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978-1-107-00074-2 - The Correspondence of George Berkeley

Edited by Marc A. Hight

Excerpt

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# LETTERS

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1 BERKELEY TO AN ILLUSTRIOUS ASSEMBLY

*TCD ms 888/2, fols. 244–53. Additional drafts present in TCD ms 4309, fol. 13 and BL Add. ms 39305.*

10 January 1705/6

by Mr. Berkeley Jan: 10, 1705/6<sup>1</sup>

Mr. President and Gentlemen,

There is one of the rarities of this kingdom which though I judge considerable enough to take place among the rest, yet so it is I neither find it described nor so much as mentioned by those who are curious in enquiries of this nature. I mean the cave of Dunmore.<sup>2</sup> Wherefore having had the curiosity to see it, in defect of a better I present you with my own account of this wonderful place so far as I shall be able to copy it from what I remember either to have seen my self or heard from others.

This rarity<sup>3</sup> is distant four miles from Kilkenny & two from Dunmore his Grace the Duke of Ormond's<sup>4</sup> country house whence it has its name. Its mouth or entrance is situated in a rising ground and affords a very dismal prospect being both wide & deep & all its sides rocky & precipitious save one which is a slope, part whereof is fashioned into a path & in some places into steps by the frequent descents of those who out of curiosity visit this stupendous cave. This as well as the rest of the sides is overrun with elder and other shrubs which add to the horror of the place & make it a suitable habitation for ravens, screech-owls & such like feral birds that dwell in the cavities of the rocks.

At the foot of this descent by an opening which resembles a wide arched gate we entered into a vast cavern the bottom whereof is always slabby by reason of the continual distillation of rock water. Here we bad farewell to day-light plunging into a more than Cimmerian darkness that fills the hollows of this subterranean dungeon into whose more retired apartments we were admitted

<sup>1</sup> Two drafts are present in the manuscript file. The first ends abruptly as noted below. A version of these manuscripts appears from the same period on pages 292–301 in a tome entitled *A Natural History of Ireland* (with I.1.3 on the spine) to be found in the manuscripts room of the library at Trinity College, Dublin. Fraser published yet a fourth version from the *Commonplace Books* in 1871. Luce uses the manuscripts at TCD, as do I. The opening remark indicates the letter was received and read in Berkeley's absence at some scientific society. Luce not unreasonably speculates the society was at Trinity College on the evidence that the draft manuscript is near to rules for such a society copied into his commonplace book. See Luce, *Life of George Berkeley* (London: Nelson & Sons, 1949; reprinted London: Thoemmes, 1992), p. 35.

<sup>2</sup> Berkeley likely visited the cave in the summer of 1699, judging from his remark in his 26 November 1709 letter (Letter 7) to Samuel Molyneux. The account in this letter is thus from memory some six and a half years later.

<sup>3</sup> The *Commonplace Book of Berkeley* has "cave" instead of "rarity."

<sup>4</sup> James Butler\* (1665–1745), second Duke of Ormond.

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by two passages out of this first cavern; for having by candlelight spy'd out our way towards the left hand & not without some difficulty clambered over a ruinous heap of huge unwieldy stones, we saw a farther entrance into the rock but at some distance from the ground; here nature seemed to have made certain round stones jut out of the wall on purpose to facilitate our ascent.

Having gone through this narrow passage we were surprised to find our selves in a very vast and spacious hall, the floor [of] which as well as the sides & roof is rock, though in some places it be cleft into very frightful chasms yet for the most part is pretty level & coherent; the roof is adorned with a multitude of small round pipes as thick as a goose-quill and (if I misremember not) a foot long or thereabouts;<sup>5</sup> they are made of an almost transparent stone and are easily broken, from each of them there distills a drop of clear water which congealing at the bottom forms a round, hard, & white stone, the noise of those falling drops being somewhat augmented by the echo of the cave seems to make an agreeable harmony amidst so profound a silence; the stones (which I take to be three or four inches high they all seeming much of a bigness) standing pretty thick in the pavement make it look very oddly. Here is likewise an obelisque of a duskish, gray colour & (I think) about three or four foot high, the drop which formed it has ceased so that it receives no farther increment.

This cave in the great variety of its congelations as well as in some other respects seems not a little to resemble one I find described under the name of Les grottes d'Arcy, in a French treatise *de l'origine des fontaines* dedicated to the famous Huygenius & printed at Paris in 1678,<sup>6</sup> but I must own that French cave has much the advantage of ours on account of the art & regularity which nature has observed in forming its congelations; or else that author has infinitely surpassed me in strength of fancy, for after having given a long detail of several things which he says are by them represented, he concludes with these words: *enfin l'on y voit les ressemblances de tout ce qu'on peut imaginer, soit d'hommes, d'animaux, de poissons, de fruits,*<sup>7</sup> etc. i.e. in short, here you may see the resemblance of whatever you can possibly imagine, men, beasts, fishes, fruits etc.; now though as much be confidently reported & believed of our cave yet to speak ingenuously it is more than I could find to be true, but on the contrary am mightily tempted to think it proceeds from strength of imagination, for like as we see the clouds so far comply with the fancy of a child as to resemble trees,

<sup>5</sup> The following clause was inserted with a caret marking its place.

<sup>6</sup> Pierre Perault, *De l'Origine des Fontaines* (Paris, 1678).

<sup>7</sup> "Finally one sees the resemblances in everything that one can imagine, whether men, animals, fish, or fruit."

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horses, men or whatever else he's pleased to think on, so it is no difficult matter for men of a strong imagination to shape the irregular congelations after the model of their fancy; in short they need only for their diversion conceive printed on the petrified water the impression of their own brain to see men, beasts, fishes, fruits or any thing else they can possibly imagine.

By what has been already observed it appears the congelations are not all of the same colour, for the colour of the pipes is much like that of alum, the stones formed by their drops are of a white inclining to yellow, and the obelisque I mentioned differs from both. Moreover there is a quantity of this congealed water that by reason of its very white colour and irregular figure at some distance resembles a heap of snow and such at first sight I took it to be, much wondering how it could come there. When we approached it with a light it sparkled and cast a lively lustre, and we discovered in its superficies a number of small cavities as you may see in the above cited treatise, p. 279 & 287. But the noblest ornament of this spacious hall is a huge, channeled pillar which standing in the middle reaches from top to bottom. There is in one side of it a cavity which from its figure is called the alabastre chair. The congelations which form this column are of a yellowish colour & as to their shape something like the pipes of an organ; but organs I find are no rarity in places of this nature, they being to be met with not only in the caves of Arcy and Antiparos (an isle in the archipelago) but also in one near the firth of Forth in Scotland mentioned by Sir Robert Sibbald<sup>8</sup> in the *Philosophical Transactions*, number 222. This I look upon to be in all respects by far the greatest pillar I ever saw, & believe its pedestal (which is of a dark colour & with a glorious sparkling reflects the light of a candle) is as much as three men can well fathom.

I am concerned that I did not take the dimensions both of this lofty pillar & of the other things I endeavoured to describe. I am sorry I cannot furnish this illustrious assembly with an exact account of the length, breadth & height of these subterranean chambers, and have reason to think I have been by this time often censured for using such undetermined expressions as wide, narrow, deep, etc. where something more accurate may be looked for; but I have this to offer in my excuse, that when I visited this place I had no thoughts of satisfying any ones curiosity besides my own, having done it purely for my diversion<sup>9</sup> and by consequence might well be supposed to omit several things that may be taken notice of by a curious observer & expected in an exact & accurate description

<sup>8</sup> Sir Robert Sibbald (1641–1722), Scottish physician, geographer, and antiquary.

<sup>9</sup> Struck out is the following: "in the company of some other schoolboys merely out of a childish humour and a parcel of young boys."

*Letter 1*

which I am far from pretending this to be. Moreover the vast horrors of this melancholy place had so far filled the capacity of my mind that I was obliged to overlook several things that demanded a particular regard.

Here it was, I desired one of the company to fire of his gun (which he brought with him to kill rabbits that we saw in great numbers about the mouth of the cave): the sound we heard for a considerable time roll through the hollows of the earth & at last it could not so properly be said to cease as to go out of our hearing. I have been told that a noise made in the cave may be heard by one walking in St. Canice's church at Kilkenny, but know no one who ever made the experiment.

Having viewed the wonders of this place & not discovering any further passage, we returned through the narrow entrance we came in by. By this time some of our company thought they had seen enough and were very impatient to get out of this dreadful dungeon; the rest of us went on through a passage opposite to the former and much of the same wideness that led us into another cave which appeared every way formidably vast being of a prodigious length and astonishing height, & though the interval of time may have rendered my ideas of several particulars I there saw dim & imperfect, yet the dismal solitude, the fearful darkness & vast silence of that stupendous cavern have left lasting impressions in my memory. The bottom is in great part strewn with huge, massive fragments which seem by the violence of an earthquake to have been torn from the rock. The roof (as far as we could discern it by reason of the height) seemed to be of a blackish rock, and was destitute of the crystal pipes above-mentioned; advancing forward we met with a great white congelation set against the side of the cave which resembles a pulpit with a canopy over it, and hard by we saw the mold newly turned up at the entrance of a rabbit hole, and I have heard others affirm that very far in this dark and dismal place they have met with fresh rabbit's dung. Now to me it seems difficult to conceive what these little animals can live on, for it passes imagination to think they can find the way in and out of the cave except their eyes be fashioned to see in consummate darkness. Having gone a little farther we were surprised with the agreeable murmur of a rivulet falling through the clefts of the rock, it skims along the side of the cave & may be (as I guess) about six foot over; its water is wonderfully cool & pleasant & so very clear yet where I thought it had scarce been an inch deep I found my self up to my knees; this excellent water runs but a little way ere the rock gapes to receive it.

But what is most surprising is that the bottom of this spring is all over spread with dead men's bones & for how deep I cannot tell. It is likewise reported & (if

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I mistake not) I have discoursed w[i]th some who said they themselves had seen great heaps of dead men's bones piled up in the remote recesses of this cavern. Now what brought these bones hither there is not the least glimmering of tradition that ever I could hear of to inform us. It is true I remember to have heard one<sup>10</sup> tell how an old Irish man who served for a guide into the cave solved him this problem by saying that in days of yore a certain carnivorous monster dwelling there was wont furiously to lay about him & whoever were unhappy enough to come in his way hurry them for food into that his dreadful den. But this (methinks) has not the least show of probability; for in the first place Ireland seems the freest country in the world from such man-slaughtering animals, & again, allowing there was some such pernicious beast, some anomalous [*sic*] production of this country, then these bones being supposed the relics of devoured men, one might reasonably expect to find them scattered up & down in all parts of the cave rather than piled up in heaps or gathered together in the water. And here if I may be allowed to publish my conjectures, I think it more probable that in former times this place served the Irish for the same purpose for which the huge subterraneous vaults of Rome & Naples called catacombs were intended by the ancients, i.e. that it was a repository for their dead; but still what should move them to deposit the bones we saw in the water I cannot devine [*sic*]. It is likewise very hard to imagine why they should be at the pains to drag the corpses through long & narrow passages that so they may interr it farther in the obscure depths of the cave; perhaps they thought their deceased friends might enjoy a more undisturbed security in the innermost chambers of this melancholy vault.

Proceeding forward we came to a place so low that our heads almost touched the top; a little beyond this we were forced to stoop, & soon after to creep on our knees; here the roof was thick set with the crystal pipes, but (I think) they had all given over dropping; they were very brittle and as we crept along we broke them off with our hats which rubbed against the roof; on our left hand we saw a terrible hiatus that by its black & dreadful looks seemed to penetrate a great way into the bowels of the earth, and here we met with a good quantity of petrified water in which though folks may fancy they see the resemblances of a great many things, yet I profess I know not what more fitly to compare it to than the<sup>11</sup> blairings of a candle; these congelations standing in our way had almost stoped up the passage; so that we were obliged to return.

<sup>10</sup> Scratched out here but legible is "my father."

<sup>11</sup> One draft of the manuscript ends abruptly here.

*Letter 1*

I will not deny that there are other passages which by a diligent search we might have discovered or a guide acquainted with the place have directed us to; for it is generally reported<sup>12</sup> that no one ever went to the end of this cave; but that being sometimes forced to creep through narrow passages one comes again into great and spacious vaults. I have heard talk of several persons who are said to have taken these subterraneous journeys; particularly one, St. Leger, who having provided a box of torches and victuals for himself and his man is said to have travelled two or three days in the abstruse paths of this horrible cave, and that when his victuals were well nigh spent, and half his torches burnt out, he left his sword standing in the ground and made haste to return; also I have been informed that others having gone a great way writ their names on a dead man's skull which they set up for a monument at their journey's end. But I will not vouch for the truth of these and other stories. I have heard many whereof<sup>13</sup> are apparently fabulous.

I have likewise been told that people are apprehensive of damps in this place, but this<sup>14</sup> is a groundless fear indeed where the air impregnated with sulphureous exhalations and pent up in some close hole may get vent by the digging of the collier; it is not unlikely such things may happen, but here I do not think there is any thing which cause the like effect.<sup>15</sup> I am sure so far as we went the candles after all burnt very clear the air being exceeding temperate & calm.

I have known some so unreasonable as to doubt whether this cave was not the workmanship of man or giants in old times, notwithstanding that it has all the rudeness & simplicity of nature, & might easily be accounted for without having recourse to art, considering its entrance is in a hill, and the country all around it hilly and uneven, for from the origine of hills and mountains as it is delivered by Descartes and since him by our later theorists, it is plain they are hollow and enclose vast caverns which is farther confirmed from experience and observation.

This is all I have to say concerning the cave of Dunmore. I have every where endeavoured to raise in your imagination the same ideas I had myself when I saw it as far as I could call to mind at the distance of almost seven years.

log: num. 216

test: num: 257<sup>16</sup>

<sup>12</sup> One draft has "generally reported" struck out, replacing it with "commonly believed." The other has "generally reported" followed by the words "and thought" struck out.

<sup>13</sup> The words "a great many" are struck out here.

<sup>14</sup> "I conceive" is struck here in one draft, left in the other.

<sup>15</sup> In the draft this sentence is defective and illegible, but is clear in the version published in *Natural History of Ireland*.

<sup>16</sup> A reference to *Philosophical Transactions* 216 and 257 (1698). See A. A. Luce "Berkeley's Description of the Cave of Dunmore," *Hermathena* 46 (1931): 152-53.



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## Letter 1

[In the copy in the volume of the *Philosophical Commentaries* the following last paragraph is substituted for the last paragraph above:]

Soon after I finished the foregoing description of the cave, I had it revised by Mr. William Jackson, a curious and philosophical young gentleman, who was very lately there. He said the account I gave was very agreeable to what he himself had seen, and was pleased to allow it a greater share of exactness than I durst have claimed to it. He had with him an ingenious friend, who designed to have taken the plan and dimensions of the several caverns, and whatever was remarkable in them; but the uneasiness they felt from a stifling heat hindered them from staying in the cave so long as was requisite for that purpose. This may seem somewhat surprising, especially if it be observed that we on the contrary found it extremely cool and refreshing. Now, in order to account for this alteration, it is to be observed those gentlemen felt the heat about the beginning of spring before the influence of the sun was powerful enough to open the pores of the earth, which as yet were close shut by the cold of the preceding winter; so that those hot streams which are continually sent up by the central heat—for that there is a central heat all agree, though men differ as to its cause, some deriving from an incrustated star, others from the nucleus of a comet sunburnt in its perihelium—remained pent up in the cavern, not finding room to perspire through the uppermost strata of rock and earth: whereas I was there about a month after the summer solstice, when the solar heat had for a long time and in its full strength dwelt upon the face of the earth, unlocking its pores and thereby yielding a free passage to the ascending streams. Mr. Jackson informed me of another observable [fact] that I had not taken notice of, viz. that some of the bones which lay in the water were covered over with a stony crust; and Mr. Bindon<sup>17</sup> (so was the other gentleman called) told me he met with one that to him seemed petrified throughout.

Before I have done I must crave leave to advertise my reader that where, out of compliance with custom, I use the terms congelation, petrification, etc., I would not be understood to think the stones formed of the droppings were made of mere water metamorphosed by any lapidific virtue whatever; being, as to their origin and consistence, entirely of the learned Dr. Woodward's<sup>18</sup> opinion, as set forth in his *Natural History of the Earth*, pp. 191 and 192, where he

<sup>17</sup> Perhaps a reference to Thomas Bindon (?–1740), later dean of Limerick in 1721.

<sup>18</sup> Dr. John Woodward (1665–1728), geologist and professor of physic at Gresham College, London. He authored *An Essay Toward a Natural History of the Earth. With an Account of the Universal Deluge and of the Effects that it had upon the Earth* (1695), which defends a biblical account of the fossil record.

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takes that kind of stone, by naturalists termed stalactites, to be only a concretion of such stony particles as are borne along with the water in its passage through the rock from whence it distils.

## 2 BERKELEY TO SLOANE

*BL Sloane Ms 8 4040, fol. 176.*

11 June 1706

Vidi nuper librum D. Mead M. D & S.R.S cui titulus de imperio Solis & Lunae in corpora humana, & in eo quidem aestum aeris utpote celeberrimi Newtoni principiis innixum prono animo amplexus sum. Verum an author ingeniosus eventuum quorundam isthuc pertinentium causas tam recte assecutus sit non adeo constat. Siquidem tribuit ille altiore aeris circa aequinoctia tumorem figurae sphaeroidali terrae, differentiam insuper inter aeris intumescantiam quae a luna meridionali & illam quae a luna (ut ita dicam) antimeridionali in Sphaera oblique excitatur eidem causae acceptam refert. Ego vero neutrius effectus explicationem ab oblata sphaeroide pe-tendam duco propterea quod 1.<sup>o</sup> quamvis sententia quae globum terrae pro ista figura commu-tatum vult hunc celebratissimorum virorum Huygenii imprimis & Newtonii suffragiis, tum rationibus tam physicis quam mathematicis comprobetur & nonnullis item phaeno-menis pulchre respondeat, non tamen apud omnes usque adeo obtinet ut nulli veteris vel etiam oppositae sententiae fautores hodie reperiantur. Et sane memini D. Chardellou S.R.S Astronomiae peritissimus mensibus abhinc plus minus quatuordecim mihi indicasse sibi ex observationibus Astronoicis axem terrae diametro aequatoris compertum esse longiorem adeoque, terram Sphaeroidem sed qualem vult Burnetius ad polos assurgentem prope aequatorem vero humiliorem. [A]ttamen quod ad me attinet mallem viri doctissimi observations in dubium vocare quam argumentis quae terram esse oblatam, demonstrant obviam ire nihilominus quoniam sententia ista non omnibus aequiearidet, illam tanquam principium phaenomeno ulli declarando adhiberi nollem nisi res aliter explicari nequeat. Sed 2.<sup>o</sup> tantum abest quod supra-dictorum effectum explicatio sphaeroidalem terrae figuram necessario poscat ut vix ullam inde lucis particulam mutari videatur, id quod appositis quae in hanc rem scribit vir cl. ostendere conabor. [A]ltius (inquit p. 9) solito se attollit aer circa duo aequinoctia quoniam cum aequinoctialis linea illi globi terrestris circulo adversa respondeat qui diametru habet maximam,