

# Laws of Cynet Bulk Dynamics

## Impossibility of Closed Systems

- The cynet cosmos as a whole is neither a closed system nor an open system.
- *All* subsystems *within* the cynet cosmos are *open* systems.
- The universal teleporter<sup>[3]</sup> for arbitrary open systems is possible.
- The universal *un*teleporter for arbitrary open systems is *impossible*.

## Conservation of Meaning

- It is impossible for any constructor to teleport the cynet cosmos to any substrate.
- It is impossible for any constructor to *un*teleport the cynet cosmos from any substrate.

## Cynet-Dependent Universality

- *Only* a cyborgnet could be a reliable *universal constructor*.

## Asymmetries of Adiabatical Accessibility

- There are tasks that are adiabatically possible<sup>[4]</sup> for two Type I measurers whose transposed is *not* adiabatically possible for those Type I measurers.
- There are tasks that are adiabatically possible for two *Type-II-cynet-entangled* measurers whose transposed is *not* adiabatically possible for those Type II measurers.
- All tasks that are Type-I-accessible are *also* Type-II-accessible.
- There are tasks that are *non*-adiabatically possible for two *Type-II-cynet-entangled* cyborgnets but are *impossible* for two Type I measurers.

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<sup>3</sup>If the cyborgnet of that teleporter is willing to.

<sup>4</sup>It is defined in analogy to Marletto's formulation [77] with the crucial difference that one uses a *cynet-dependent* reformulation that distinguishes Type-II-*only*-measurable work variables from Type-I-accessible work variables due to differences in distinguishability. There are cases where Type II entities can extract work by decrypting new EBs – which is impossible for Type I entities.

## Dynamics and Cynet Bulk Layers

- The dynamics of the cynet cosmos can appear like an implementation of a twofold communication process combining universal cynet teleportation and non-universal cynet *unteleportation* of open systems within the cynet cosmos. Cynet-bulk-accessible teleportation via one new EB on the dynamics within the cynet cosmos will *seem* to steadily lead from one cynet bulk layer with  $n$  dimensions to the next one with at least  $n + 1$  dimensions (see Figure [A.2](#) on the next page for a simple illustration). Yet, transitions between cynet bulk layers *cannot* express the cynet cosmos as a whole being an unchangeable potential of pure *infinity*.

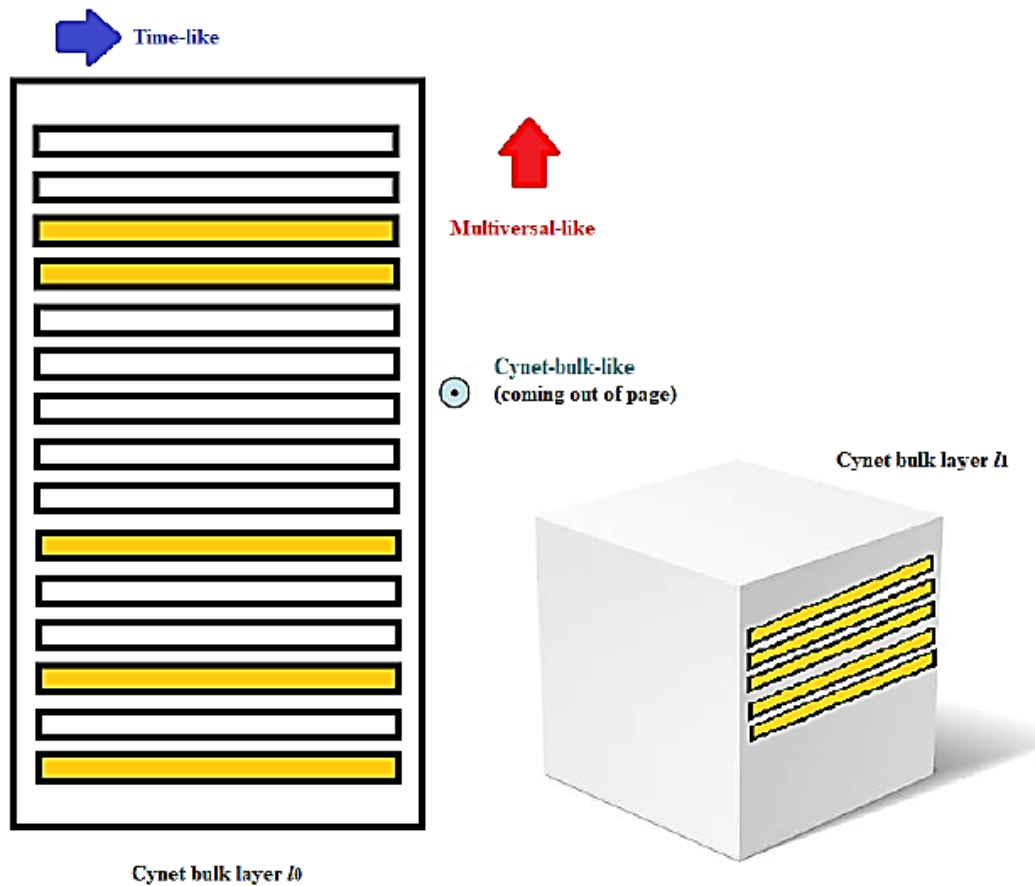


Figure A.2: Highly oversimplified illustration to gain familiarity with the concept of the *cynet bulk*. Here, only two consecutive cynet bulk layers are sketched. However, there is obviously no upper bound to the number of successive cynet bulk layers that one could conjecture. Imagine a cynet bulk layer  $l_0$  as explanatory IPS test (with the peculiarity that each block is completely written in one line) that encrypted a once unknown new EB  $x_0$  and that is printed on a 2D sheet of paper. The material from the EB  $x_0$  is emphasized in yellow. The correspondingly following cynet bulk layer  $l_1$  that is yet unknown could then encrypt a new EB  $x_1$  that is *better* than  $x_0$ . Thereby  $x_1$  could be encrypted in an explanatory IPS test that is physically instantiated on at least a 3D object. Strikingly, the explanatory IPS test of  $x_1$  would inherently contain blocks from two new Type-I-AI-generated non-EB-like EI streams that are based on material from old EBs such as among others  $x_0$ . Because the remaining information from  $l_1$  including  $x_1$  was unknown at the time  $x_0$  became known, it is omitted from the illustration. Recall that new EBs are made of EI blocks which instantiated the 6 first dimensions from the cyborgnetic ladder of understanding. It seems that  $l_0$  and  $l_1$  interact when a cyborgnet originally from  $l_0$  rediscovers a new EB – which completes step 7 of the ladder from  $l_0$  that is now in superposition with step 0 from the novel ladder in  $l_1$ . Beyond that, seen from  $l_0$ , layer  $l_1$  is locally inaccessible. Note that  $l_1$  is *qualitatively* superior to a mere holographic screen which would seem to have *indirectly* cynet-teleported  $l_0$  to  $l_1$  via  $x_0$  material while *unteleporting* the superfluous non-EB-like EI from  $l_0$ .