sibly a shift in potassium-calcium equilibrium takes place. The potassium is enabled to leave the cell and calcium may go in and thus enable a normal equilibrium to be attained. It is quite possible that this physical shift is, in part, able to account for some of the biological effects of ultra violet.

8373 C

Notes on the Weil-Felix Reaction in Individuals not Suffering from Typhus.

SADASHIVARAO R. SAVOOR, M. RUIZ CASTANEDA AND HANS ZINSSER.

From the Department of Bacteriology and Immunology, Harvard University Medical School.

In view of the increasing frequency with which the Weil-Felix reaction is being used in the United States for the diagnosis of obscure fevers suspected of Rickettsia origin, and especially because of our own interest in the possibility of latent typhus infection in individuals infected a long time ago, we undertook to carry out a considerable number of Weil-Felix reactions on individuals not at the time suffering from typhus or fevers of any kind, for the purpose of establishing the significance of low titre reactions. We are reporting these briefly because they seem to us helpful in appraising occasional doubtful cases.

The reactions were carried out on sera from several groups of subjects. One group was composed of Jewish out-patients furnished us by the Beth Israel Hospital Clinic in Boston, and in these record was made as to whether the individual was born in Russia or in the United States. Since such information had no significant effect on these observations, we abstain from tabulating it. Another

TABLE I.
Weil-Felix Reactions.

Material	Total No.	Positive Reactions 1-20	1-40	1-80	1-160	% of Positives 1-20 or over %
Jewish patients, Beth Israel Hospital	123	7	10	7	1	20+
Non-Jewish patients	242	18	19	10	1	19+
Routine Wassermann sera	207	25	18	6	2	24+
Russian-born garment workers	24	0	2	2	0	17+
Totals	596	50	49	25	4	21+

group was composed of non-Jewish subjects, another of routine Wassermann sera in which no attention was paid to the race of the patient; and, finally, a small group of 24 Russian-born garment workers. Table I gives the results.

It will be seen that there was no significant difference between the groups, and it is rather fortunate in protecting us against false conclusions that the actual percentage of positive reactions in the Russian-born garment workers was rather lower than in the other groups.

In the Jewish group, 13.9% had reactions of 1-40 or below.

In the non-Jewish group, 15.3% had reactions of 1-40 or below.

In the routine Wassermann group, 20.7% had reactions of 1-40 or below.

There were 25 of the 596 cases with reactions of 1-80.

There were only 4 cases in which the reactions went up to 160. The follow-up on these cases gave no significant information.

The obvious conclusion is that a Weil-Felix reaction of 1-40 or below usually has no significance and reactions of 1-80 can be observed without necessarily pointing to Rickettsia infection.

The study has no bearing on our opinion that Brill's disease, or imported European typhus fever, represents a recrudescence of an infection acquired many years ago and held latent in the bodies of a small percentage of those who get over the disease, for the blood Weil-Felix usually disappears within a few months in convalescents. One would not, therefore, expect a Weil-Felix reaction in people who have had typhus fever years ago, unless they were actually suffering from a recrudescence or unless the agglutinating power for the Proteus X-19 reappeared non-specifically under the influence of some febrile condition.