

f the earth  
 added vec-  
 displacement  
 changes in  
 ated results

MAGNITUDES  
 $10^{12}$  sec<sup>-1</sup>  
 $10^{12}$  sec<sup>-1</sup>

in rotational  
 velocity change

0.01%  
 0%  
 5%

0.0006%  
 0.35%  
 0%

changes in velocity  
 between the  
 amount to a  
 differential  
 withdrawal of  
 ts and other  
 ps.

in the equa-  
 earth by 5  
 lustrate the  
 nd and fury  
 hosphere at  
 original rate  
 coming the  
 rise to be  
 meters—but  
 ons of coast  
 p hydraulic

hammer conditions. (4) The lithosphere conforms easily in the limit of its elastic response to the new velocity so that relative to the hydrosphere (rotating essentially at the original velocity) the equatorial coastlines emerge a small amount but in the higher latitudes, submerge. (5) Frictional forces finally bring the air-ocean masses to the new velocity, and in doing so a reversal in trend of the coastline emersion-submersion takes place because the fluid shell can conform easily to the centrifugal forces whereas the friction in the lithosphere retards the assumption of the new figure. (6) This adjustment, however, eventually does take place, so that again equatorial coastlines emerge relative to the submergence of those at higher latitudes.

Assignment of time intervals can only be *guessed* at and these *guesses* shall be made for their heuristic value. Phases 1 and 2, one day to one week; phase 3, two to six months; phase 4, elastic response concurrent with 2 but coastline changes related to 3; phase 5, one to two years; phase 6, one hundred to ten thousand years.

Adjustments of the lithosphere to the rotation figure imposed by a new angular velocity are on a truly significant scale which may be evaluated by interpretations of Fig. 3. The diagram shows a

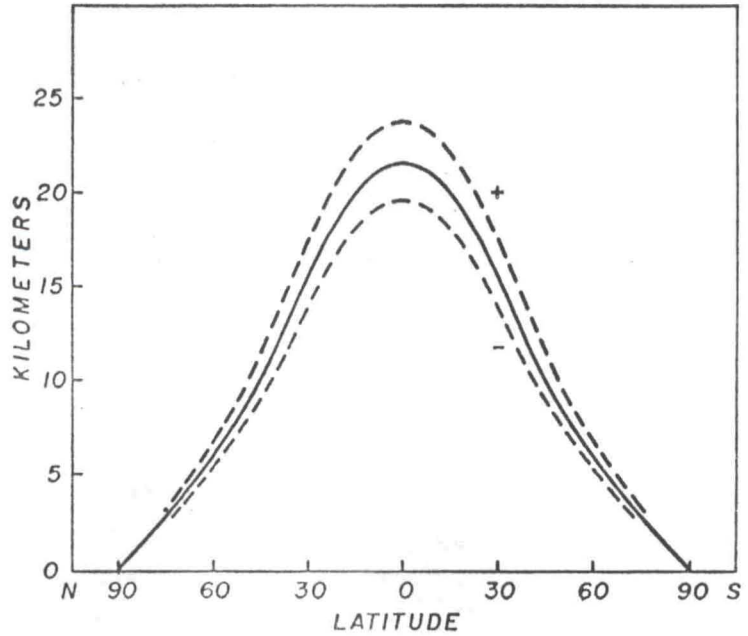


FIGURE 3.—Excess of radii over polar radii plotted as a function of latitude. The full line is for present rotation, the dashed lines are for  $\pm 5\%$  change in velocity.