1154-51-316 **Jerzy Dydak*** (jdydak@utk.edu), Department of Mathematics, University of Tennessee, Ayres Hall 227, Knoxville, TN 37966. *Linear algebra and unification of geometries in all scales: Evolution of concepts.* Preliminary report.

We present the evolution of concepts leading to an idea of unifying small scale (topology, proximity spaces, uniform spaces) and large scale (coarse spaces, large scale spaces). It relies on an analog of multilinear forms from Linear Algebra. As an application we get simple proofs of results generalizing well-known theorems from coarse topology. A new result (at least to the author) is the following

A coarse bornologous function $f : X \to Y$ of metrizable large scale spaces is a large scale equivalence if and only if it induces a homeomorphism of Higson coronas. (Received August 30, 2019)