

MR. R. A. PROCTOR attempts to explain how earthquakes are caused, in the June number of *Harper's magazine*, and attributes their energy to the action of interior heat on percolating water, and their opportunity to the time of changing pressures caused by atmospheric or tidal loading and unloading of the sensitive crust of the earth. Formidable numbers represent the tons of air or water brought on or taken off certain parts of the earth's surface in the passage of cyclones and anticyclones, and in the rise and fall of tides: but it may be strongly questioned whether these changes of pressure are very effective in determining the time of earthquake snaps; for the changes are gradual and short-lived, the pressures are relatively light, and the surfaces on which they have effect are so broad that the extremely small deformation needed for adjustment of equilibrium might be produced without any cracking or snapping. The omission of clear reference to orogenic earthquakes in such an article is very unfortunate, for Mr. Proctor will have many readers who take him for an authority on such matters; and, in the present attitude of seismology, the orogenic theory is certainly strongly supported by those who give the study the closest attention. It is rather remarkable to find no reference to gravitational distortions of the earth's crust, except in explaining the heat of the interior, after Mallet's method, and no mention of earthquakes following the making of cracks that are freely assumed as the passages by which water enters the subterranean regions, there to be exploded into steam.

LETTERS TO THE EDITOR.

* * * Correspondents are requested to be as brief as possible. The writer's name is in all cases required as proof of good faith.

Real and imaginary Americanisms.

IN the *verbatim* report of Sir William Thomson's famous Baltimore lectures occurs the expression, "and that is why I cannot get the electromagnetic theory." To this, Mr. George Forbes, in his commentary in *Nature* for April 30, appends a footnote: "These reports are generally quite *verbatim*; but I am sure Sir William Thomson is not responsible for this characteristic Americanism." Is it not, rather, a Scotticism? It is no Americanism at all. Although

an American of long standing and considerable observation in such matters, I never heard 'get' by itself used in the sense of 'comprehend' or 'understand.' To 'get hold of,' is a not uncommon colloquial form. But in the same paragraph Mr. Forbes passes unnoticed a real and most prevalent Americanism: 'I do not think I *would* like to suggest,' etc. And again, at the close of the lectures: "I *would* be most happy to look forward to another conference." This substitution of 'would' for 'should' we should charge to the reporter, and feel sure that he was born west of New England and New York, where the just distinction between 'will' and 'shall,' 'would' and 'should,' is innate, while it is lost farther west and south. But the confusion is reaching England, as some recent books and newspapers show. I do not believe that Sir William Thomson has caught the prevalent epidemic, much as he has been in the affected districts. A. G.

The cholera bacillus.

The exact rôle of the 'comma bacillus' in the etiology of cholera Asiatica remains unsettled. Arguments for and against the conclusions of Koch are perhaps equally strong on both sides, as evidenced by the discussions in the conferences on cholera held in Berlin, Munich, and London. Inoculation which completes the chain of evidence required to make good Koch's case, has in his hands, and in those of Nicati, Rietsch, Ermengen, Babes, and Watson Cheyne, produced positive results. Dr. Crookshank of King's college hospital, London, who has been working in the bacteriological laboratory here, and to whom I am indebted for the accompanying drawings, tells me that in Babes's cases three guinea-pigs, out of six

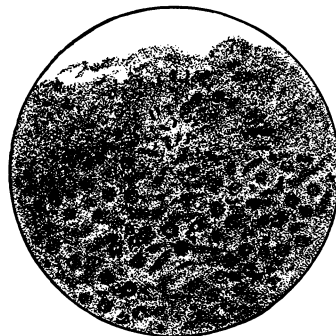


FIG. 1. — SECTION OF INTESTINE IN CHOLERA SHOWING KOCH'S BACILLI IN THE SUPERFICIAL LAYERS.

inoculated in the duodenum, presented the lesions of cholera; and pure cultivations of the bacillus of Koch were obtained from the intestinal contents. Koch has just introduced a new method of operation without the production of any external lesion, and he reports the cases as completely confirming the view of the pathogenic nature of the bacillus. Klein and Gibbs have denied the existence of the cholera bacillus in the intestinal tissue. On the other hand, since Koch's original proof, they have been demonstrated by Babes, and confirmed by Crookshank, by staining the sections after the method introduced by Babes (*vide figure*). This consists in cutting very thin sections in close proximity to a Peyer's patch, placing it in an aqueous solution of good fuchsin for twenty-four hours, washing in a sublimate solution (1-1000),