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An Account of the Impression of the Almost Entire Skeleton of a Large Animal in a Very Hard Stone, Lately Presented the Royal Society, from Nottinghamshire. By Dr. William Stukely, M. D. and R. S. Soc.

William Stukely

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Res ipsas exposui, peroratione non utor; harum enim tædet. Nec si quidquam regefferit Bernoullius, ulterius respondere necesse habebō. A contumeliis nos semel vindicare & jus & ratio postulat; ulterius non expedit.

III. *An Account of the Impression of the almost Entire Skeleton of a large Animal in a very hard Stone, lately presented the Royal Society, from Nottinghamshire. By Dr. William Stukely, M. D. and R. S. Soc.*

HAVING an Account from my Friend, *Robert Darwin, Esq;* of *Lincoln's-Inn*, a Person of Curiosity, of an human *Skeleton* (as it was then thought) impress'd in Stone found lately at the Rev. Mr. *John South's*, Rector of *Elston* near *Newark, Nottinghamshire*, I was desirous of a Description of it, for the Entertainment of the ROYAL SOCIETY, and have at length procured the Stone it self for their Repository, where such remarkable Appearances are best preserv'd, and deservedly valued. It cannot but be matter of Regret, that so considerable a Rarity, the like whereof has not been observ'd before in this Island (to my knowledge) should be maim'd and imperfect, yet we may content our selves if enough be still visible to favour a Conjecture of what it has been. The Stone it self is a blue Clay Stone, the same as (and undoubtedly came from) the neighbouring Quarries of *Fulbeck*, or thereabouts, upon the Western Cliff of the long Tract of Hills extending quite through the adjacent County of *Lincoln*. It lay, time out of mind,

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at the side of a Well near the aforesaid Mr. *South's* Parsonage-House, where it had serv'd for a Landing-place to those that drew Water; but upon removal, the Under-side exhibited this unusual Form, and was accordingly taken notice of by that worthy Gentleman, and laid up in his Garden for Curiosity-sake. Where the remaining part of the Stone, which contain'd the Upper part and Continuation of the *Skeleton*, or that which was the other side, and tally'd with it, may be, is now utterly unknown: but upon view, I am persuaded, it cannot be reckon'd Human, but seems to be a *Crocodile* or *Porpoise*. There are Sixteen *Vertebra* of the Back and Loyns very plain and distinct, with their Processes and intermediate Cartilages, Nine whole or partial Ribs of the Left-side, the *Os Sacrum*, *Ileum in situ*, and two Thigh-Bones displac'd a little, the Beginnings of the *Tibia* and *Fibula* of the Right-Leg; on one Corner there seem to be the *Vestigia* of a Foot with four of the five Toes, and a little way off an entire Toe, now left perfect in the Stone: there are no less than Eleven Joints of the Tail, and the Cartilages between them of a White Colour distinguishable from the rest. We should impose upon our Senses, to question, whether these be the real Reliques of an Animal; for the very Bones themselves are now to be seen as plainly, as if preserv'd in an *Egyptian* Mummy; a very little while ago, the Society had a Draught of a *Crocodile*, tho' a small one, found after the like manner inclos'd in Stone, from a Quarry in the Mountains of upper *Germany*. I suppose the same Reason accounts for both and all the rest of these kind of Fossils; and I please my self in an ocular Evidence, and so great a Confirmation of what I had the Honour to present to the *Royal Society*, in a late Discourse, where I hinted at a Solution of some obvious

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vious and remarkable Phenomena, in the external Face of the Globe, consequent to its Formation, as set forth in the *Mosaic* Account; and of some Changes it suffer'd at the universal *Cataclysm*, and Proofs of that great *Catastrophe* of the animal and vegetable World in Plants, Shells, and Parts of living Creatures found in Rocks and Quarries.

Its remarkable, that all the Stone-Pits about the Country whence this came, abound with prodigious Quantities of Shells, and the like, and the greatest part of the Substance of the Stone is a Composition of them. There are many Accounts of them in the *Transactions*, and this Stone has many Shells of different kinds in it. Sir *Hans Sloan* has a Fish-Skeleton, amongst his immense Treasure of Curiosities, found near this Place, given by the Duke of *Rutland*. If we look upon a Map of the Country, and observe the *Lincolnshire Alpes* which I spoke of before, how they run 50 Miles North and South, and on the West side are steep and rocky, we may see the Reason why these Quarries should be so stuf with them; for it is just to conceive, that upon retiring of the Waters of the Deluge from the Superficies of this Country, into the Eastern Seas, these heavy Bodies met a full stop, and were intercepted by this Cliff, which has retain'd such vast Quantities of them ever since: whilst those which fell upon common Mold are mostly rotten, and now lost.

Sir *Isaac Newton's* Doctrine of the Attraction of the Particles of Matter, according to the Quantity of its Solidity, Proximity, and Surface, especially that it is infinitely greater in the point of Contact, upon which depends its Cohesion and all the Varieties of Physical Action, will easily direct us to a Notion of Petrification. We learn how a proper Degree of Heat or Cold,

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Moisture, Motion, Rest and Time, promote this Principle, from the common Experiments of ChrySTALLIZATION and Freezing even before the Fire, and in many Chymical Mixtures. Whence we cannot be ignorant of Stone growing in the Quarries gradually, not by any fancied Vegetation, tho' there is something like it in Corals, but generally by Apposition of Parts to Parts, as is notorious in the *Fluors* of subterraneous Grotts and Caverns. So that we have no reason to doubt but what was Clay, Sand, or Earth 3000 Years ago, may now be Stone or Marble, according to the Proportion of Concurrence of such mentioned Causes. This will persuade us that the now barren and rocky Plains of the Countries of *Syria*, *India*, and *Arabia*, are owing to Natural Causes, as well as an immediate Curse of God for the Disobedience of its ancient Possessors his peculiar People, because the same is observable of the famous Countries of *Greece* and *Africa*, warm Regions so renowned for Fertility in antient Authors. Wherefore there may be some likelihood in the Opinion of those who think that in many Ages the whole Face of the Globe may become one great Rock. Dr. *Plott*, in his Natural History of *Oxfordshire*, gives an Account of a *Tumulus*, now a perfect Mount of Stone: and upon *St. Vincent's Rock* near *Bristol* are Fortifications now become solid Cliff. I remember, about six Years ago, Mr. *Ralph Widdrington*, Brother to the Earl of that Name, shew'd me many human Bones taken from whole Sceletons, with Brittish Beads, Chains, Iron Rings, Brass Bits of Bridles, and the like, which were dug up in a Quarry, near the Seat of the Family, at *Blankney*, *Lincolnshire*; which very probably was plain Mold, when these old Corpses of the *Britons* were interr'd; and since then I saw many human Bones and Armour, with *Roman Coins*, *Fibulae*, &c. found in
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a Stone-pit in the Park at *Hunstanton, Norfolk*; belonging to Sir *Nicolas L'Estrange*, in whose Custody they now are, which were conjectured to have been buried in Earth after a Battle. From whence we may judge it a vulgar Mistake, when in the Ruins of old Castles and Walls, we admire the Tenacity of the Mortar, and are apt to praise our Ancestors, for an Art which we suppose now lost; when doubtless the Strength of the Cement is owing to the Length of Time: and in future Ages our Modern Buildings may obtain the same Judgment.

From all which Instances, I only desire to infer the antient state of these Cliffs, where this Sceleton was, and Shells are daily found, intimately mixt in the Substance of the Stone, to have been formerly of a softer Consistence, capable of admitting them into its Bowels, and to have immur'd them as part of it self; and that Earth which is now manageable by the Plough, may possibly in time assume the same Density, at least very little below the Surface; for in this very Cliff the upper *Strata* are yet Clay, growing harder as deeper. What Creature this has been, for want of a Natural History of Sceletons, well worthy the Endeavours of this Society, we cannot positively determine; but generally find the like to be amphibious or marine Animals. Why such rather than many others, should chance to be thus entomb'd, may be thought, because they were able much longer than Terrestrial Animals to live in that World of Waters, even till they began to abate and fall away into their destin'd Receptacles; so that while the Bodies of the rest soon perishing, were corrupted, and their Bones separated and dispers'd much earlier; this Sceleton, with others of its like, fell entire into the Fissures of this Bed of Clay, which has since turn'd into Stone, and made this noble Monument and
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pregnant Token of that general Inundation, durable as the vain glorious *Egyptian* Monarchs Pyramids at *Memphis*; to be perpetuated in the lasting Records of this Society. See the Figure of this Impression, in Tab. I.

IV. *A curious Description of the Strata observ'd in the Coal-Mines of Mendip in Somerietshire; being a Letter of John Strachey Esq; to Dr. Robert Welsted, M. D. and R. S. Soc. and by him communicated to the Society.*

I Now send you the Observations which I sometime since promised you, relating to the different *Strata of Earths and Minerals* found principally in the Coal-Mines in my Neighbourhood. For the better Illustration whereof, I have inclosed a Draught, which you must suppose the Section of a Coal Country, and to take in about Four Mile from the North-West to South-East, and may be applied to the Veins of Coal as they lye at *Faringdon-Courny*, and likewise at *Bishop-Sutton*, which last Place is near *St. wy*, but in the Parish of *Chew Magna* in this County of *Somerset*. For Discovery of Coal, they first search for the *Crop*, which is really Coal, tho' very friable and weak, and sometimes appears to the Day, as they term it; or else for the *Cliff*, which is dark or blackish Rock, and always keeps its regular Course as the Coal does, lying obliquely over it. For all Coal lies shelving like the Tyle of a House, not perpendicular nor horizontal, unless it be broken by a *Ridge*, which is a parting of Clay, Stone, or Rubble; as if the Veins by some violent Shock were disjointed and broken, so as to let