On the Problem of Nuclear Electrons. I.
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§1.   Introduction

The problem,

Problems of atomic nucleus, especially the problem of nuclear electrons, is are so intimately related with the problem of the relativistic formulation of quantum mechanics, that the solution they should be s, when they are solved, if they be solved at all, they will be solved altogether. But, the meanwhile we only to can only seek the attempt to solve one or the other problem are by on the or rather arbitrary possible assumptions which do not contra in so far as they does not contradict with our experimental knowledge.

Now, according to the theory of Heisenberg, an atomic nucleus is consists of protons and neutrons, the electrons being all being bounded only in the neutrons. In such this model. The emission of β-ray are is to be considered as the result of splitting of a neutron into a proton and electron, but such a process can not be described by the present formulation of quantum mechanics.

On the contra The another other alternative is to der consider the neutron as an elementary particle, an the emission of β-ray being caused by the change of a neutron into a proton. In this case from a nucleus. no interaction transformation of electromagnetic origine can exist between neutron and proton and Heisenberg's exchange interaction should be reinterpreted by the following manner. The fact that the neutron emits electron, changing itself into the proton and only the proton emits absorbs electron, changing itself into the neutron, can be considered as the origine of transforming interaction between them, just as the charged fact particles that the charged particles emit or absorb radiations is can can be considered as the origine of interaction between them. In other words, the electron itself is the medium for communication between pro neutrons and protons in the same way as the radiation is between charged particles. On this idea the problem of interaction of neutrons and protons can be treated at the same time as the problem of β-ray emission by the method similar to the one used