

CORRESPONDENCE.

NATURE OF VOLCANIC HEAT.

SIR,—In reference to Mr. Scrope's letter in the *GEOLOGICAL MAGAZINE* for May, 1874, p. 237, I must exonerate myself from that gentleman's charge of "persistently continuing to saddle him with the advocacy of one or both theories as to the origin of volcanic heat, viz. a liquid nucleus and thin crust, or Hopkins's fiery lakes."

An author's notions are usually gathered from his acknowledged systematic works, and not from scattered magazine articles. I am much mistaken if Mr. Scrope has not throughout his systematic works adopted one or both of the above theories. On reference to the articles in your *MAGAZINE* from Mr. Scrope's pen, referred to by you in your foot-note (*GEOLOGICAL MAGAZINE*, March, 1874, p. 127), as modifying or repudiating the above theories, I am compelled to repeat what I have already stated in your April Number, that nothing contained in them appears to me to justify the statement made by you that I "misapprehended,"¹ and now by Mr. Scrope himself, that I have misrepresented him.

Whether Mr. Scrope's subterraneous reservoirs be left as unexplained as to their origin, as Hopkins left his lakes, or be assumed to be derived from a rise in geothermal temperature produced by deposition of sediment, makes no difference as respects the validity of the objections which I have urged as equally applicable to both. No body can raise the temperature of another by conductive transference of part of its heat to a temperature as high as its own. If, therefore, the sub-cortical matter of our globe, as Mr. Scrope terms it, "passes locally under varying conditions of heat and pressure" . . . "to a liquid or even vaporous state," there must be matter more deeply situated at a still higher temperature, *i.e.* there must be a liquid nucleus. Things as essentially different and distinct as are the views which I have enunciated as to the nature and origin of volcanic heat and energy from those anywhere enunciated by Mr. Scrope, may easily be made obscure or confused by fragmentary controversy. I must therefore decline to go further in this direction. I have reduced my own views as to the nature and origin of volcanic heat to the brief and unmistakable form of a definition (*Phil. Trans.* 1873, vol. i. para. 67, p. 167). Every clear-cut thought and theory can be reduced to the same form. That neither I nor your readers may mistake further (if I have already done so at all) Mr. Scrope's views, will he be good enough to reduce them to a definition? Definitions do not involve any dogmatism, and are extremely serviceable in preventing misconceptions, whether arising from obscurity of expression or of thought.

15th May, 1874.

ROBERT MALLET.

A PROPOSAL FOR A SWISS GEOLOGICAL RAMBLE.

SIR,—I beg leave to draw the attention of the readers of the *GEOLOGICAL MAGAZINE* to a proposed Swiss tour, which might be a

¹ We are content to refer the impartial reader to the articles in question and to Mr. Poulett-Scrope's published works.—EDIT. *GEOL. MAG.*