In TGD, point-like particles are replaced with 3-surfaces and these in turn with the analogs of Bohr orbits. $M^8 - H$ duality is the generalization of momentum-position duality and is now rather well understood. It however remains a mere academic mathematical construct unless it can be used to achieve some practical goal. The construction of scattering amplitudes is the basic dream of TGD and $M^8 - H$ duality gives hope of achieving this goal in terms of the TGD counterparts for the momentum space Feynman diagrams.

The notion of exotic smooth structure, having interpretation as an ordinary smooth structure with 3-D defects and possible only in 4-D space-time, is crucial. Fermions in H are free but fermion pair creation is possible at the defects at which fermion lines can turn backwards in time. Also a more general change of direction is possible. This makes the counterpart of fermionic Feynman diagrammatic extremely simple at the level of H. Only fermionic 2-vertices associated with 3-D geometric defects are needed. Fermionic interactions reduce to an 8-D Brownian motion in the induced classical fields and the singularities of the space-time surfaces at which minimal surface property fails define the location of the vertices.

The interactions of two space-time surfaces, identified in holography = holomorphy vision as 4-D generalized Bohr orbits, correspond geometrically to contact interactions at their intersections. If the Hamilton-Jacobi structures are the same, the intersections are 2-D strings world sheets. The edges of these string world sheets would contain the vertices.

In this article an attempt to formulate this picture at M^8 level by using a precise formulation of M^8-H duality is made.