

Using Time-Loop-Logic to Solve Computational Problems

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- Now we go one step further: The latency becomes negative!
- Effect: We get the result before we pinned in the input:
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- Grandfather Paradox: You travel back, and kill your grandfather, grandmother or your younger self (autoinfanticide)

Possible Solutions

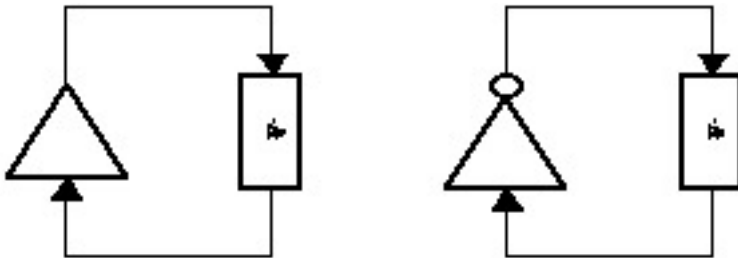
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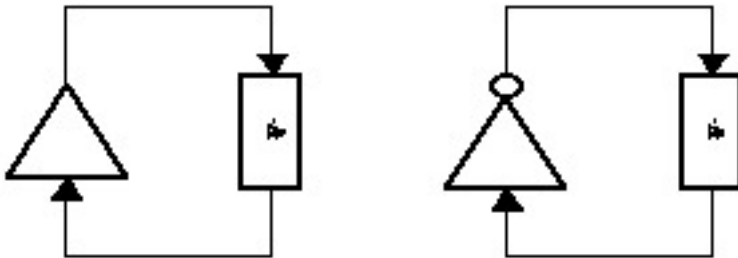
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- From the Time-Travellers POV, certain things cannot be changed. Whatever they do, however unlikely, happens, to keep causality intact.

Time-Loop-Logic Implemented



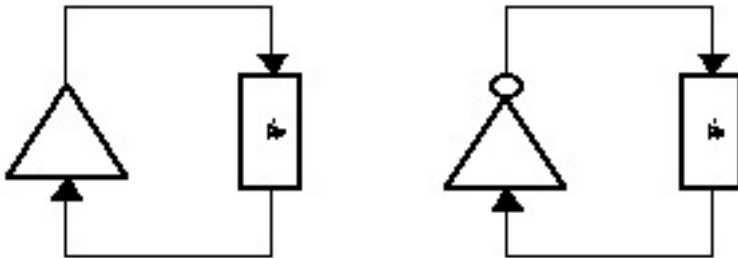
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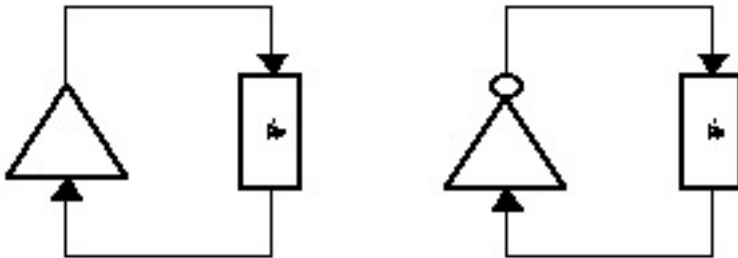
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- Casual loops involving an amplifier (left): Work when switched on, because their input is always either 0 or 1.
- Casual loops involving inverter produce a grandfather paradox.

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- Light that is equally polarized in both directions is called *unpolarized*.
- As long as the light in our circuit is unpolarized, input and output are equal, and the circuit stays online. It will extinguish, the moment we try to modify the unpolarized state.

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- Note that the state of $1/2$ is also extremely unlikely. A small shift in outside parameters, and it would fall into one or the other extreme (and stop working).
- Anyway, the negative time delay -to keep up self-consistency- holds this unlikely state for an infinite time.

Conclusions

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- Once the small issues of non-existing time-travel circuits is solved, a lot of applications exist.
- Brute Force attacks suddenly become easy.

Hans Moravec Time-Travel and Computing 1991

<http://www.frc.ri.cmu.edu/hpm/project.archive/general.articles/1991/TempComp.html>