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SOME ASPECTS OF EQUATORIAL WEATHER AND OF THE TYPHOON PROBLEM

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In the first week of the War in December, 1941, there were published in Manila 500 copies of a new monograph of mine entitled "Upper-air characteristics (1-4 km) of the Philippine and adjacent regions." There was time only to distribute a few copies to Navy and Pan-American Airways men; the rest were successfully hidden from the Japanese, though the hiding place had to be changed thrice. Unfortunately, however, though endeavors were made before internment to save the papers by distribution to others, absolutely all copies seem to have been burned either in the siege of Manila or at Corregidor; not one has so far been recovered in spite of diligent search by both Army and Navy men. There were also burned the original and carbon copies of the manuscripts of seven other original articles which I had composed during occupation of Manila by the Japanese before I was actually interned at Los Baños in July, 1944. Due to the imminent danger of search, none of these could be taken with me to the internment camp, for they would have been seized and translated into Japanese like all my other monographs, and used for hostile purposes. They therefore had to be left in trustworthy hands in Manila, but they all perished in the flames of the siege together in some cases with their keepers.

But there is no use in crying over spilt milk, so we shall content ourselves with giving briefly the contents or results of the above papers, adding a few words as to the prospects of rewriting them.

The paper on upper-air characteristics was based on data regarding temperature, pressure, and humidity aloft obtained from meteorograph-records of Hong Kong, Singapore, Batavia, and Manila. As far as my recollection serves me, the following are the most important conclusions reached:

(1) As the typhoon-season approached, the trade-wind inversion gradually disappeared almost entirely due to convergence. This of course facilitated the formation of thunderstorms and all manner of upward convection. However, the relative humidity above the second kilometer seemed to remain below that of the southwest monsoon.

(2) The southwest monsoon retained its high moisture-content, with no inversion, up to at least the fourth kilometer. The lapse-rate was usually not much more than the wet adiabatic.

(3) At Hong Kong, during the winter months, there was usually a strong inversion at the base of the westerlies of the temperate zone, which served as an effective barrier to further upward convection, and gave a full covering of stratocumulus or altocumulus but comparatively little rain. Above the inversion the air was usually dry and clear.

(4) It was practically impossible to distinguish between different air-masses aloft at Singapore, the variations both in humidity and temperature being remarkably small. This seemed to be due to convergence, yet this is not a universal characteristic of equatorial air, as will be seen from the results for Batavia. For the prediction of rain, the convection-condensation level and air-stream convergence must be carefully considered.

(5) As already pointed out in a previous paper, Batavia air is by no means always very moist, and we can get air-streams there with characteristics much like those of the temperate zone, with considerable dryness aloft. The upper-air records seem to confirm the rather surprising statement of Java meteorologists that the daily upward convection affects merely the first kilometer or so of air.

The paper on wind-roses for the Philippines up to 15 km (manuscript only) was based on the as yet unpublished pilot-balloon observations for Aparri, Dagupan, Manila, Cebu, and Zamboanga, in the Philippines. These data, too, went up in the flames, and the monograph can not be