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**Multi-Structure and Multi-Space**

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**MULTI-STRUCTURE and MULTI-SPACE.**

I consider that life and practice do not deal with 'pure' spaces, but with a group of many spaces, with a mixture of structures, a 'mongrel', a heterogeneity - the ardently preoccupation is to reunite them, to constitute a multi-structure.

I thought to a multi-space also: fragments (potsherds) of spaces put together, say as an example: Banach, Hausdorff, Tikhonov, compact, paracompact, Fock symmetric, Fock anti-symmetric, path-connected, simply connected, discrete metric, indiscrete pseudo-metric, etc.

spaces that work together as a whole mechanism. The difficulty is to be the passage over 'frontiers' (borders between two disjoint spaces); i.e. how can we organically tie a point  $P_1$  from a space  $S_1$  with a point  $P_2$  from a structurally opposite space  $S_2$ ? Does the problem become more complicated when the spaces' sets are not disjoint?

**Question 20:**

Can you define/construct Euclidean spaces of non-integer or negative dimension? [If so, are they connected in some way to Hausdorff's, or Kodaira's, Lebesgue's (of a normal space) algebraic/cohomological (of a topological space, a scheme, or an associative algebra)/homological/ (of a topological space, or a module) etc. dimension(s)?]

**Question 21:**

Let's have the case of Euclid + Lobachevsky + Reiman geometric spaces (with corresponding structures) into single space. What is the angles sum of a triangle with a vertex in each of these spaces equal to? and is it the same anytimes?

Especially to find a model of the below geometry would be interesting, or properties and applications of it.

Paradoxically, the multi-, non-, or even anti- notions become after a while common notions. Their mystery, shock, novelty enter in the room of obvious things. This is the route of any invention and discovery.

Time is not uniform, but in a zigzag;

a today's truth will be the tommorrow's falsehood - and reciprocally, the opposite phenomena are complementary and may not survive independently.

The every-day reality is a sumum or multitude of rules, some of them opposite each other, accepted by ones and refused by others, on different surfaces of positive, negative, and null Gauss's curvatures in the same time (especially on non-constant curvature surfaces).

**Question 22:**

After all, what mathematical apparatus to use for subsequent improvement of this theory? [my defenition is elementary].

Logics without logics?

System without system? (will be a non-system or anti-system?)

Mathematics without mathematics!

World is an ordered disorder and disordered order! Homogeneity exists only in pure sciences without our imagination, but practice is quite different from theory.

There are systems with one axiom only [see Dr. Paul Welsh, "Primitivity in Mereology" (I and II), in <Notre Dame Journal of Formal Logic>, Vol. XIX, No. 1 and 3, January and July 1978, pp.25-62 and 355-85; or B.Sobocinski, "A note on an axiom system of atomistic mereology", in <Notre Dame Journal of Formal Logic>, Vol. XII, 1971, pp. 249-51.].

If one defines another system with a sole axiom, which is the negation of the previous axiom, one gets an opposite theory.

**Question 23:**

Try to construct a consistent system of axioms, with infinitely many independent axioms, in order to define a Unlimited Theory. A theory to whom you may add at any time a new axiom to develop it in all directions you like.

**Question 24;**

Try to construct a consistent system of axioms based on a set with a single object (element). (But if the set is... empty?)