Or, if one thought (Lipmanov[10]) that there was a μ' which was a member of a μ, ν_μ, μ' triplet then the proper search method was

$$\nu_\mu + \text{nucleon} \rightarrow \mu^{-\prime} + \ldots$$

It is interesting to note in view of the decade later search for $\tau^- \rightarrow \nu_\tau \pi^-$ (Sec.L) that Lipmanov[10] calculated the branching fraction for this decay mode.

By the second half of the 1960's the concept had been developed of a heavy lepton L and its neutrino ν_L forming an L, ν_L pair. Thus in a paper written in 1968, Rothe and Wolsky[12] discuss the lower mass limit on such a lepton set by its absence in K decays. They also discuss the decay of such a lepton into the modes

$$L \rightarrow e\bar{\nu}_e \nu_L, \mu\bar{\nu}_\mu \nu_L, \ \pi\nu_L$$

Incidentally, in our 1971 proposal[13] to SLAC to study e^+e^- annihilation physics using the SPEAR collider then under construction, we reference Rothe and Wolsky[12] as indicative of the thinking on heavy leptons in the second half of the 1960's. (In 1971 and 1972 I reviewed[14] the 1960's heavy lepton theory and searches.)

C. PHOTOPRODUCTION SEARCHES FOR NEW CHARGED LEPTONS

Soon after the Stanford linear accelerator began operation, Fig. 1, we made one cast of our net[15] to find a new charged lepton. We were looking for any new charged particle x from the reactions

$$e^- + \text{nucleus} \rightarrow \gamma + \ldots$$

$$\gamma + \text{nucleus} \rightarrow x^+ + x^- + \ldots$$

The search used the pair production calculations of Tsai and Whitis[16]; this experiment was the beginning of a long and fruitful collaboration between my colleague Y.-S.(Paul) Tsai and myself. We did not find anything new, lepton or not, and so we concentrated on other casts of our net.