Dreamland Bank Machines

June-17-09
8:36 AM

The funny people of paris think it is 2:46PM now.

Exponentials are like bank machines in dreamland (ATMs) -
you can withdraw as much cash as you wish, you can keep or throw or spend the cash, yet the ATM remains completely unchanged.

Mathematical formulation: With V the v.s w/ basis {⑤ ⑩ .. $\boxed{5}$, $\boxed{20}$}, with $\Delta: S(V) \to S(V)$ the "split the cash coproduct", with $p: S(V) \longrightarrow W$ the purchasing map, we have:

$$\overset{ATM}{V} \longrightarrow \overset{ATM}{V} \otimes \overset{ME}{V} \xrightarrow{I \otimes P} V \otimes W$$

$$e^x \longmapsto e^x \otimes P(e^x)$$

This of course is a generalization of $(e^x)' = e^x$, with $p: \begin{array}{l} 1 \to 0 \\ x \to 1 \\ x^k \text{ with } k>1 \to 0 \end{array}$.

So exponentials are vector-space analogs of Hilbert's hotel; they are "infinite reservoirs"; take one (or many) out, and the reservoir remains unchanged.