This article is the second part of the article, tries to give a rough overall view about Topological Geometrodynamics (TGD) as it is towards the end of 2024. Various views about TGD and their relationship are discussed at the general level. In the first part of the article the geometric and number theoretic visions of TGD were discussed.

In the first part of the article the two visions of TGD: physics as geometry and physics as number theory were discussed. The second part is devoted to the details of $M^8 - H$ duality relating these two visions, to zero energy ontology (ZEO), and to a general view about scattering amplitudes.

Classical physics is coded either by the space-time surfaces of H or by 4-surfaces of M^8 with Euclidean signature having associative normal space, which is metrically M^4. $M^8 - H$ duality as the analog of momentum-position duality relates geometric and number theoretic views. The pre-image of causal diamond *cd*, identified as the intersection of oppositely directed light-cones, at the level of M^8 is a pair of half-light-cones. $M^8 - H$ duality maps the points of cognitive representations as momenta of fermions with fixed mass m in M^8 to hyperboloids of $CD \subset H$ with light-cone proper time $a = h_{eff}/m$.

Holography can be realized in terms of 3-D data in both cases. In H the holographic dynamics is determined by generalized holomorphy leading to an explicit general expression for the preferred extremals, which are analogs of Bohr orbits for particles interpreted as 3-surfaces. At the level of M^8 the dynamics is determined by associativity of the normal space..

Zero energy ontology (ZEO) emerges from the holography and means that instead of 3-surfaces as counterparts of particles their 4-D Bohr orbits, which are not completely deterministic, are the basic dynamical entities. Quantum states would be superpositions of these and this leads to a solution of the basic problem of the quantum measurement theory. It also leads also to a generalization of quantum measurement theory predicting that in the TGD counterpart of the ordinary state function reduction, the arrow of time changes.

A rather detailed connection with the number theoretic vision predicting a hierarchy of Planck constants labelling phases of the ordinary matter behaving like dark matter and ramified primes associated with polynomials determining space-time regions as labels of p-adic length scales. There has been progress also in the understanding of the scattering amplitudes and it is now possible to identify particle creation vertices as singularities of minimal surfaces associated with the partonic orbits and fermion lines at them. Also a connection with exotic smooth structures identifiable as the standard smooth structure with defects identified as vertices emerges.