XLI. *An Account of a curious Giant's Cauſeway, or Group of angular Columns, newly diſcovered in the* Euganean Hills, *near* Padua, *in* Italy. *In a Letter from* John Strange, *Eſq. F. R. S. to Sir* John Pringle, *Bart. P. R. S.*

TO SIR JOHN PRINGLE, BART. P. R. S.

SIR, Venice, March 10, 1775.

Redde, June 15, 1775.

AS you thought proper, to recommend to the notice of our learned Society the account, which I did myſelf the honour of communicating to you not long ſince, of two giants cauſeways in this Venetian ſtate; I now take the liberty to ſend you the deſcription and figure of another ſimilar phænomenon, equally curious, and lately diſcovered in the ſame neighbourhood. It is ſituated at Caſtel Nuovo, a ſmall village near Teolo, alſo in the Euganean hills, about four miles South-weſt of the other Giant's Cauſeway of Monte Roſſo before deſcribed. I am indebted for the intelligence of this new cauſeway to the ingenious Abbé FORTIS, whom curioſity alſo led among thoſe hills; and who, at my requeſt, accompanied a painter I lately ſent from hence, to make the drawing of it, which I have now the pleaſure to tranſmit to you(a). *Il Saſſo di San Biaſio*,

(a) Plate XI.

which

which is the name of the ſpot where this cauſeway is ſituated, is a large inſulated rock, compoſed of the ſame ſort of grey granite that is common to the Euganean hills, and which I have before deſcribed (b). The columns which form this cauſeway, partly againſt the flank of the rock, and partly round its baſe, are of the ſame ſubſtance, with the rock itſelf, to which they adhere, as I have conſtantly obſerved in all ſimilar groups. They are therefore of a compound nature, like the columns of Monte Roſſo, and differ intirely from the common ſort, which are moſtly homogeneous, or of an uniform texture; as is obſervable in the jointed, as well as ſimple ſpecies of *baſaltes*. I ſhall take the firſt opportunity of ſending a fragment of one of the newly diſcovered columns, for the inſpection of the Society; in the mean time the incloſed pieces, which were broken from one of them, will ſerve to ſhew, how different their ſubſtances is from that of the common baſaltic columns. By comparing theſe pieces with the fragments of the columns of Monte Roſſo which I before tranſmitted to the Society, ſome eſſential difference will appear between them. Thoſe of San Biaſio, though very hard, are rather porous, of a lighter colour than the columns of Monte Roſſo, and very much reſemble a ſpecies of *lava*, which I have often ſeen. This porouſneſs I alſo remember to have once before obſerved, and more ſignally too, in ſome baſaltic columns near Achon, in the province of Auvergne, in France. The pores in the columns of both

(b) See Article II. of this volume.

theſe

theſe groups are alſo irregularly diſperſed, and of unequal ſize, like thoſe of pumice ſtones and other common *pori ignei*. Thoſe of the columns of San Biaſio are moreover commonly inveſted with a ſort of *crocus martis*, which I have alſo frequently obſerved in the pores of other vulcanic concretions. Theſe properties are ſurely further marks in favour of the igneous origin of ſuch columnar cryſtallizations; eſpecially, ſince they ſeem contrary to the principle by which the common aqueous cryſtals are formed, ſucceſſively, *et per juxtapoſitionem partium ad partes*. In fact, theſe cryſtals manifeſt no ſuch poroſity. I alſo obſerved, that the columns of Achon, though of a homogeneous ſubſtance, yet differ from the common *baſaltes* by their immenſe ſize as well as colour, which is rather brown than black. The columns of San Biaſio are likewiſe very large, meaſuring often two feet in diameter. They are alſo of the ſimple ſpecies, that is not jointed, and moſtly quadrangular, which figure ſeems rather a principal characteriſtic of this group, being rarely obſerved in others. So true it is, as I formerly remarked, that ſome particular characteriſtic ever diſtinguiſhes the different groups of *baſaltes*; which, therefore, cannot be too narrowly obſerved, before we pretend to form any opinion about their origin. Some few, but very few, chiefly of the ſmaller columns of San Biaſio, are of a pentagonal form, like the ſpecimen which I propoſe to tranſmit to the Society. But there are no hexagonal columns, which, in other

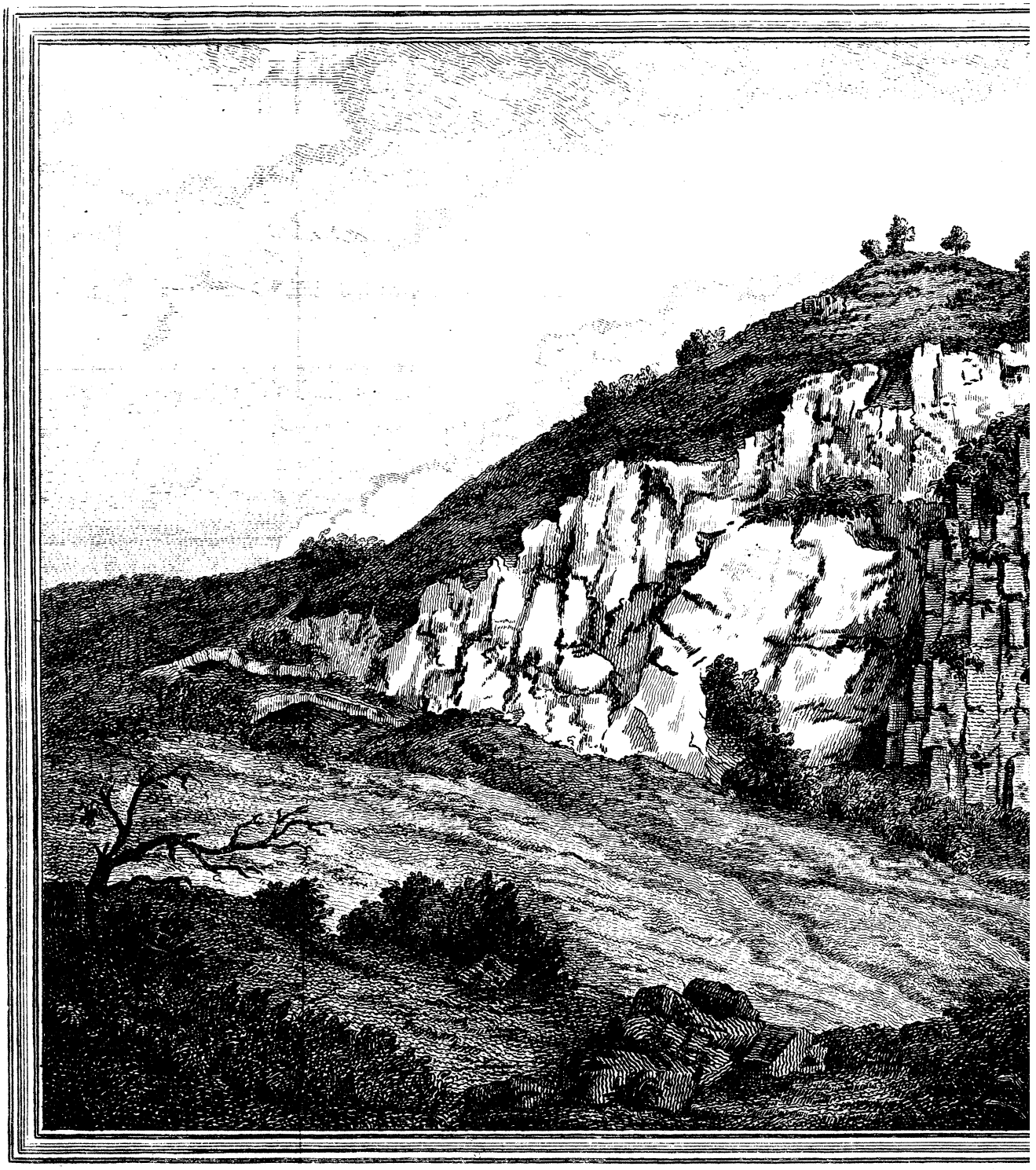
other baſaltic groups, are the moſt common. The natural poſition of theſe columns, whether facing the rock, or about the bottom of it, is moſtly perpendicular. Another adjacent portion of this rock is alſo characterized by angular and, as it were, winding *ſtrata*, ſomewhat reſembling the bending pillars of Staffa, as may be obſerved in the drawing. The rock itſelf is alſo compoſed of angular maſſes, as are indeed moſt granites; and theſe maſſes are alſo ranged perpendicularly. Several emerge, as it were, from the tops and ſides of the neighbouring rocks and hills, like ſo many ſtately and artificial pillars. The winding *ſtrata* before mentioned are alſo parallel with each other, as I have frequently obſerved in other granites, as well as common vulcanic *ſtrata* in general, particularly of the harder ſort. DESMAREST calls the latter *Baſaltes en tables* (c); which is a kind of vulcanic ſlate, formed in parallel *ſtrata* of different thickneſs, from two or three to five and ſix inches. This is very common in the provinces of Velay and Auvergne, in France, where it is alſo uſed for coverings of houſes. The ſame ſort of ſlate is likewiſe common to the mountains of Genoa, many of which ſeem to be of vulcanic origin, as I recollect to have remarked in paſſing the chain of the *bochetta*, between Genoa and the plain of Lombardy. I mention this circumſtance, as the vulcanic *phænomena* of that part of Italy have not hitherto been attended to. In fact, it is lately only that ſuch obſervations begin to be made in other countries; the characters of extinct volcanos or vulcanic

(c) Encyclopedie, Art. Pavé des Giants.

tracts,

tracts, being but little known, though ſuch tracts ſeem to occupy every where a very conſiderable part of the ſurface of the earth. I remember to have obſerved theſe ſlaty tables, or parallel *ſtrata*, of granite, near the top of the famous San Gothard, in the aſcent of that mountain on the ſide towards Switzerland. Theſe *ſtrata* are alſo ranged perpendicularly, like the other common ones in granites, and reſemble DESMAREST'S *baſaltes en tables*; affording thus another proof of the analogy remarkable between the organization of the different maſſes in granites, and that of common vulcanic *ſtrata* in general. The former, as well as the latter, have their priſmatic columns, their *baſaltes en tables*, as DESMAREST calls them, and *en boules*, as I have obſerved in my account of Monte Roſſo. Surely, therefore, theſe are ſtrong proofs in favour of the common origin of both. The rocks of San Biaſio abound with ferruginous vitrifications, which are frequently obſervable in granites; and the neighbouring tracts with *lava* or *pori ignei*; as I have alſo obſerved, when I made the tour of this country, particularly about Teolo. The Abbé FORTIS brought me a piece of *lapis lenticularis*, broken from the limeſtone that ſuperficially covers the granite of theſe Euganean hills, in many places, as I before obſerved. I mention this circumſtance, recollecting to have taken notice, in my laſt paper, that ſuch figured bodies are not commonly found in the lime-ſtone of this country. As the preſent account may ſerve, by way of appendix, to that which I lately did myſelf the honour to

preſent



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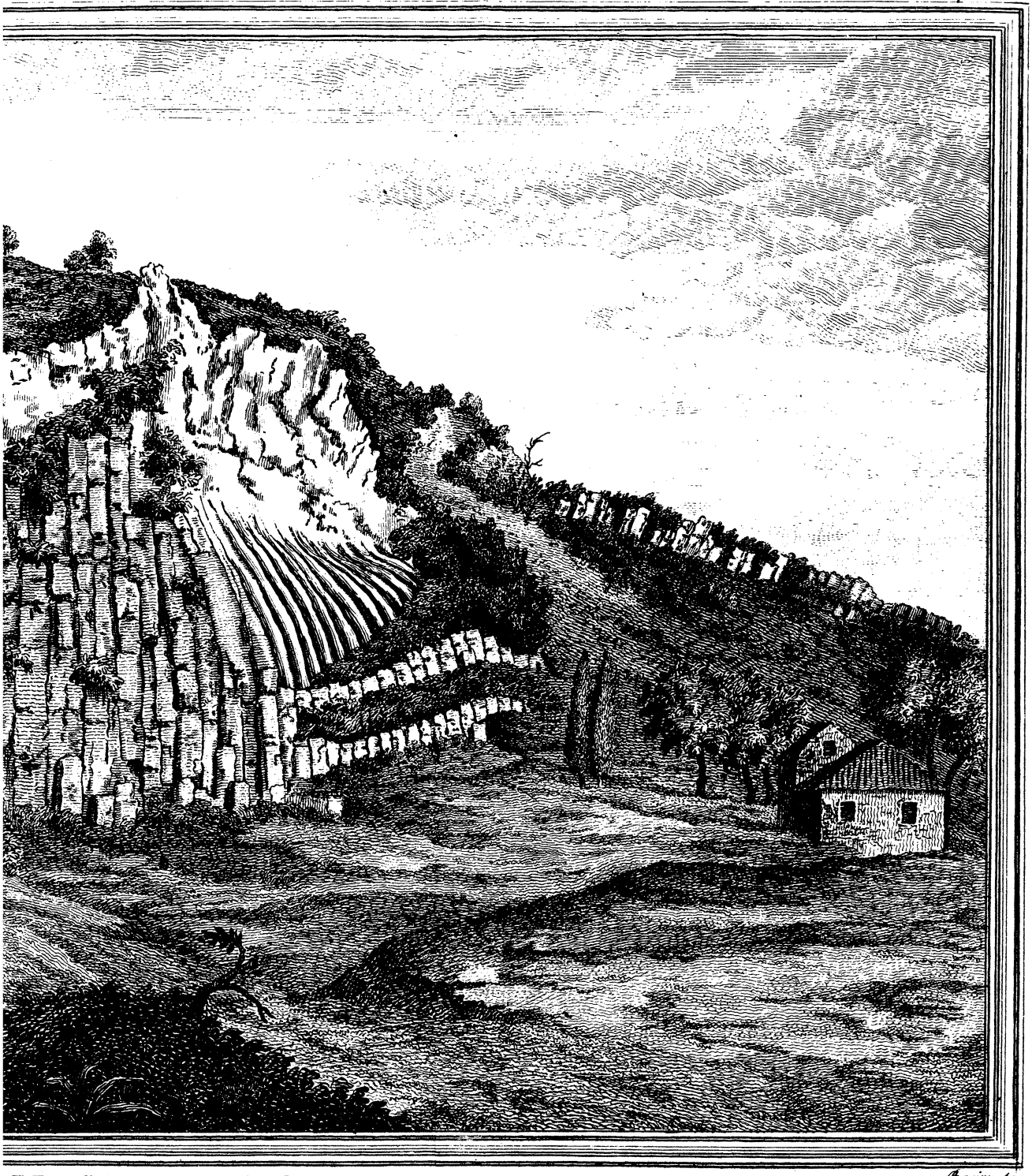

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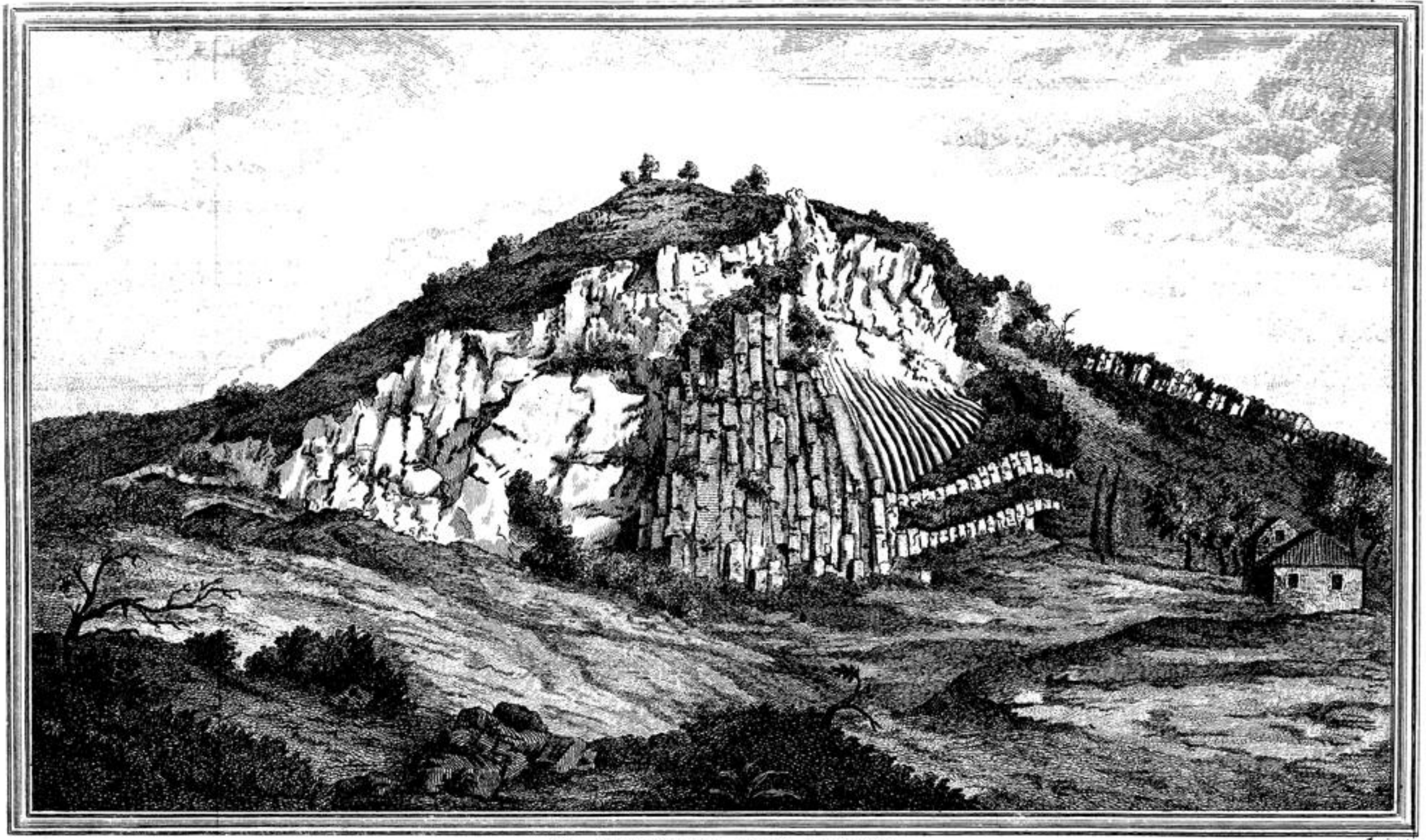
preſent to the Society, through your favour; you will oblige me alſo by the communication of it to that learned body, ſhould you find it deſerving of their attention.

I have nothing further to add at preſent, but the aſſurances of my being, with great truth and eſteem, SIR,

Your moſt obedient humble ſervant,

JOHN STRANGE.



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