

Document 1373

[21373002]

TWO COMPANIES plan to market a new chip with ceramic circuits that store data even when the power is off .

[21373003]

Today 's most widely used data-storing chips have " volatile " memories - their data disappear if they are n't fed a steady diet of electricity . so they need external power supplies .

[21373004]

National Semiconductor Corp. and a start-up named Ramtron Corp. plan to start shipping so-called ferroelectric memories , which can remember data for at least 10 years without any current flowing to them .

[21373005]

The chips use materials , such as lead zirconate titanate , to form microscopic switches that retain their data without electricity .

[21373006]

Developers caution that broad applications are several years away because the technology is n't fully refined .

[21373007]

But Ramtron of Colorado Springs , Colo. , plans to start shipping commercial quantities of simple ferroelectric chips in December .

[21373008]

The company expects the chips eventually to be used in devices that mimic a whole range of computer memory equipment , including floppy-disk and hard-disk drives .

[21373009]

National Semiconductor is getting ferroelectric technology from Krysalis Corp. in Albuquerque , N.M .

[21373010]

National says it agreed to acquire Krysalis 's assets and will start shipping commercial quantities of its first chips , including a 4-kilobit memory , next year .

[21373011]

Once production hurdles are overcome , the chips could take over a significant part of the market .

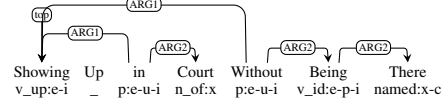
[21373013]

Military buyers have shown interest . National says , because ferroelectric chips resist atomic radiation .

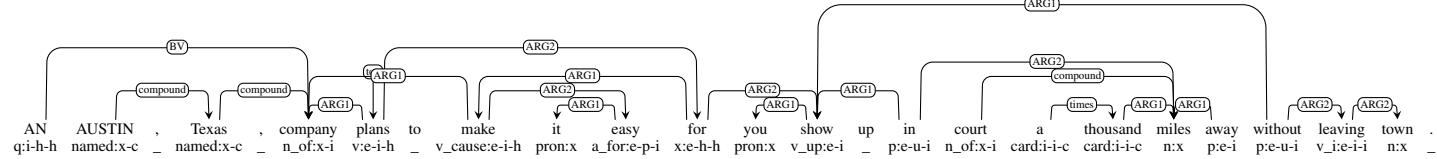
[21373014]

And while today 's non-volatile chips - such as electronically erasable programmable read-only memory chips - ca n't be used in a computer 's central memory because they " learn " data slowly , ferroelectric chips accept data at very high speeds .

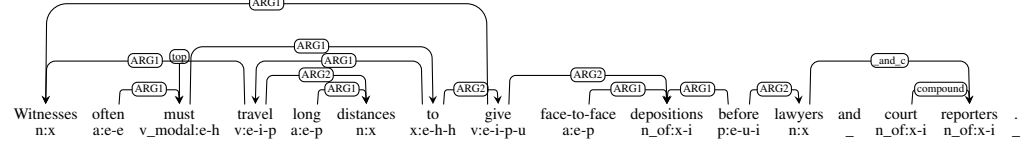
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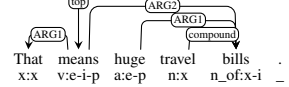
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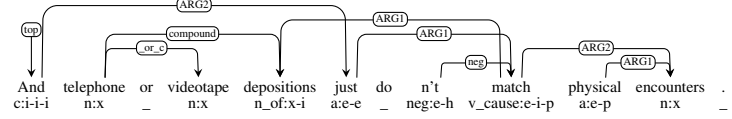
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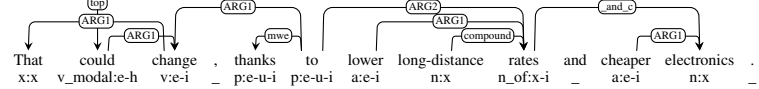
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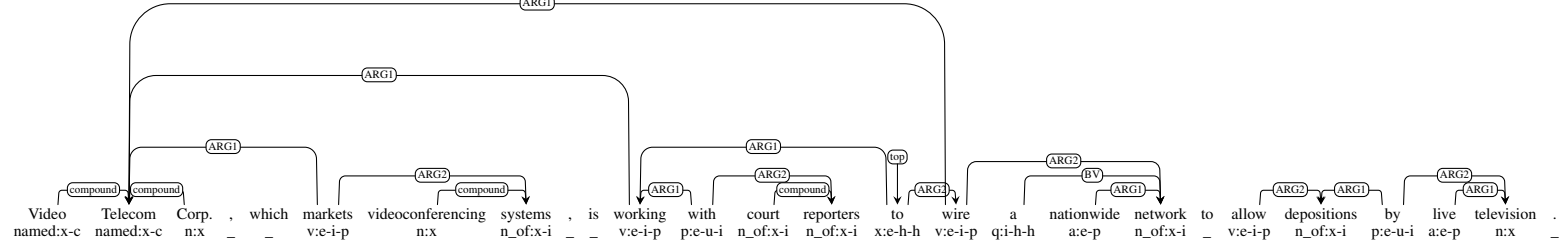
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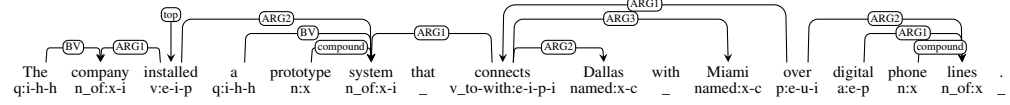
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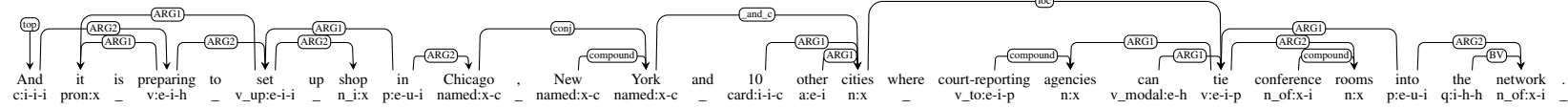
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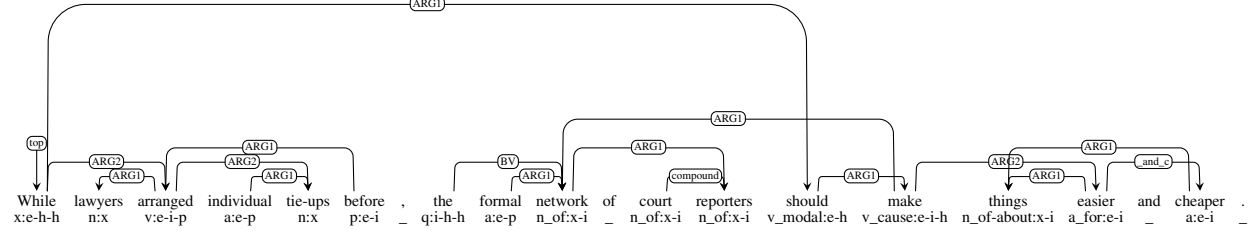
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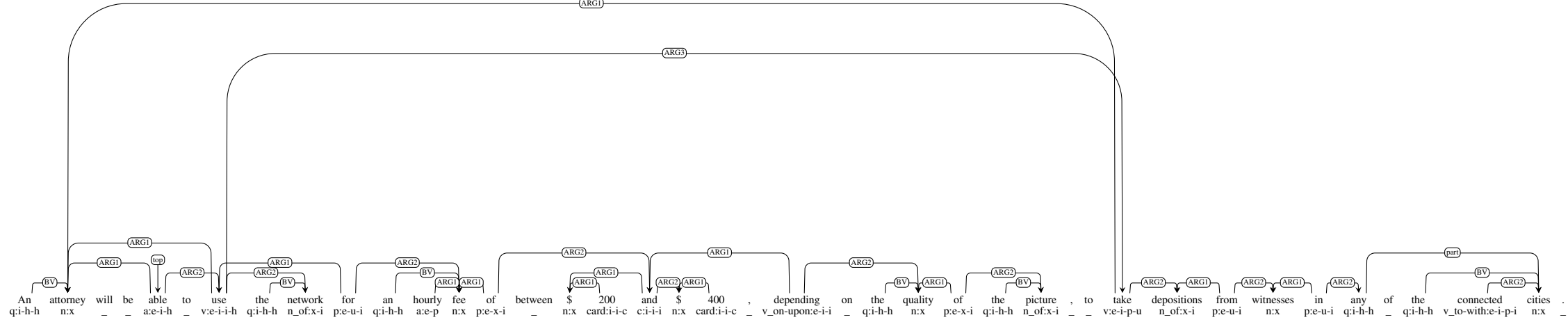
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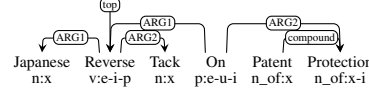
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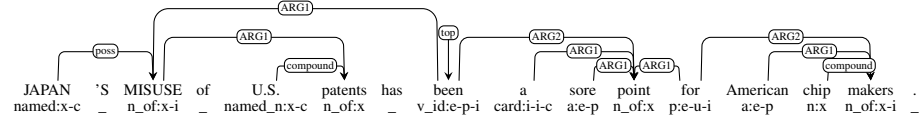
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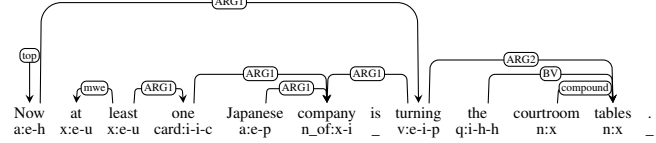
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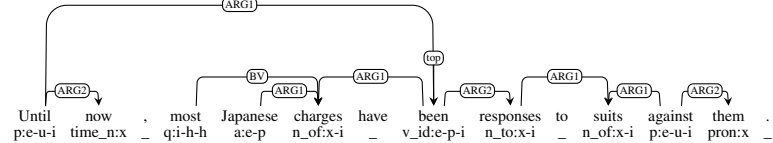
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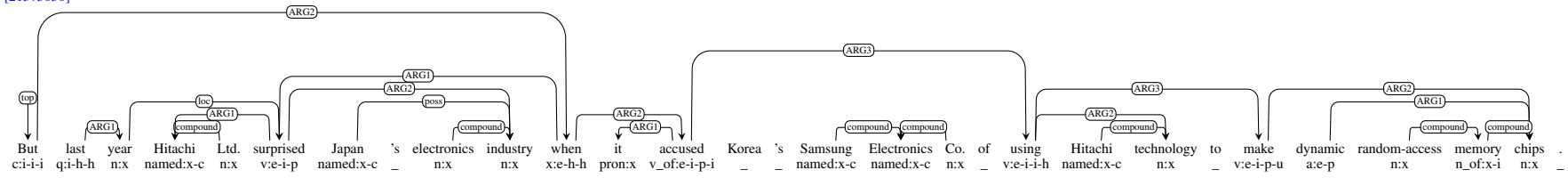
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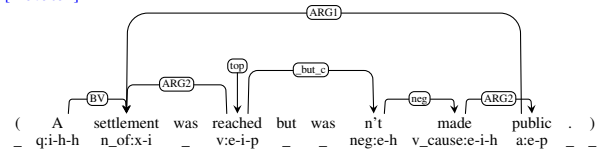
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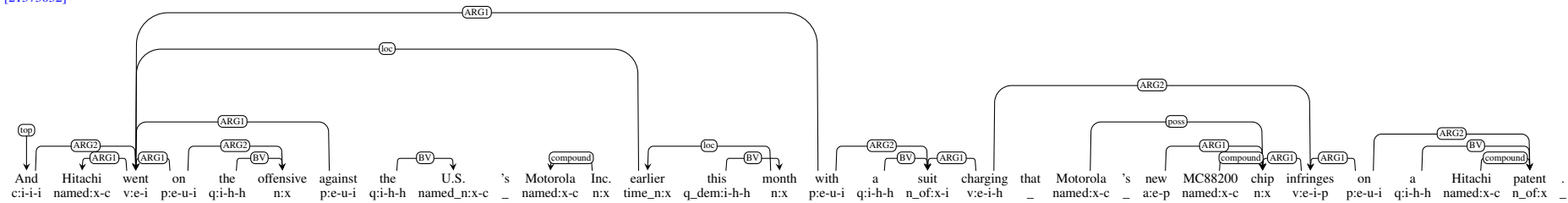
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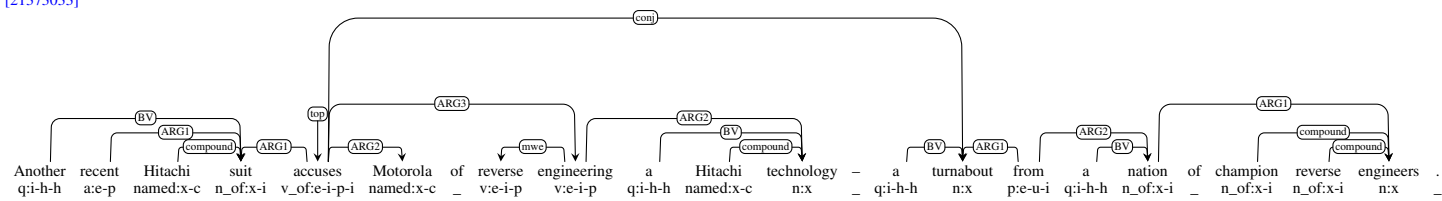
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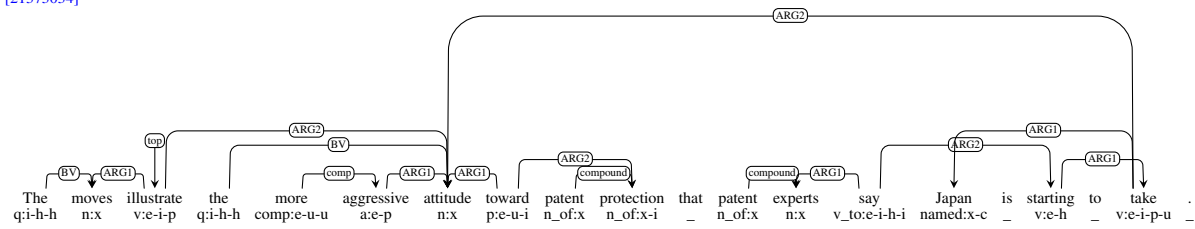
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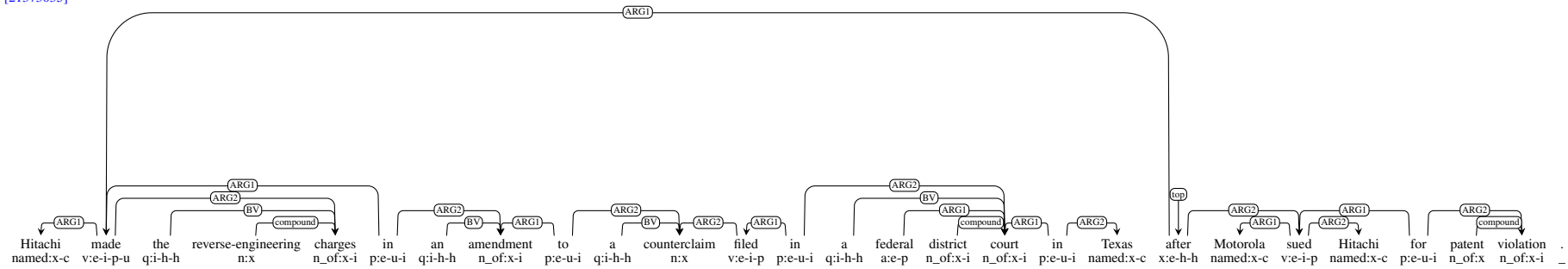
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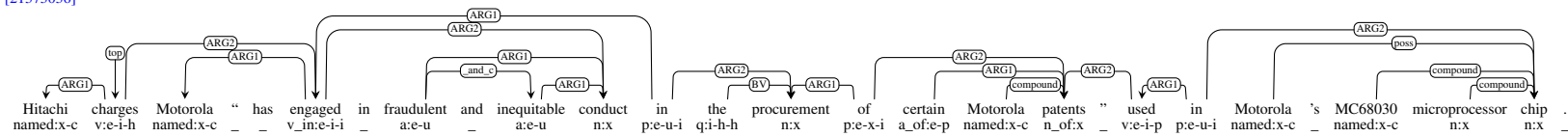
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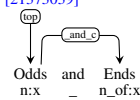
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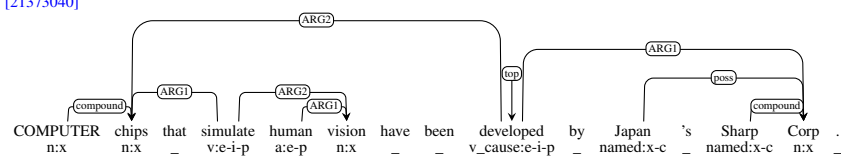
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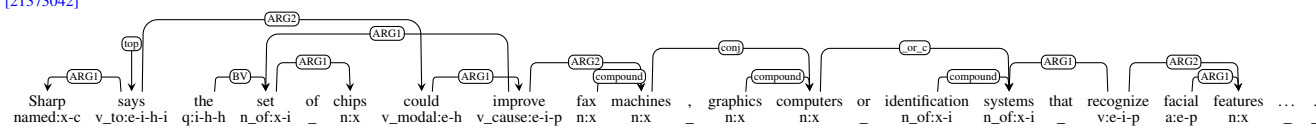
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[21373040]



[21373042]



[21373044]

