will contribute considerably less to the measured activity because the maximum energy of the electrons of 93 is .47 Mev while the maximum energy of those of the fission products is about 1.2 Mev. Therefore a much greater fraction of the 93 electrons will be absorbed in the counter wall. To see how much of the activity was due to element 93 or fission products resulting from fast neutron collisions, we enclosed in cadmium the uranium oxide cylinder and the detector but not the monitor. The usual exposure was made and the samples were prepared, measured, and the data worked up as before. The curves for the samples enclosed in cadmium were flatter than that for the unenclosed monitor, but still showed the slow change of half-life that is characteristic of fission products instead of a simple composition of 24-minute and 2.3-day component curves. This would indicate fast neutron fission and its nature will be discussed later. The relative activities per mg four hours after the end of the exposure, due to whatever cause, were reduced to the same monitor activity in the experiments with and without cadmium. Then a corrected absorption curve was obtained by subtracting the cadmium-covered relative activities from the non-cadmium-covered values. The relative values so obtained with the sphere at 20 cm from the front face are shown in Fig. 8. When the above experiment was repeated, but with the sphere 60 cm from the front face of the graphite block, no measurable activities except those due to U X were observed in the samples covered with cadmium. Furthermore, the difference curve obtained with the sphere at 20 cm is in reasonable agreement with the absorption curve obtained with the sphere at 60 cm if the width of the samples is taken into account. This was to be expected since both activities are caused by thermal neutrons produced outside the sphere. The result was checked also by the Mn method (see