If the assumption is true that the lack of sufficient cooling power is mainly responsible for setting in motion the chain of adaptive mechanisms, and if it holds that the organism is able to maintain a normal temperature even under quite trying conditions, it is necessary for the body to adjust the ever threatening disproportion between heat production and heat dissipation. A depression of body oxidations would serve to accomplish such an adjustment. The lowering of the basal metabolism is probably the result of such a reaction.

We have abstained from jumping to the conclusion that the low basal rate in the tropics implies a lowered “vitality,” but one recognizes the benefit to the organism of preventing any extreme drop in the basal rate and taxing, instead, the heat-dissipating functions to their utmost capacity. . . . Man possesses, in his perspiring integument, a very effective heat dissipating organ and we assume that his power of adaptation to a tropical climate is more or less proportional to the effectiveness of his sweat glands. But it is conceivable that in consequence of this profuse perspiration the burden and the risk of breakdown will only be shifted from the regulation of heat to that of water. The writer feels confident that important phases of tropical adaptation will become intelligible when once the now obscure question of water regulation is cleared up. . . . Whether the drain on the water resources of the body may lead to a dehydration of cellular tissues, and whether we actually have to consider modifications of the cell membrane to counteract this change is a highly evasive problem. The writer still believes that there is more than an even chance that it may be true.

The paper closes with a reaffirmation of the view that the tropical climate of itself can alter the functional levels and that this takes place through a connected series of adaptations all looking toward the establishment of a new equilibrium between the body and its environment. The evidence seems to show that some individuals may be directly successful in making the adjustment, but that others may experience harmful reactions. The relation of these reactions to susceptibility to tropical disease form a distinct field for investigation.

The leads we have obtained seem to suggest not only that personal habits with regard to physical exercise and water intake, deserve attention, but also that much can be accomplished by adjustment of the environment so as to make available the highest possible amount of cooling power.—B. M. V.

REPORTS ON THE FLORIDA HURRICANES OF SEPTEMBER AND OCTOBER, 1926

Gradually, the details regarding the hurricane season of 1926 are coming in. The October issue of the Monthly Weather Review will carry several accounts of the Miami Hurricane of interest to Bulletin readers. Mr. C. L. Mitchell and the Editor of the Review will describe the storm and its consequences at some length; Mr. B. C. Kadel will discuss the wind velocities registered by the new 3-cup anemometer at the Allison Hospital, North Miami Beach; comparing these with other high wind velocities; a graphic account of the hurricane as it struck at Turks Island on Sept. 16 is contributed by Mr. George Goodwin, U. S. Weather Bureau Observer at the Island.

From Mr. William J. Krome, Homestead, Fla., a consulting engineer for the Florida East Coast Railway, two letters regarding the storm
have been received, one by Mr. Mitchell, from which the first extract below is taken, the other in response to a request by the editor of the BULLETIN for comments on the Miami Hurricane and upon that which grazed southeast Florida on October 20th. This latter storm, it will be remembered, first devastated the Isle of Pines, next did immense damage to Havana, and after providentially missing the Florida mainland gave Bermuda the severest treatment she has received in many years.

It may be of interest to you to know that Homestead, twenty-eight miles south of Miami, apparently marked the outer perimeter of the center of the storm of September 18th. The lull here was of only five minutes' duration and would hardly have been noticeable to one not on the lookout for it, or to one not watching a barometer for minimum reading. I have not discussed the matter with Mr. Gray, Local Observer at Miami, but from numerous other inquiries as to the length of duration of the lull, this period apparently reached a maximum near Coconut Grove or Larkins, six to eight miles south of the business center of Miami, indicating a radius of center slightly over twenty miles. This would give a somewhat smaller diameter than the center of the hurricanes of 1909 and 1910. At the time of the 1909 storm I happened to be at the point of greatest diameter at Marathon on the Florida Keys where we had a lull of one hour and fifteen minutes and a minimum barometer of 28.12. My observation of the wind velocity of the 1909 storm, however, was that it was fully as great as that reached this year, though we had no accurate record after our anemometer cups blew off at 110 miles. In 1910 I was within the central area, but not at the point of greatest diameter.

Since writing Mr. Mitchell on October 18th I have had opportunity to visit the section in the vicinity of Fort Lauderdale, Dania and Hollywood and was impressed with the fact that the damage along the right forefront of the storm center was greater than in any other quadrant. This I believe confirms similar observations along the paths of other hurricanes.

It is also obvious that points situated near the perimeter of the center of such a storm suffer more heavily than those near the full diameter. In the latter case the heavy wind velocities are from practically the two opposite directions only, while points near the perimeter have velocities nearly or quite as great and must withstand wind pressure slowly shifting through nearly 180 degrees.

The hurricane which passed to the eastward of this section on October 20th produced a maximum wind velocity of about 70 miles per hour and would ordinarily have caused no great damage. In this instance however a large proportion of the fruit trees which had been reset after the hurricane of September 18th were again blown over, and as the wind direction in the second storm was nearly opposite to that in the first, the damage to the root systems was made so nearly complete that in many cases salvage was no longer possible.

INDICATED SEASONAL RAINFALL IN SOUTHERN CALIFORNIA FOR THE 1926-1927 SEASON

By GEORGE F. McEWEN

"The average of the observed seasonal rainfall at six selected stations from San Diego to Los Angeles for the ten-year period, 1916-1926, was 12.0 inches. The average ocean surface temperature at the Scripps Institution pier, La Jolla, for the interval August 1 to October 15, 1926, was 67.4 degrees."