them even circular motion could be caused. It was also found that sparks could be extracted from the human body, as well as fire from ice and water. Moreover, by rubbing in the dark a light was made to shine. The supposition was then started that these phenomena were not due to the substances rubbed, but to a fluid within them, which was accordingly called electricity, a word derived from the Greek—*elektron*—meaning amber. Since, many instruments have been made for collecting, communicating, etc., the electric fluid. It was found, too, that shocks could be given to the human body, pains and convulsions produced; whilst attempts at healing were abandoned as a failure. About the end of 17th century Franklin, by sending up a kite into the air, brought fire down from the clouds, as had been foretold in Rev. xiii., 13, "He brings fire down from heaven in sight of men." Accordingly electricity has been identified with attraction, light, fire, lightning, etc. This present century has witnessed the construction of electric telegraphs over land and sea over thousands of miles, for the transmission of intelligence; and, lastly, of telephones, by means of which persons may mutually converse, though separated by many miles.

Dr Lardner in his "Museum of Science and Art," makes the humiliating confession:—"The world of science is not agreed as to the physical character of electricity. According to the opinion of some it is a fluid infinitely lighter and more subtle than the most attenuated and impalpable gas, capable of moving through space with a velocity commensurate with its subtleness and levity. Some regard this fluid as simple, others contend that it is compound, consisting of two simple fluids, having antagonistic properties which, when in combination, neutralise each other. Others, again, regard it not as a specific fluid which moves through space, but as a phenomenon analogous to sound, and think that it is only a series of undulations or vibrations." Lord Kelvin also confesses that what electricity is he cannot tell. However, Dr Lardner adds, "Happily, these difficult discussions are not necessary to the clear comprehension of the laws which govern the phenomena,"—that is, it matters not though electricity is itself unknown, seeing we possess its powers, welcomed by us even if got from the devil himself. Indeed, Dr Lardner, whilst exulting over the wonders of telegraphy, stumbles upon a solution, saying, "The genii of Aladdin's lamp yield precedence to the spirits which preside over the *battery* and the boiler." For electricity let us substitute the word *spirits*, and the mystery is solved. Here is a quotation from Ezekiel's vision of the cherubic spirits:—"Behold a stormy wind came out of the north, a great cloud with a fire unfolding itself, and a brightness round about it. And out of the midst thereof as the *electrum* to look upon. And out of the midst thereof came the likeness of four living creatures, and their feet sparkled like the colour of burnished copper; as for the likeness of

the living creatures, their appearance was like burning coals of fire, like the appearance of torches, and the fire was bright, and out of the fire went forth lightning, and the living creatures ran and returned as the appearance of a flash of lightning" (i. 4 to 15). Here we have all the essential electrical phenomena—the sparkling, the fire, the lightning, the lightning velocity of the spirits; above all, the very word *electrum*, as given in the new version. We read also in the sacred scriptures of the spirit appearing to Moses in the burning bush, of the flaming sword guarding the tree of life, of the chariots, horses and horsemen of fire; of God descending in fire on Mount Sinai; of Elijah bringing fire down from heaven; of fiery serpents and the great fiery dragon (Rev. xii); of the fiery pillar leading ancient Israel, of God's throne of flames (Dan. vii); of the spirit Gabriel, whose face was as lightning and his eyes as lamps of fire, of the fiery tongues on the day of Pentecost, of the baptism of fire Christ received and gave to his followers, of the spirit or angel having power over fire, of the fire unquenchable, etc. Further, we read in Rev. ix. of the spirit horses that in these last days should send forth from their mouths fire, smoke, and brimstone, and having riders with breastplates of fire; and of God's two witnesses (xi.) sending forth fire from their mouths to burn up.

As regards electric light, we read that on the Mount of Transfiguration Christ stood in the white light, His face shining like the sun, and His clothes assumed a dazzling white appearance; whilst Rev. i. describes His face bright as the sun, His eyes as a flame of fire, and His feet as fine brass burning in a furnace. Moreover, by night, a spirit suddenly appeared to the Apostle Peter when he lay in prison, and enveloped him in the electric light.

Telephonic phenomena according to the Bible. Thirty-five centuries ago, God, from the lofty summit of Mount Sinai, spoke to ancient Israel, and was heard distinctly by the trembling multitudes far down in the valleys below. Saul the persecutor, when on the road to Damascus, heard distinctly the voice of Jesus speaking to him from *heaven*—which is so high above the earth, and in which God has set the sun, moon and stars. Scientists differ enormously in their calculations of the sun's distance from us, from 1000 miles to 100 millions. Evidently the height of heaven, like the breadth of the earth, the size of a terrestrial degree being unknown, is yet as great a mystery as ever. Indeed the difficulty is to find any two scientists who agree as to one essential point. However, we read in the Biblical narrative, that Saul's voice traversed the great space between earth and heaven; for he asked "Who art Thou, Lord," receiving for answer, "I am Jesus of Nazareth."

Ballooning—Scientists profess to explain this mystery by asserting that the hydrogen gas, said to inflate the balloon, being so very much lighter than the surrounding air causes the ascent. But does the difference between the alleged weights of air and hydrogen at all equal the weight of the attached car with its occupants? Besides, the ascent of the balloon with the car ought to be an impossibility, there being a downward pressure of several tons of air, or of 15 lbs. per square inch of surface, according to Pneumatics. Nor are we to forget the downward pull of gravity. Nearly 3000 years ago fiery spirits bore up Elijah higher than any balloon ever could ascend, even to heaven itself.

The Saviour, in presence of more than 500 witnesses, went up to heaven without the assistance of any spirit. The prophet Ezekiel was carried by the hair of his head through the air, a distance of some hundred miles, viz., from Babylon to Jerusalem. Again, Satan once carried Christ through the air all the way from the wilderness to Jerusalem, and even to a mountain so high that from the summit were seen all the kingdoms of the world.

Important query:—It is evidently not astonishing that a mere child should talk to a doll or little idol, as if it were a real baby; but how could so many millions of men and women ever be persuaded to believe a stick or a stone a god? Not merely because the wood or stone was, by the skilful artist, changed into a beautiful representation of a man or animal, to be then placed in a temple of wondrous splendour where there was no lack of exquisite music and gorgeous processions of priests. No, but from the very beginning of idolatry, magical arts were employed by the priests to deceive. Also, is it amazing that in our day men reputed wise and learned should indeed believe themselves daily tossed and whirled head over heels round about the sun, whilst tied to a large globe by the invisible rope of gravity; that their great great, great grandfathers are apes, gorillas, or some such beasts, &c., &c. True, scientists issue mystical volumes full of beautiful pictures along with delusive mathematical "proofs," and professors flaunting lofty titles strut in academical robes through the lofty and elegant halls of universities. But, just as the nations of antiquity were lured into idolatry by the magical arts of priestcraft, so now the world rejecting the true God, and the only Saviour Jesus Christ, gapes in wonder at the miracles of electricity; and how soon according to Rev. xiii. shall men worship the talking idol and receive on right hands and foreheads the mark of the last antichrist! The living Eddison can make dead heads speak, as did the friar Bacon of England some centuries ago. In ancient Egypt the colossal statue of Memnon uttered a cry every morning at sunrise, and wept audibly as the sun appeared to go down. Further, are not marine telegraphic cables, batteries-electrometers, &c., &c., an elaborate pompous disguise, and as unessential for magical purposes, as were the magical circles, incantations, rods, &c., of the professed magicians of antiquity.

The following letters on magic by the author of this pamphlet have appeared in the "Birmingham Weekly Mercury."—

SIR,—The word magician is derived from the Hebrew "mag" a priest—hence the Persian magi—and "mog" in modern Persian signifies a high priest. The oldest books on magic are the Zend Avesta of Zoroaster, the Jewish Caballa, and the Hindoo Laws of Menu—sources of knowledge, perhaps to the Pythagoreans, Apollonius, and the magicians of the Middle Ages. According to the Caballa, you may with the magnet ("magic stone") walk unharmed through legions of reptiles; and, according to the German Ennemoser, the magnet is the key to unlock the science of magic. The Roman Lucretius speaks of the negative and positive electricity, and the magnetic rings worn by priests in the mysteries of idolatry. Pliny calls the loadstone the Herculean stone, and the magnetic needle used by Phœnician navigators the

arrow of Hercules. References are also made to electricity and magnetism by Pausanias, Lucian, Claudian, and even Hesiod. The magnet was worshipped in Egypt thousands of years ago, whilst the inextinguishable fire of Vesta was but an electric flame, King Numa, the founder, having brought fire down from heaven (Revelations xiii.), as did the ancient kings of Babylon long before, and Franklin in our day. In ancient times the electric light was worshipped, shone on altars, whilst idols hung in the air by magnetic force. With scientists electricity is still a mystery, their knowledge being limited to obtaining, storing, and using the unknown power. Christ Himself came baptising with fire, which we must distinguish from the demoniac fire used by ancient priests and modern scientists. Christians must be energised with Divine fire to cast out demons, lay hands on the sick, &c., according to Mark xvi. From the hands, mouths and bodies of Christ and His Apostles flowed the Divine energy to do signs and wonders; the condition of Spirit Baptism being the surrender to Jesus in order to a pure and holy life. In Xenophon's Memorabilia we read that the ancient Greeks called their gods demons, Socrates claiming to speak because of one dwelling within him.

Those early Fathers—Clemens Alexandrinus, Origen, Gregory, Justin, Lactantius, &c.—say that demons maintain magical arts, are the founders of idolatry, seeking to be worshipped as gods, and try to “injure men in every possible way by public calamities, death, disease, and all kinds of accidents.” We know that what is now called natural science was formerly called magic. Moses (Lev. xx., 27—Deut xviii., 10), refers to the magical practices of idolators, denouncing death as the penalty for such crimes. Lucretius (6th Book) says:—

“Men see the stone with wonder as it forms
A chain of separate rings by its own strength,
Borrowing their binding strength from the strange stone.
Such power streams out from it pervading all.
But sometimes it doth happen that the iron
Turns from the stone—flies it, and is pursued.
I saw the Samothracian iron rings
Leap, and steel filings boil in a brass dish
So soon as underneath it there was placed
The magnet-stone, and with wild terror seemed
The iron to flee from it in stern hate.”

Thus Lucretius knew both kinds of electricity. Claudian in his Idylls on the Magnet speaks of a temple where a magnetic image of Venus held suspended in the air an iron one of Mars; and Lucian says that he saw a very old image of Apollo lifted aloft by the priests and left hanging without any visible support. According to the German Ennemoser (Bohn's edition), Schweigger proves that the fire brought down from above by the ancient Samothracians was electrical, referring also to the Hermes-fire, the Elmes fire of the Germans, the lightning of Cybele, the torch of Apollo, the fire of Pan's altar, the flame of Pluto's helm, the fire in the temple of Athene in the Acropolis, &c. What, too, of the myth of Prometheus stealing the fire of Jupiter? Thus far electro-magnetism now astonishes the world; in opposition to which we have now many allusions to a holy flame throughout the Bible, from the flame revolving about the tree of lives in Genesis iii. to the crystal light of the New Jerusalem seen by John in Patmos?

SIR—Does not the claim of scientists to have made discoveries in electricity and magnetism merely exemplify the saying of Solomon that there is nothing new under the sun? Nor is the use of metals for supernatural (scientific) purposes a novelty. Three thousand years ago, by means of the metals on the high priest's ephod, King David conversed with God; and five hundred years previously Moses heard with a seraph or serpent of copper raised on a pole. Eljah, after building an altar of twelve stones, brought down the electric flame, which the priests of Baal (Bel, Zeus, or Jupiter) could not do, though confident according to ancient practices—praying earnestly from morning till evening. Whilst Egypt and Assyria gloried in the magnet, Isaiah's lips were touched by a seraph with a burning stone that he might prophecy; the word seraph signifying a serpent as well as to burn. The Hebrew Nachash applied to Satan in Genesis iii. signifies, variously, serpent, sorcerer, diviner, a spell, to view sharply; and well may electricians use copper wire emblematically, to attract the old serpent. Mesmerists now have a theory called animal magnetism, whereby they maintain an analogy between the action of the magnet and that of animal energy, professing to divine prophesy, and virtually to bewitch; whilst spiritualists seek after the dead and demons, performing some of the wonders of the scientists. Scientists are believed not because of the reasonableness of their theories but because of the marvels they display before the world. What avails now the mere traditional evidence of apostolic miracles done eighteen centuries ago to oppose the advancing flood of unbelief mainly due to false science? Rather a present living faith with the fire baptism. The miracles of true religion are those of mercy and kindness.

TO THE EDITOR OF THE TIMES OF RESURRECTION.

C. G. Cook's Evolution pills, in the absence of facts and argument, smack strongly of scholastic dogmatism. He certifies, with all the weight of his own authority, that science is really alive; though he immediately after puts Evolution into its coffin by likening it to a corpse with theorists squabbling over the cause of death. He confesses that science—every idea of which, according to Humboldt, one of its late popes, was known to the Pagan Greeks two thousand years ago—is still dragging at its infancy; that is, scientists are only squabbling bodies, as much as ever they were in the time of Daniel and the other prophets, and when Pythagoras, Plato, and Socrates worshipped the sun, moon and stars as gods. He is certain that Evolution is a fact, because voted true by all scientists; whereas it is but a lying blasphemy, and therefore a putrid carcass for the dunghill, and because opposed to the living truth which no scientific fool can overthrow:—that God, about six thousand years ago, created heaven and earth with all therein within six days by his almighty word.

Now, is not the denial of Moses' record of creation the denial of Jesus Christ? “If ye believe not Moses' writings, how can ye believe my words?” Then if C. G. Cook denies that Jesus is the Christ, let him deal with the evidence stated in my former article.

We are further told by Mr Cook, without one item of proof that “The Bible is the result of evolution: the Hebrew mind evolved it in course of ages,” etc. As if we Christians were as silly as the bodies of

scienists who with their eyes shut gulp down these antiquated fables of Egyptian and Chaldæan priests, now called astronomy, geology, and evolution. Why not boldly say with Thomas Paine, that the Bible is full of lies; because it professes to give so many revelations from the God of creation, while it scorns all man's wisdom as the loud long-winded braying of an ass?

How the old dogs of heathendom did growl and howl over the dry bones heaped up in their sepulchres of philosophy! Stoics snarled at Epicureans, Platonists at Peripatetics, Electics at Cynics: dreamers, augurs, magicians, astrologers, fought over theories of the soul, eternal matter, space, atoms, morals, dialectics, metaphysics, the earth globular or cylindrical—movable or fixed, the universe—if of aqueous or igneous origin, etc. Then did not mediæval times abound with astrologers dreading unlucky stars, astronomers imagining themselves midgets on Ptolemy's motionless sea-earth globe, mathematicians vainly trying to square the circle and mechanics to find out perpetual motion, alchemists in hot haste after the philosopher's stone and the elixir of life, schoolmen in the tight jacket of Aristotle's syllogisms; Realists and Nominalists, Thomists and Scotists, scientists, &c.? Among the moderns what a Babel of Newton's gravity, Descartes' vortices, Leibnizianism; as to jurisprudence and political economy; as to ideas, sensation, perception, the will, matter and mind—whether real or illusory, logic and language; as to the classification of plants and animals, light—whether fluid or vibration, heat—whether fluid or atomic motion; sound—whether vibratory or undulatory or substantial, chemical elements and atoms, electricity—whether fluid or witchcraft; also over the sea-earth globe—whether movable or fixed, like an apple or an orange, with two or three axes; as to the distances of the sun and moon and stars, comets—whether igneous or aqueous, the sun—whether fixed or flying toward Hercules; among geologists, as to the earth's origin from fiery gas—whether a ball of fire or rigid as steel, how many millions of years old, as well as to the classification and formation of rocks, &c.

"In the study of science," says Dr Dick (Nat. His., p. 10), "one is permitted to *suppose anything*, if he will but remember and acknowledge to others that he makes suppositions; will give reasons to show that what he supposes may be true," &c. Such then is the tree of knowledge with which the old serpent deceived the world!

God asked Job of old: "Who has set its (the earth's) layers? Or who stretched out a measuring line upon it? On what are its bases sunk? Or who laid down its keystone rocks?"—Job 38. 5. Thus it is revealed that the earth's strata were originally arranged by God himself, and (Gen. 1) within a few hours, with the regularity of the stones of a house, and as if the builder's measuring line had been used. The unstratified or keystone rock, whether basalt or granite, is lowest, and above are the various beds according to density—such as sandstone, limestone, coal, chalk, clay, with sand, gravel or soil on the surface. Geologists confess that the age of a fossil is not determined by the degree of its petrefaction, but by the age of the rock in which it is imbedded, and the age of the rock by its position among the strata; accordingly how the strata were originally formed and the age of the world are mere supposition, geologists being but of yesterday and therefore knowing nothing about the creation,

unless they learn it from the Great Architect himself. The whole mighty mass of rocks appeared (Gen. 1) out of the abyss at God's command on the third day of creation, and was made to float in the unfathomable waters, yet as securely fixed as a ship in a Liverpool dock; the bases of the earth being so sunk as to make it immovable forever, and man is challenged to tell how.

An iron ship can be made to float, though the metal is seven times heavier than water; while the heaviest rock is only three times heavier than water. Then consider the tremendous buoyancy of the ocean; causing some substances to float on its surface, and others to sink only to a certain depth. The earth, its density decreasing from the foundation rock upward to the soil of the surface, is sunk to a depth of several miles in the sea, yet so as to have a dry surface and shores on a level with the surrounding waters. It consists of four continents of an irregular and somewhat triangular shape, stretching out from the central north for thousands of miles towards the icy barriers of the far south against which winds and waters rage in vain. The continents are connected by submarine rocky beds of various depths; while the Arctic and Antarctic oceans are found to be unfathomable.

Christ mentions the fact of a universal deluge; and we learn (Gen. 7) that when Noah had entered the ark, the waters rushed from heaven and the abyss to fulfill God's purpose to destroy the earth with its inhabitants. Hence, the rending of rocks, the shattering of hills, the breaking up of the earth's strata, the piling up of mass upon mass, wherein were buried animals and plants to be dug up many centuries afterwards. All lands were filled with the wreck of the old world—a terrible warning to all future ages against the commission of unrighteousness. And are we surprised at the petrefaction of fossils, seeing that the earth was covered by the deluge for a whole year!

Also on the third day of creation (Gen. 1) God made "the tender grass, the herb sowing seed, and the fruit-yielding tree, whose seed is in itself, *after its kind*," so that transmutation of species was impossible. On the fifth day He formed the great sea monsters and every living creature which the waters have teemed with *after their kind*; while on the sixth day the earth brought forth every living creature *after its kind*, cattle and creeping thing and beast of the earth *after their kind*; transmutation of species being thus impossible. Lastly Adam was formed from the *adamah* or soil, not "evolved," or as that word means, "tumbled out" of a monkey.

Of course scientists bark and bite over the definition of Evolution, making it a Babylonian mystery to themselves and everybody else: but the idea upon which most people are generally agreed is manifestly borrowed from the grand old Book. God's revelation and the common sense of mankind testify against the monstrous assumption of higher species of plants and animals being evolved or tumbled out of lower; every species or kind having been at first created incapable of transmutation.

Then as regards the world lying in wickedness and deceived by Satan, we have it on God's authority and agreeably to all history, that since Adam's disobedience there has been a continual devolution or tumbling down into fearful depths of misery, folly and crime, out of which only Jesus can and will deliver. The inspired writers show that God, according to a wondrous plan, has been advancing through ages

and dispensations in the work of man's redemption. Beginning with the choice of individuals, from righteous Seth to faithful Abraham, He next chooses the family of Israel, which grew into a nation producing in fulness of time the great Deliverer. During the Gospel Age this Deliverer, Jesus, has been choosing from among all nations a body or ecclesia, to rule with Him in the coming age over a renovated world and a resurrected race consisting of a multitude that no man can number. From the present visible typical creation, the six days of which foreshadowed the six thousand years now closing, God has been advancing to the new creation—spiritual, heavenly, everlasting—of which the Son of God is the Head.

Mr Darwin, with all the confidence of an eye-witness, says in his "Descent of Man": "The early progenitors of man were no doubt covered with hair. Their ears were pointed and capable of movement and their bodies were provided with a tail. The foot was prehensile and our progenitors were no doubt arboreal in their habits." This means in plain English that Adam and Eve were a couple of dumb, brutish, irrational apes skipping through forests or swinging by their tails from the branches of trees. Also, "At an earlier period the progenitors of man must have been aquatic in their habits." Sharks or lampreys, perhaps? Then he traces our pedigree further back even to the jelly fish, which he thinks (contrary to embryology) the link between vertebrate and invertebrate animals. But Professor Haeckel, with an entire absence of proof, begins evolution with animalcules (which, having no organs or fixed shape, cannot be animals at all) originating by spontaneous generation; that is, they willed their own existence before they had either a will or any existence at all. Next these animalcules grew into worms, which grew into ascidians; and the ascidians into fishes, fishes into frogs, frogs into mammals, birds, and reptiles; lemurs into monkeys, lastly monkeys into men. Mr Darwin tries to account for transmutation of species by "natural selection." Of course, variations occur among plants and animals in a state of domestication, but according to him they also occur, though imperceptibly slow, in a state of nature, and are transmitted to the offspring of the individuals thus varied; these variations accumulating in course of long ages give rise to new species. Then he points to the excessive fecundity of animals and plants, with the consequent necessity of the destruction of many of them, and points out that there is accordingly a struggle for life going on resulting in the "survival of the fittest." However, if natural variations do occur, he fails to prove that they accumulate, or that, notwithstanding the sterility of hybrids and the absence of all transitional types transformation of species has ever happened. Lyell denies that the geological record gives Mr Darwin any support; whilst Professor Agassiz (Natural History, pp. 51) maintains that the identity of the animals preserved as mummies by the Egyptians 5,000 years ago with animals of the like kind now living, is a proof of the stability of species. Besides, what struggle is there for life, unless in human wars and the contentions of wild beasts? Does not God make the fields fruitful for man's sustenance, and give cattle to us as food? And notwithstanding so many varieties of dogs, horses, and pigeons produced under man's care from the earliest times, is not a dog still a dog, a horse a horse, and a pigeon a pigeon? In the "struggle for life," why, too, should the race invariably be to the swift and the battle to the strong, the modern elephant now surviving the ancient mammoth, the weak sloth the extinct megatherium? Mr Darwin comparing us with apes, overlooks their beastly hide, want of legs and feet, as well as their incapacity to walk erect, but argues from "physiological analogies" got by comparing the bones, &c., of dead men with those of dead apes. Might he not as plausibly have contended that apes are degenerate men and give birth to lemurs, which in time degenerated into jelly fish, &c.? Moreover, Mr Darwin does not prove or account for the natural laws supposed to produce the variations; and whilst writing only as a naturalist, he prudently avoids the mental evolution so essential to the question, failing to bridge over the impassable chasm between mere beastly instinct and the mind of man divinely revealed as the image of his Creator—also the subjugator of nature and lord of beast, fowl, fish, and reptile.

ALEX. M'INNES (Glasgow).

The Bible v Neo-Science.

By ICONOCLAST.

A few extracts for reasonable and consistent Christians to meditate upon, after which they may be led to inquire, whether The Bible is not *truly scientific*, and therefore the assumptions of Modern Theoretical Astronomy and, the (so-called) Sciences ramifying from it, are in *direct antagonism* with the Book on which their Christianity is based.

"For if ye believed Moses, ye would believe Me, for he, wrote of Me, but if ye believe not his writings, how shall ye believe My words?" *John V. 46-47.*

"In the beginning God *created* the heaven and the earth." *Gen. I. 1.*

"And the evening and the morning were the first day." *Gen. I. 5.*

"And God said, Let there be *light*! and there was *light*;"

"And God saw the *light*, that it was good, and God divided the *light* from the darkness." *Gen. I. 3-4.*

We here have LIGHT WITHOUT THE SUN, that orb not being created until the FOURTH DAY; Modern Astronomy assumes ALL LIGHT TO emanate from the sun.

"And God *made* two great lights, the greater light to *rule* the day, and the lesser light to *rule* the night; the stars also. And God set them in the firmament of heaven to give light upon the earth, and to *rule* over the day and over the night, and to *divide* the light from the darkness." *Gen. I. 16-18.*

"The Sun to rule by day . . . The Moon and stars to rule by night . . . *Ps. CXXXVI. 8-9.*

"So God created man." . . . *Gen. I. 27.*

"And God saw *everything* that He had made, and, behold, it was very good." . . . *Gen. I. 31.*

"The pillars of the earth are the Lord's, and He hath set the world upon them." *1 Sam. II. 8.*

"Of old hast Thou laid the foundation of the earth." . . . *Ps. CII. 25.*

"Ye enduring foundations of the earth." *Micah VI. 2.*

"Thou hast established the earth, and it abideth." (or standeth) *Ps. CXIX. 90.*

"The world also is established that it cannot be moved." *Ps. XCVI. 10. Ps. XCIII. 1.*

"Where wast thou when I laid the foundations of the earth"?

"Who hath laid the measures thereof (or strata of the earth) if thou knowest? or who hath stretched the line upon it?"

"Whereupon are the foundations (sockets) thereof fastened? or who laid the corner stone thereof," *Job. XXXVIII. 4-6.*

Hebrew, "Tasad erets al mekoneha al-timoth olam vaed" which is rendered, (God), Who founded the earth on its bases that it should not be moved for ever and aye., *Ps. CIV. 5.*

"For He hath founded it (The Earth) upon the seas and established it upon the floods." *Ps. XXIV. 2.*