

Mapping Indexicality in Walter Benjamin's *The Arcades Project*

I. Background

“Flânerie,” Walter Benjamin observes, “can transform Paris into one great interior”.¹ Impelled by association, the flâneur embraces a form of acquiescence: to the tactile landscape impressing upon the attention, to the constellation of fragments flourishing in the consciousness, to the “far-off times and places [interpenetrating] the landscape and the present moment”.² The nature of this process is inexorably indexical, through which an arrangement of signs prompts the liberation in the present of a series of recollections. From its trace emerges the subject, a combination of associations linked by memory, interiority, and spatiality.

This project seeks to interpret the text of *The Arcades Project* as a collection of indexical gestures, reading instances of linguistic deixis as concretized moments of textual interiority. According to Charles Sanders Peirce, the word “this” is a certain type of index, which “calls upon the hearer to use his powers of observation, and so establish a real connection between his mind and the object”.³ As a gesture *within* the text, the word “this” takes on a different kind of identity. Couched in a grammatical context, it becomes a marker of intratextual reference and a signifier of its own position. It embodies something close to a textual consciousness capable of remembering, anticipating, and referring to itself.

Given the context-dependent meaning of deixis and the subjecthood implicit to its operation, this project endeavors to track every instance of the word “this” in *The Arcades Project*, classify the context of each instance along distinct spatial and temporal axes, and visually represent each convolute as a meandering path through time and space. The spatial movement evoked by the deictic instance, along with the temporal movement represented in linguistic modality and tense, forms the basis of its trajectory.

II. Methodology

I conducted the computational portion of this analysis on a plaintext version of *The Arcades Project*.⁴ For initial text scraping, part-of-speech classification, and combination tracking, I leveraged three interrelated resources: the Python programming language, the tokenizing and classification functionality offered by the Natural Language Toolkit (NLTK) platform, and the part-of-speech tags associated with the Penn Treebank project.⁶ All source

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1. Walter Benjamin, *The Arcades Project*, trans. Howard Eiland and Kevin McLaughlin (Cambridge: Harvard University Press, 1999), 422.
 2. Benjamin, *The Arcades Project*, 419.
 3. Charles S. Peirce, “Logic as Semiotic: The Theory of Signs,” in *Philosophical Writings of Peirce*, ed. Justus Buchler (New York: Dover Publications, Inc., 1955), 110.
 4. Benjamin, *The Arcades Project*. Accessed December 26, 2015.
https://archive.org/stream/BenjaminWalterTheArcadesProject/Benjamin_Walter_The_Arcades_Project_djvu.txt
 5. For full documentation of the NLTK platform, see <http://www.nltk.org/>.
 6. For a list of these tags, see Appendix B.

code, as well as all raw and subsequently edited data, is available in the project’s GitHub repository.⁷

The primary motivation behind my approach was to recode each convolute into a simplified system retaining the formal and semantic nuance of each instance of “this.” I recorded every instance as a trio (as opposed to a single word) by tracking the part-of-speech-classified tokens immediately preceding and following its appearance. The use of a triple-word construct enabled the easier categorization of each instance, which facilitated the detection of spatiotemporal patterns.

The structural basis for this project was comprised of a framework that mapped every possible trio—in other words, every {*token preceding*}-{“this”}-{*token following*} combination—to two axes: one *spatial* (textual) and the other *temporal* (verb tense, modal). Each combination received a forward-pointing, backward-pointing, or neutral designation within each dimension. See Figure 1 for a list of possible pairings.

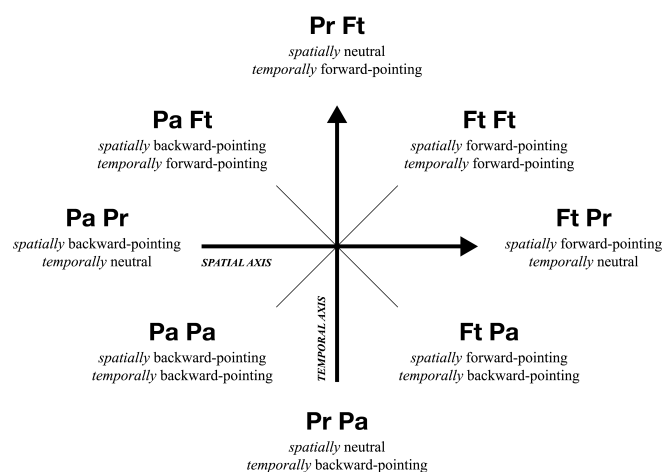


Figure 1 Angle-defining framework for possible spatial and temporal combinations.

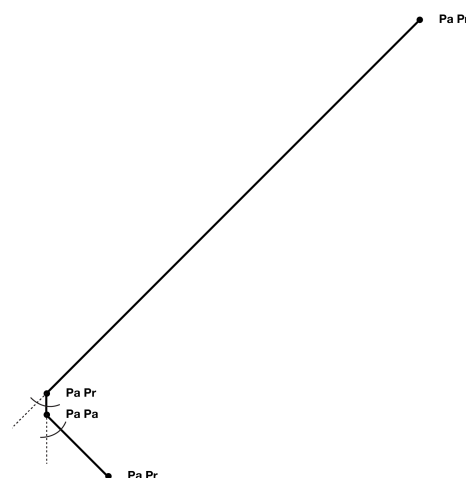


Figure 2 Algorithmic line drawing using a simplified representation of Convolute G as an example.

The *spatial* designation of a combination referred to the position of the referent of the word “this” in relation to the instance itself. The *temporal* designation referred to the point in time evoked by the linguistic context within which the combination was situated. A *spatially backward-pointing* gesture would thus represent an instance in which the word “this” points to the text preceding its appearance. Consider the following excerpt:

*On Baudelaire’s “religious intoxication of great cities”: the department stores are temples consecrated to this intoxication.*⁸

Within this instance, a combination of type {TO}-{DT}-{NN} (*to*, Determiner, Noun (singular or mass)), the word “this” refers to the intoxication mentioned in the preceding Baudelaire quotation. Because the quotation occurs before the word “this,” the instance is interpreted to

7. To view the GitHub repository for this project, see <https://github.com/emilyfuhrman/Y2015004>.

8. Benjamin, *The Arcades Project*, 61.

point “backwards” in space. Similarly, a *spatially forward-pointing* gesture would represent an instance in which the word “this” points to text following its appearance. See the excerpt below:

... the figure of greatest effect, employed by all French orators from their podiums and tribunes, sounds pretty much like this: ‘There was in the Middle Ages a book which concentrated the spirit of the times as a mirror concentrates the rays of the sun...’

Within this instance, a combination of type {IN}—{DT}—{:} (Preposition or subordinating conjunction, Determiner, colon), the text gestures “forward” in space to the following quotation. *Spatially neutral* cases represented those for which discerning such directionality became too heavy-handed or ambiguous.

Temporal classification was driven by verb tense and linguistic modality. Consider an example of a *temporally backward-pointing* instance, below:

Engravings from 1830 show how the insurgents threw all sorts of furniture down on the troops from out of the windows. This was a feature especially of the battles on the Rue Saint-Antoine. Cabinet des Estampes.¹⁰

This instance, a combination of type {:}—{DT}—{VBD} (period, Determiner, Verb (past tense)), designates something that *once* existed, given the past-tense form of the verb “was.” (Note: this combination simultaneously represents a *spatially backward-pointing* instance, since the word “this” refers to the actions of insurgence described in the preceding passage.) A *temporally forward-pointing* instance would likewise designate something that *will* (or *may*) exist. See the excerpt below:

... the difficulty consists precisely in finding a form for art such that, with the best conscience in the world, one could hold that it is a higher art. This will never happen with most of what is propagated by the avant-garde of the bourgeoisie.¹¹

Within this instance, a combination of type {:}—{DT}—{MD} (period, Determiner, Modal), the word “this” gestures forward in time due to the future tense of the word “will.” For full documentation of every instance type and classification, see Appendices C and D.

In order to visually encode the transformed data, I constructed a framework assigning a relative angle value to every possible spatial and temporal combination (Figure 1), and incorporated these angles into a Processing¹² sketch that traced the progression of spatiotemporal movement within each convolute as the meandering of a single line (Figure 2). See Appendix A for a full graphical index.

III. Obstacles

9. Benjamin, *The Arcades Project*, 120.

10. Benjamin, *The Arcades Project*, 137.

11. Benjamin, *The Arcades Project*, 395.

12. For comprehensive documentation of the Processing language, see <https://processing.org/>.

Though the cited plaintext file of *The Arcades Project* remained relatively true to the original publication, its characters, particularly the letters *b* and *h* rendered in Bodoni, were occasionally interchanged. In addition, photographic captions were sometimes out of order, which minutely impacted the calculated distance between instances.

IV. Interpretive decisions

In the course of defining spatial and temporal “direction” in each possible combination of tokens, I excluded parenthetical citations and replaced them with the text that would have surrounded a given instance had the citation not been present. In addition, as I used a part-of-speech classification method that interpreted dashes as colons, I could not account for the difference between an opening and a closing dash. This resulted in the misclassification of { : }–{DT}–{NN} combinations that did not happen to be spatially backward-pointing (i.e. “—this time a comic death—...”).

In addition, combinations {IN}–{DT}–{ : }, {VB}–{DT}–{ : }, and {VBZ}–{DT}–{ : } consisted mostly of instances setting up for a following statement (i.e. “consists in this:...”). Sometimes, however, the word “this” referred to the previous concept, not the following statement (i.e. “But even earlier than this:...”). I considered every instance of this combination to be *spatially forward-pointing*, under the assumption that the colon is essentially a gesture forward within the text, and that the former case would occur more frequently than the latter. I also marked {IN}–{DT}–{TO} combinations as *temporally forward-pointing*, because each identified instance seemed to gesture forward rather than backward (i.e. “follows naturally from this to ask..” and “is this to say..”). Finally, I took every instance of “this” directly preceding a quotation to be likewise *spatially forward-pointing*, since the word “this” in these instances primarily gestured “forward” to the text in the quotation, whether or not the subject of the quotation preceded it.

V. Conclusion

The resolutely formal foundations of this project gave rise to a series of evocative abstractions. Each rendered path captures the wandering, associative nature of *The Arcades Project* in a seemingly sporadic blueprint of its textual volition. While not explicitly readable, the graphics trace deliberate meanderings that perhaps capture the ineffable progression of Benjamin’s prose—and, in a resonant manner, evoke a boundlessness and solitude.

WORKS CITED

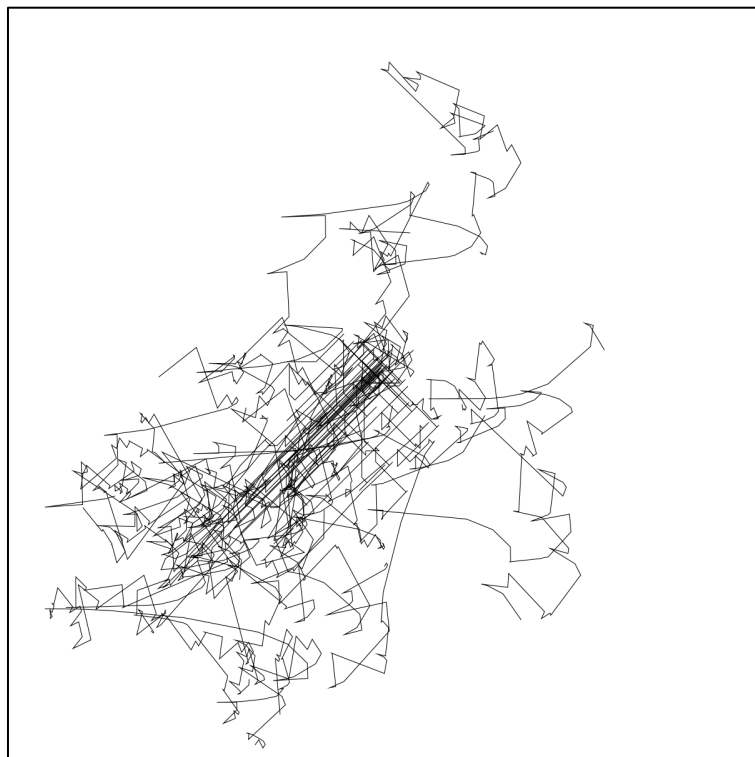
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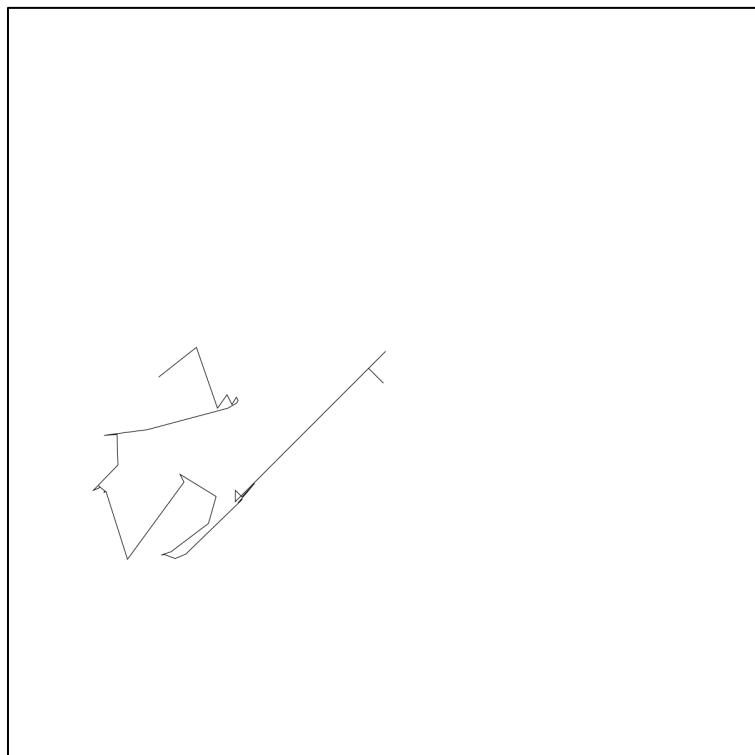
APPENDIX A

Exported graphics for each convolute.

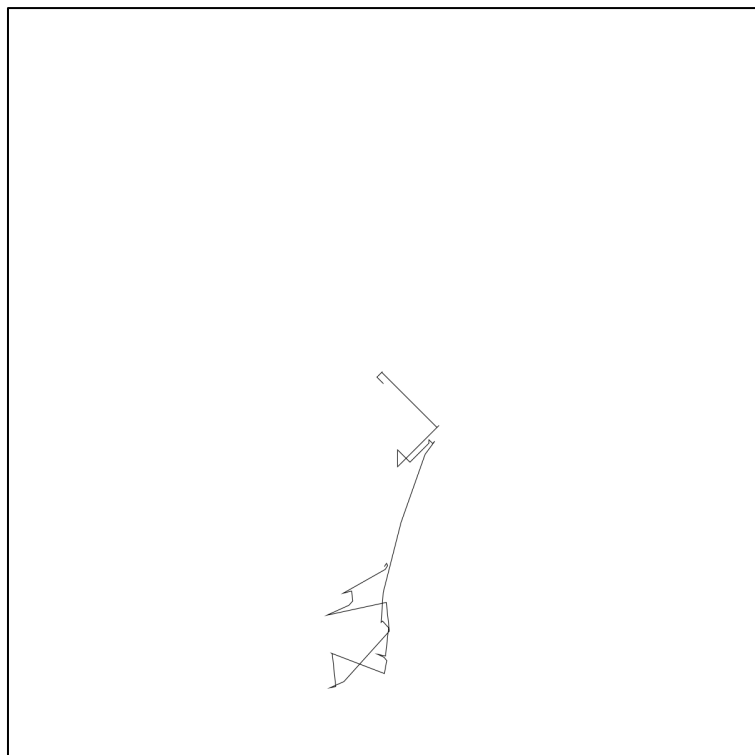
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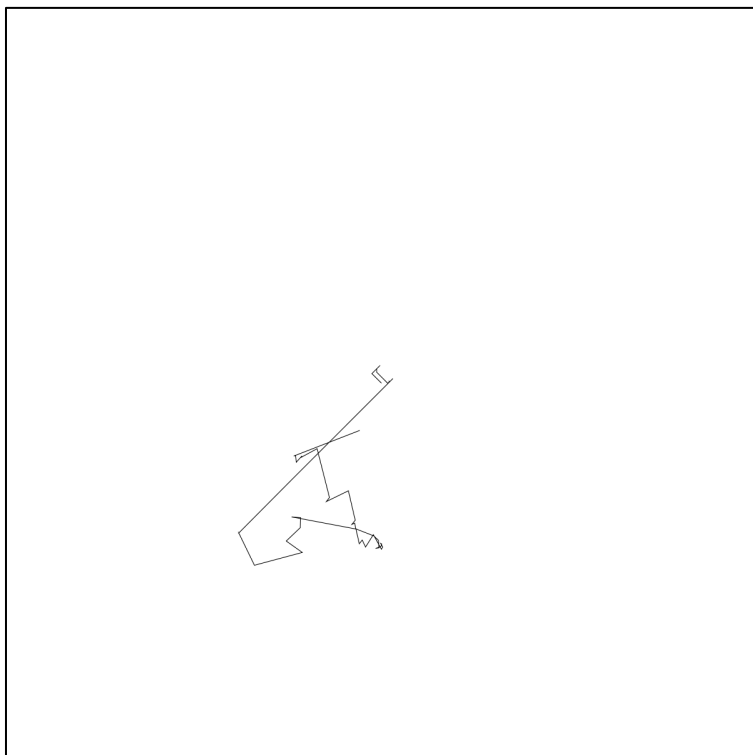
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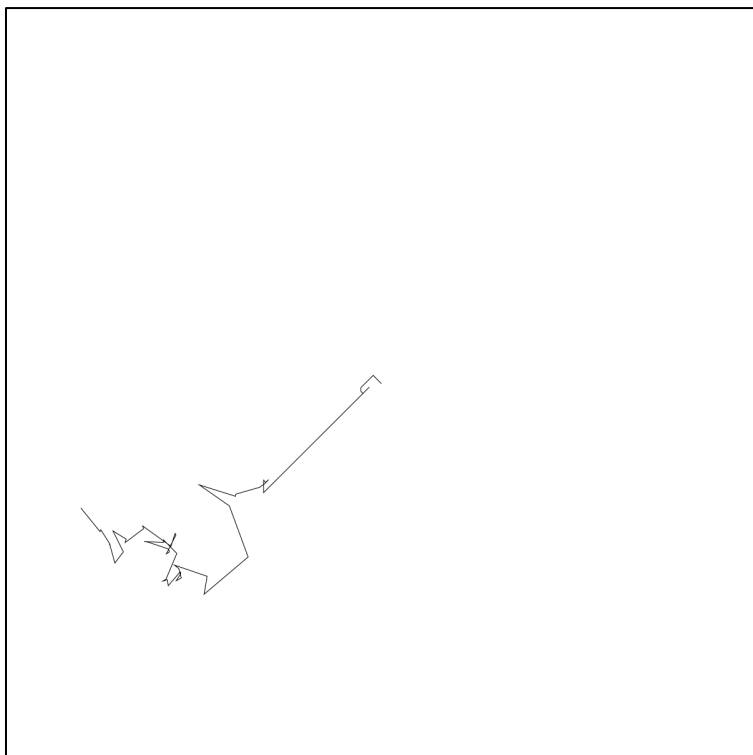
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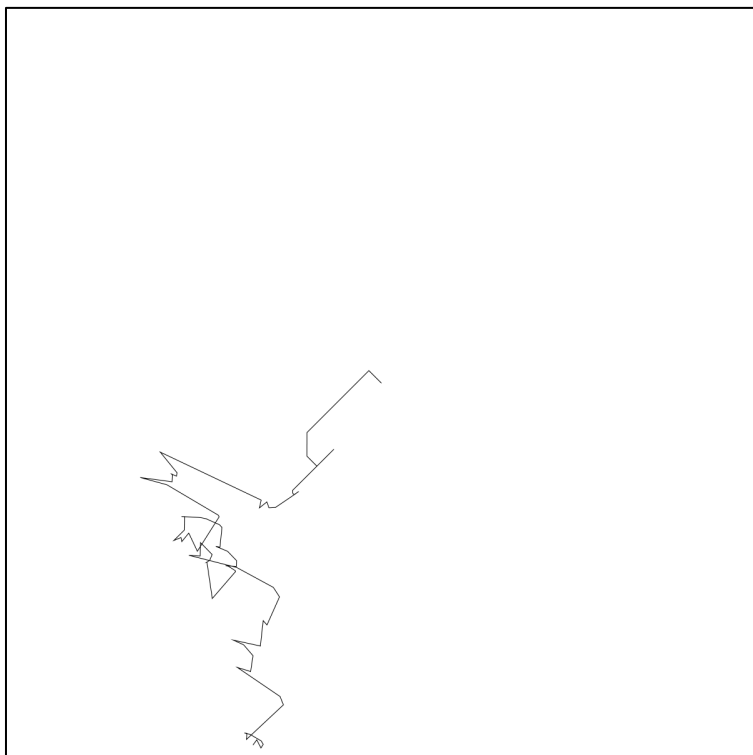
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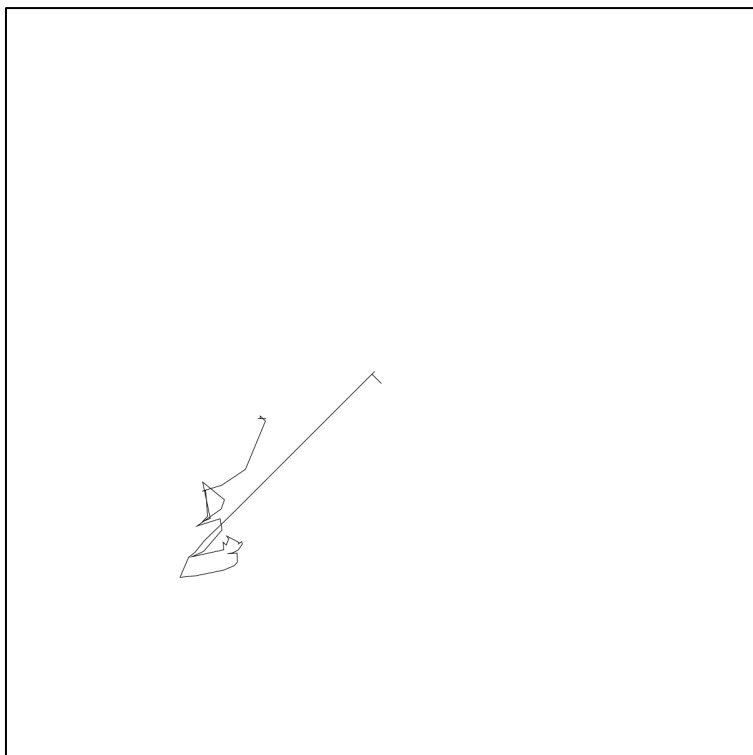
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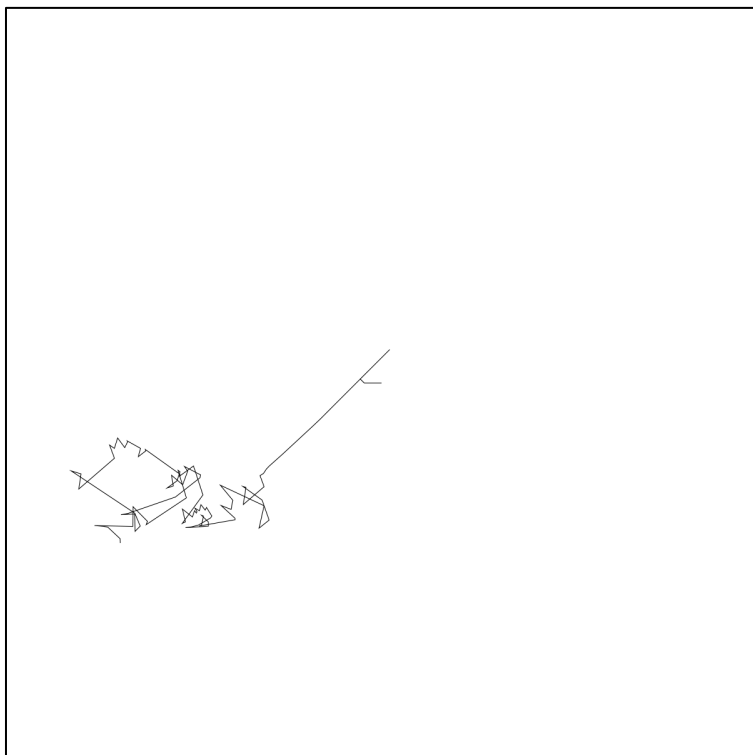
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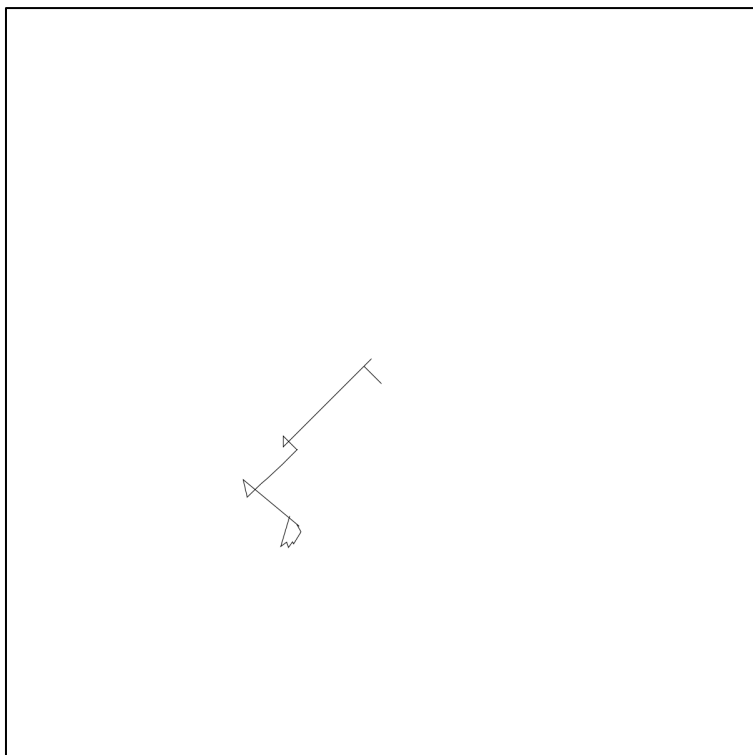
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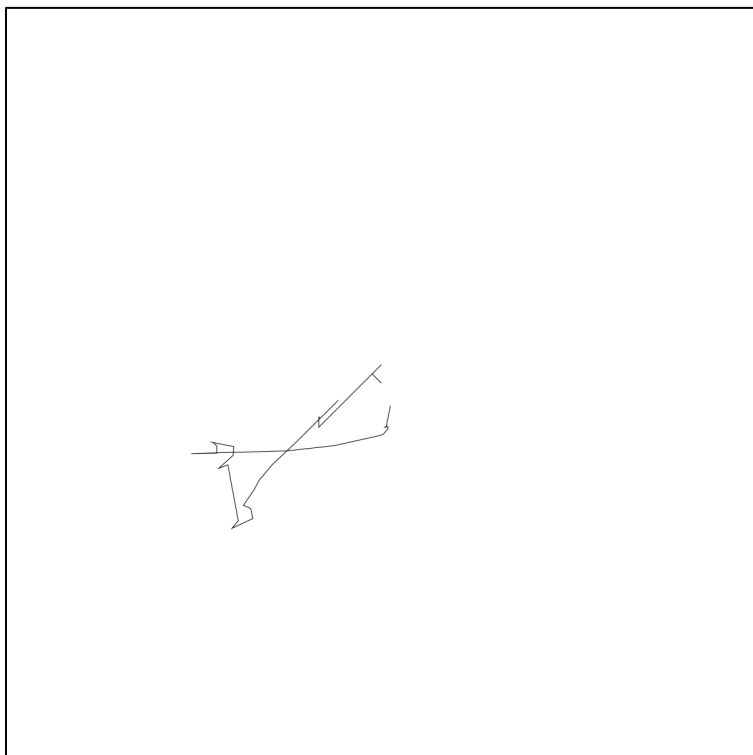
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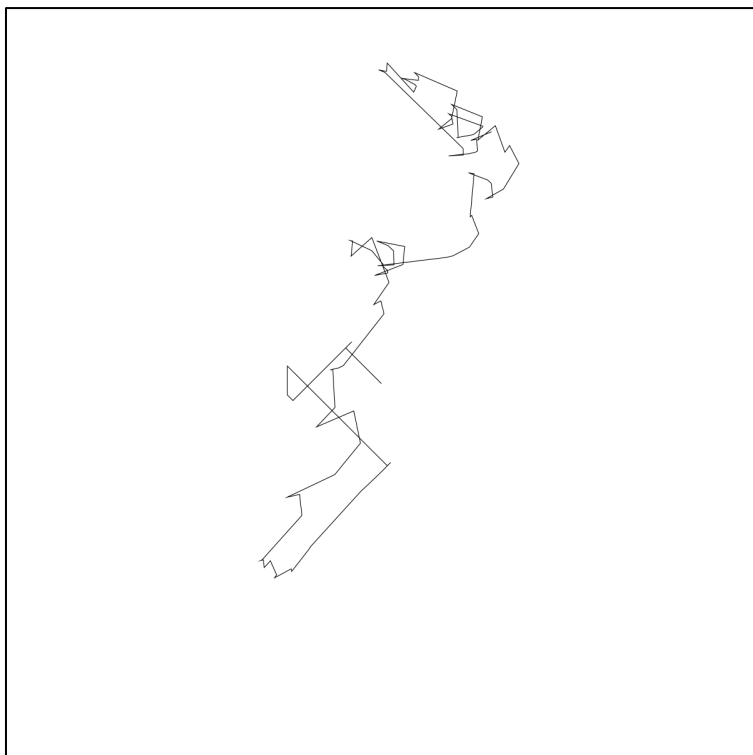
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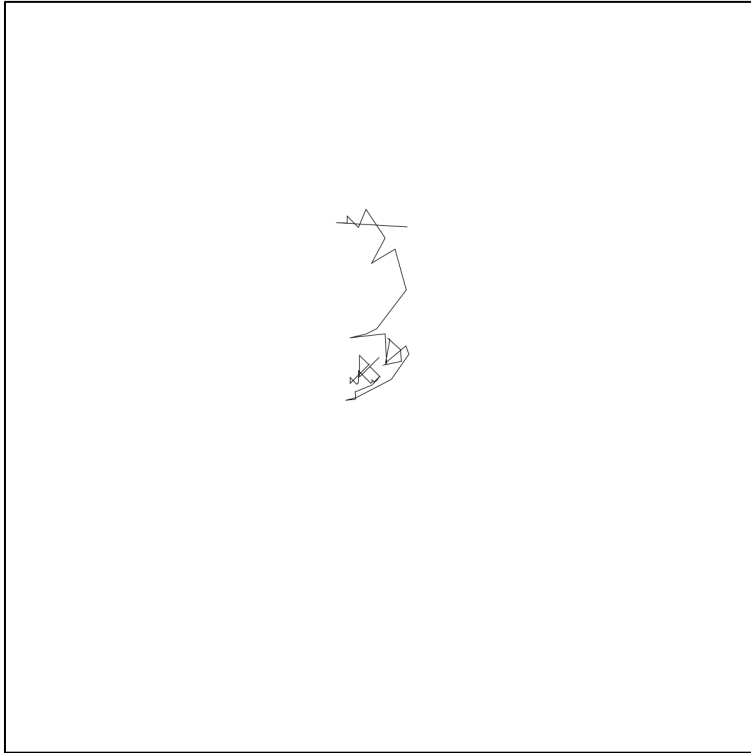
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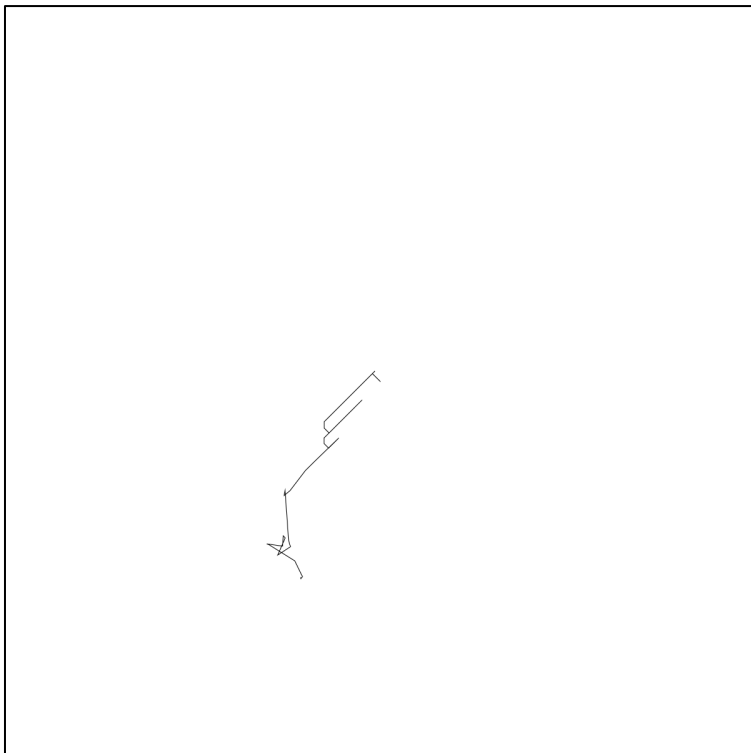
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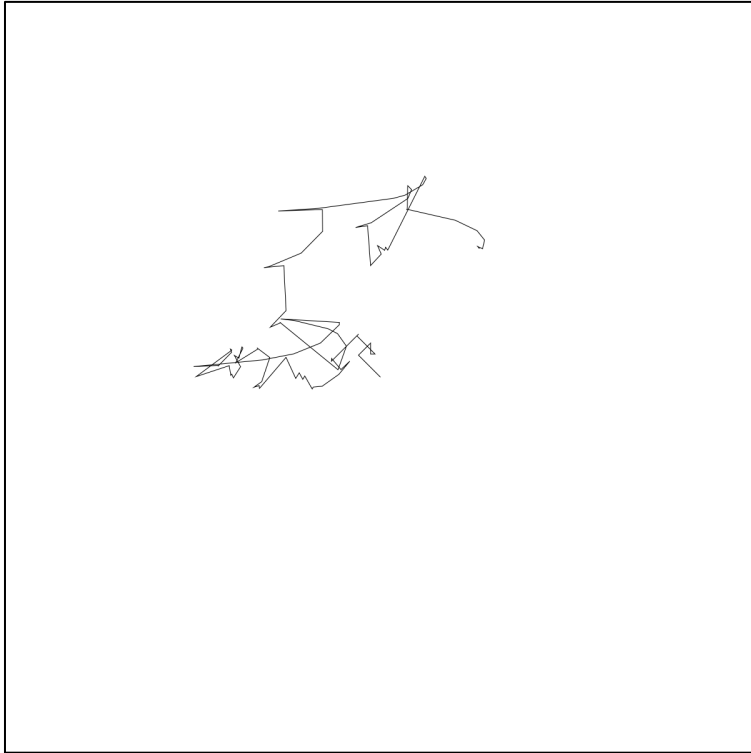
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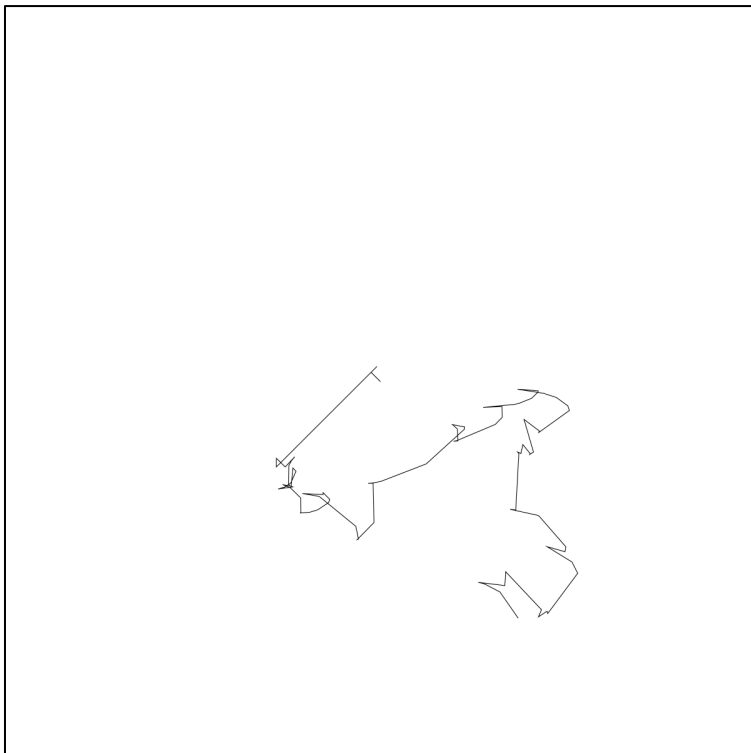
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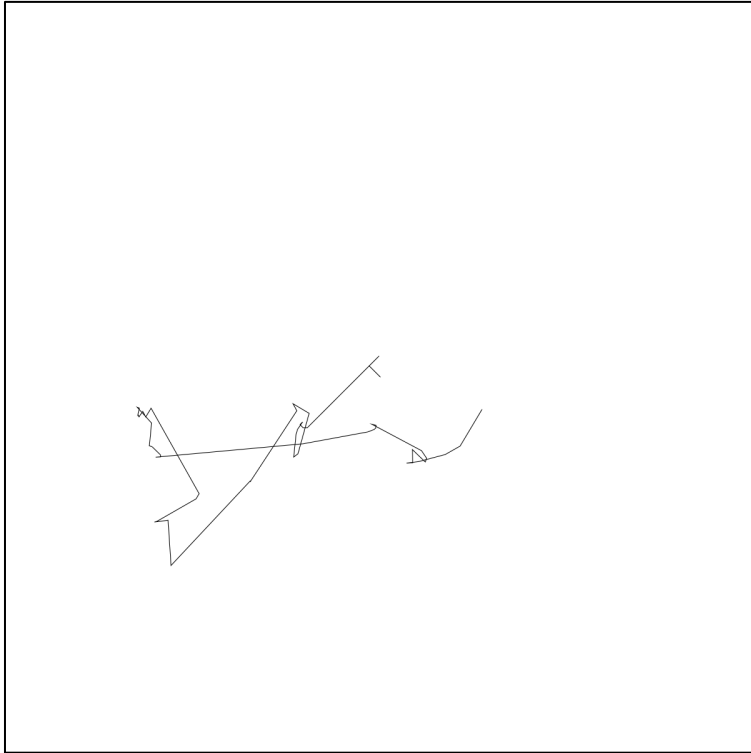
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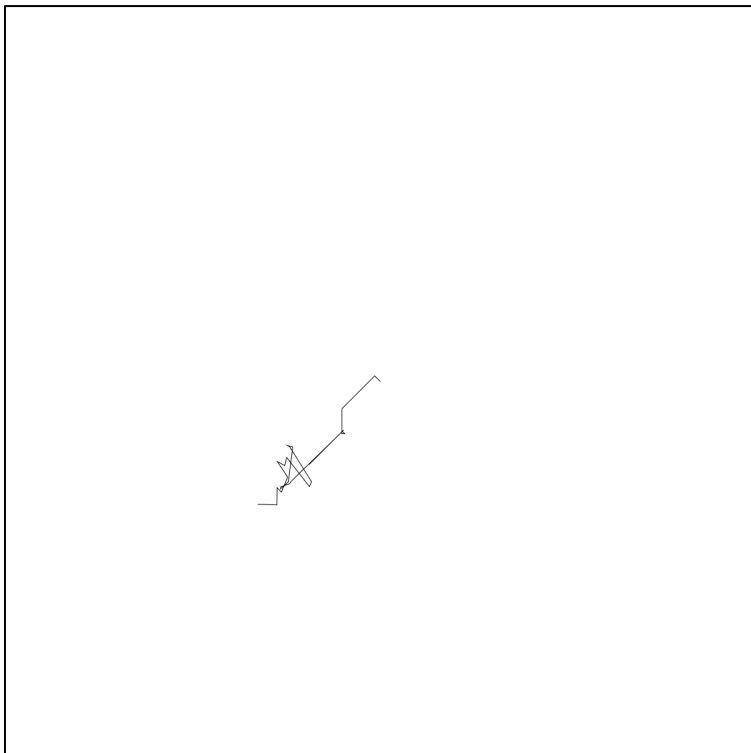
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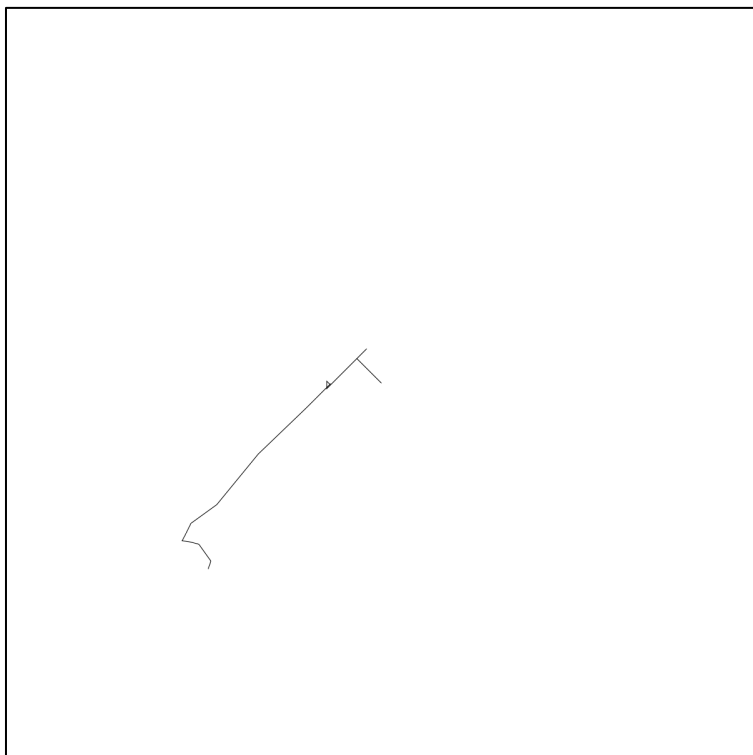
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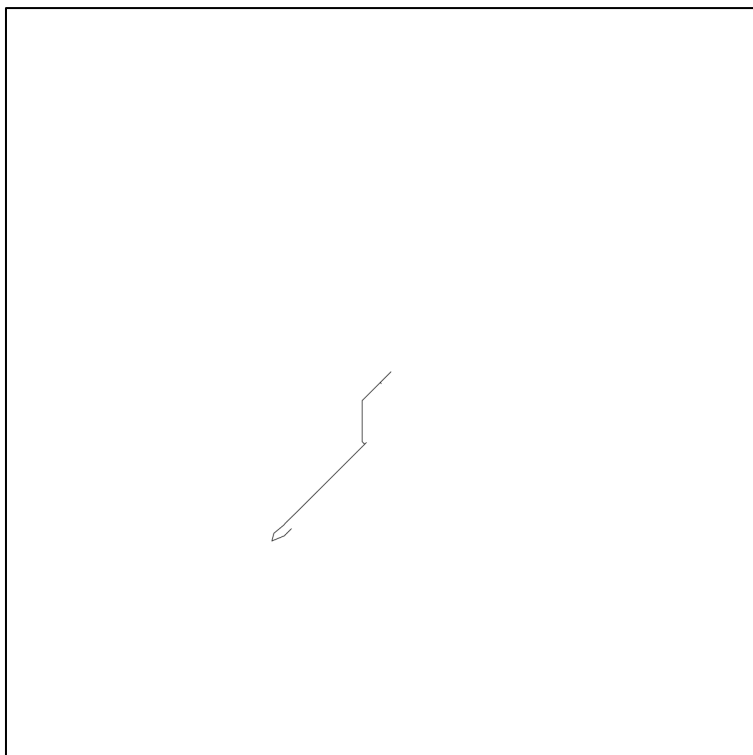
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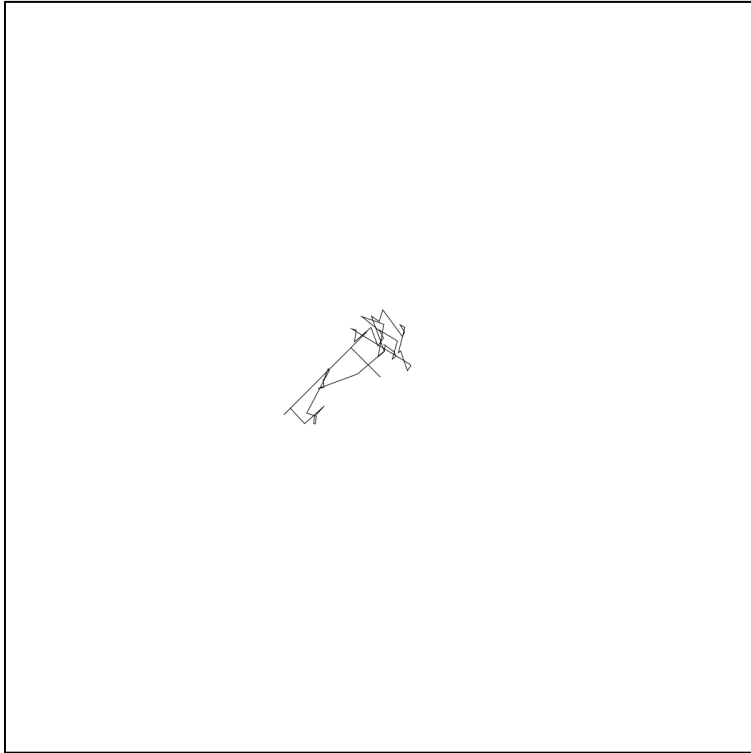
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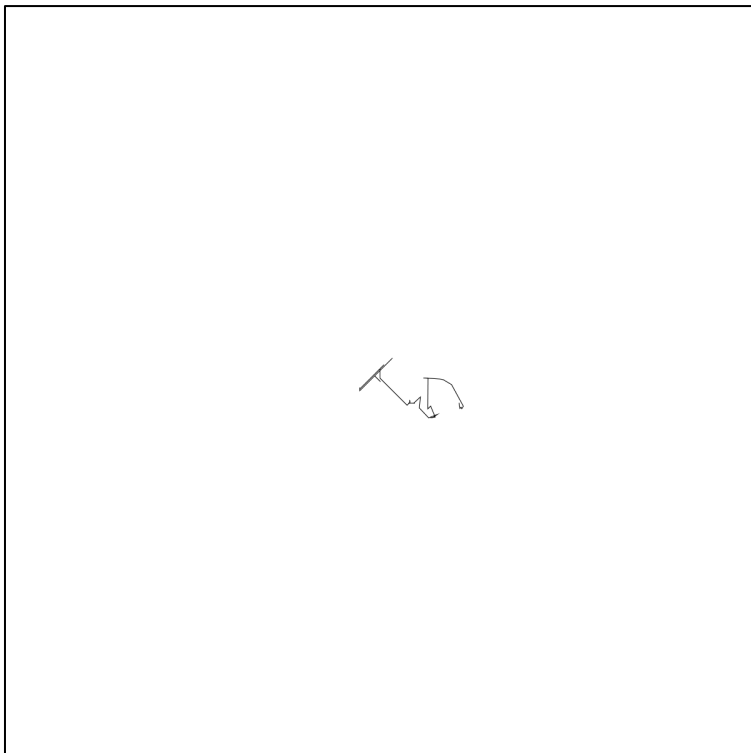
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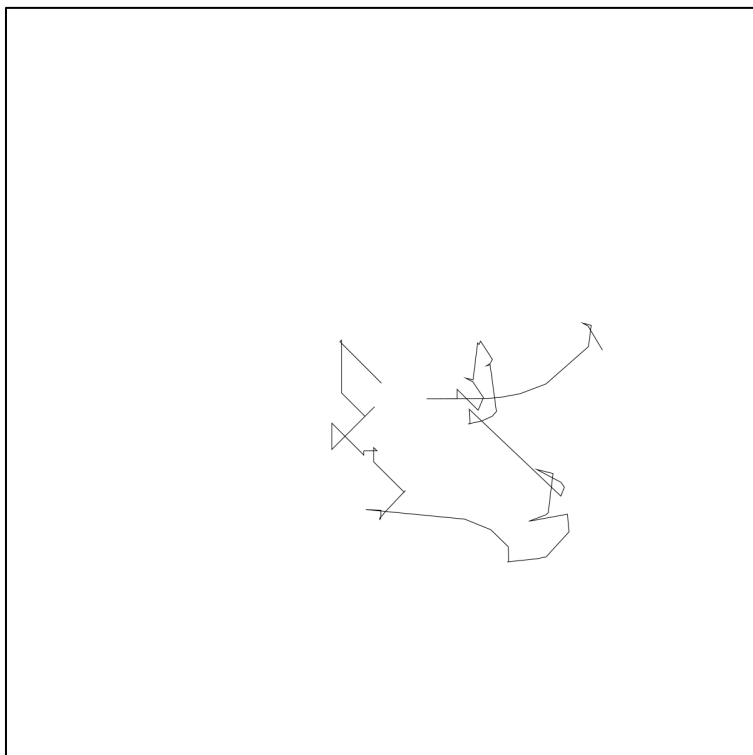
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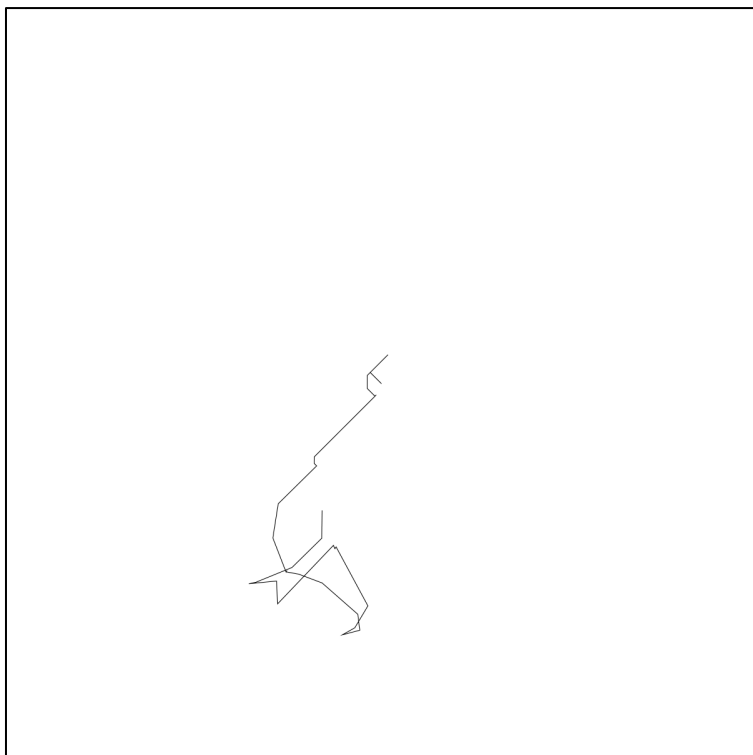
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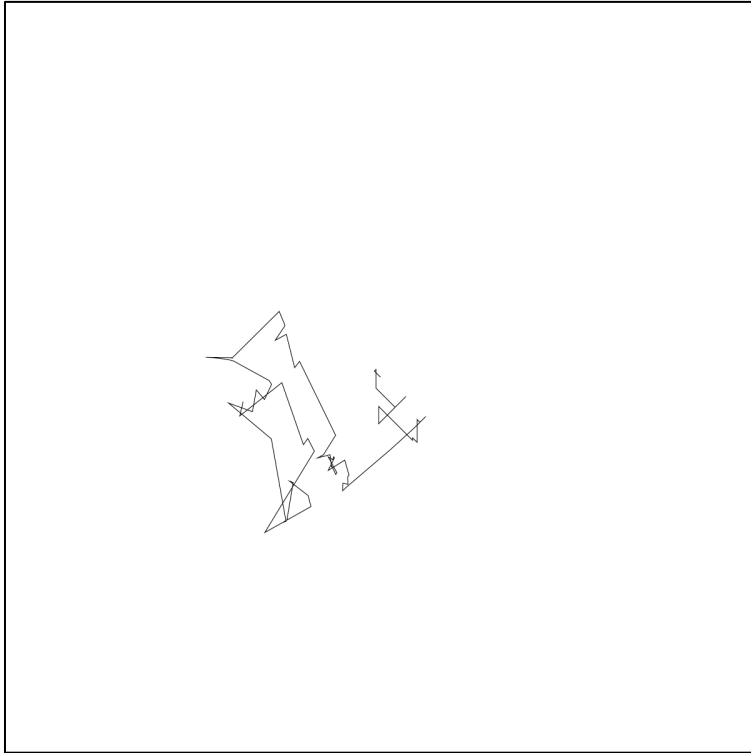
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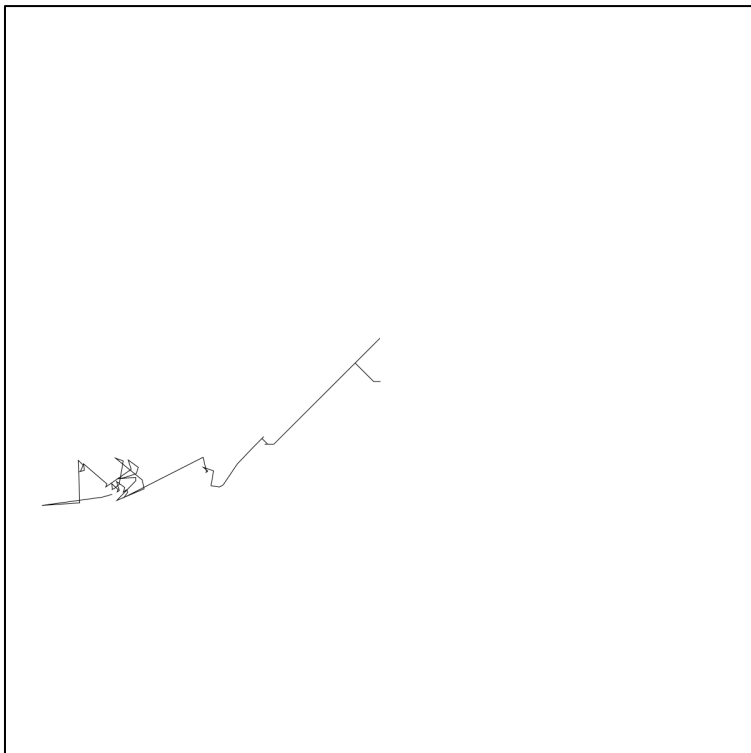
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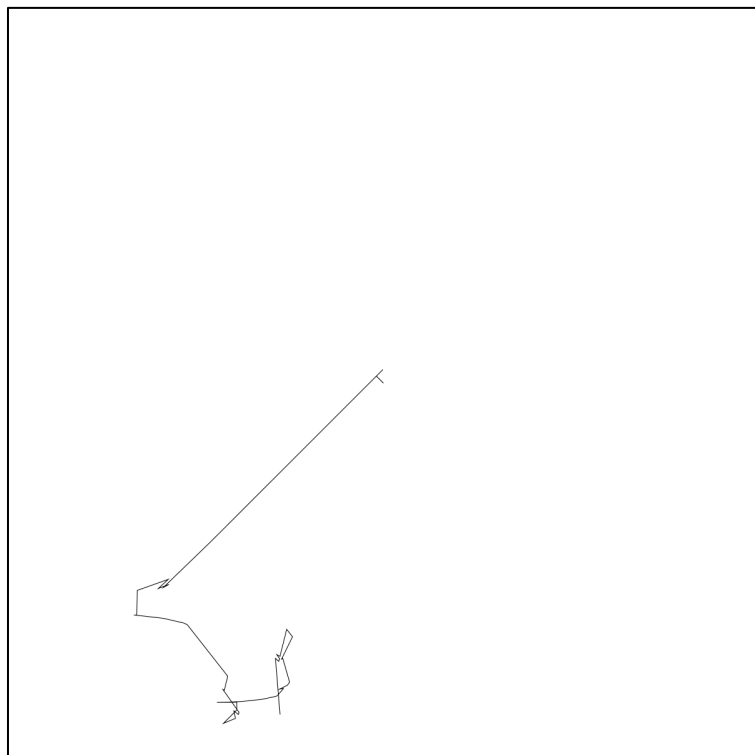
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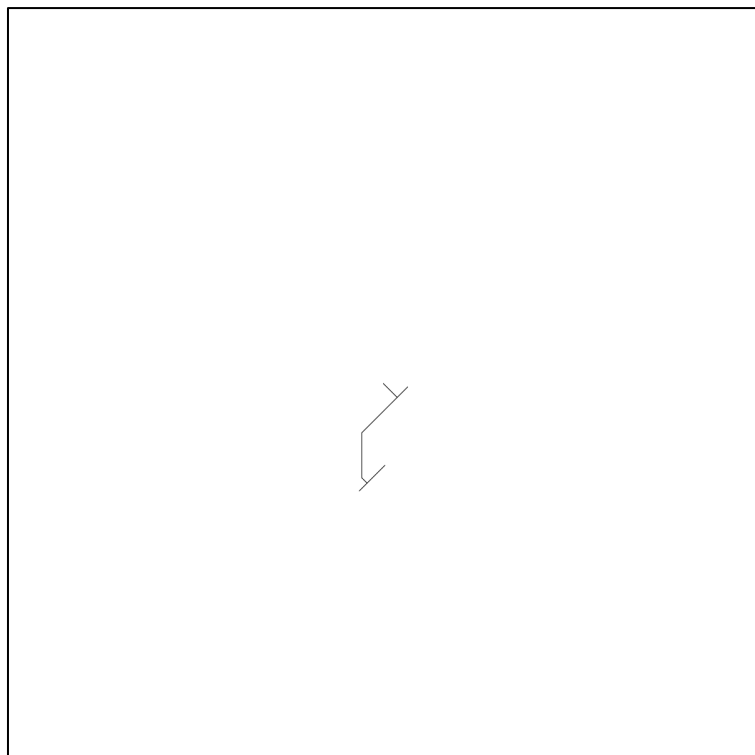
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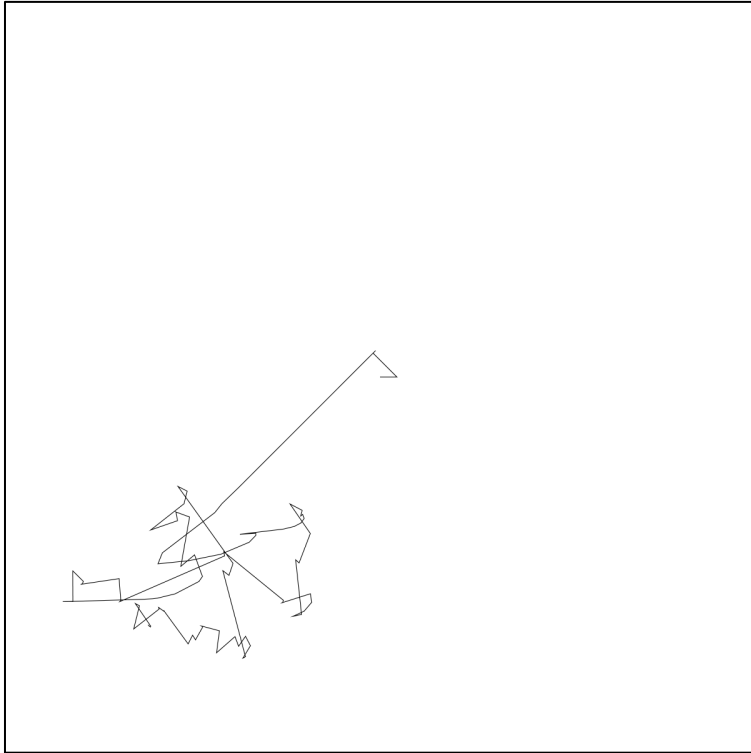
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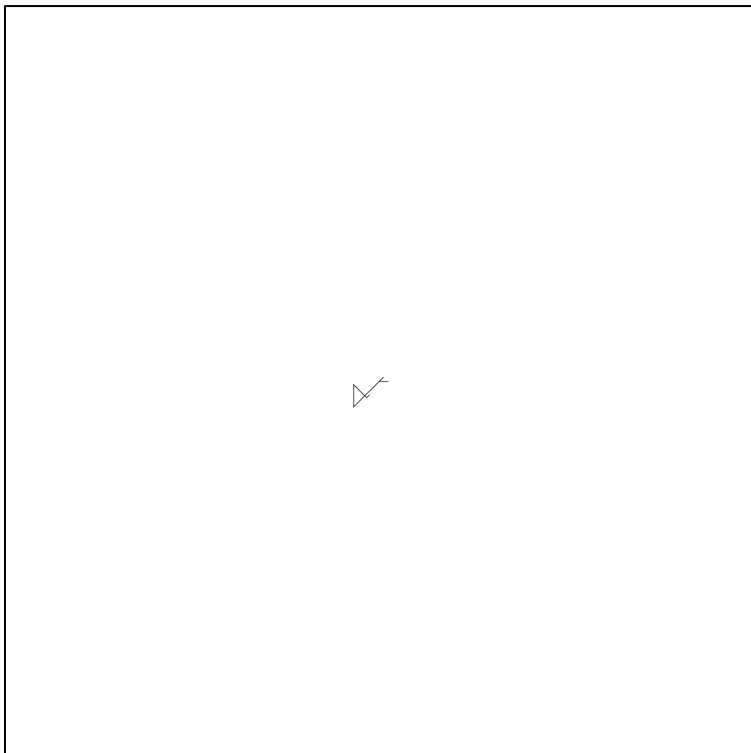
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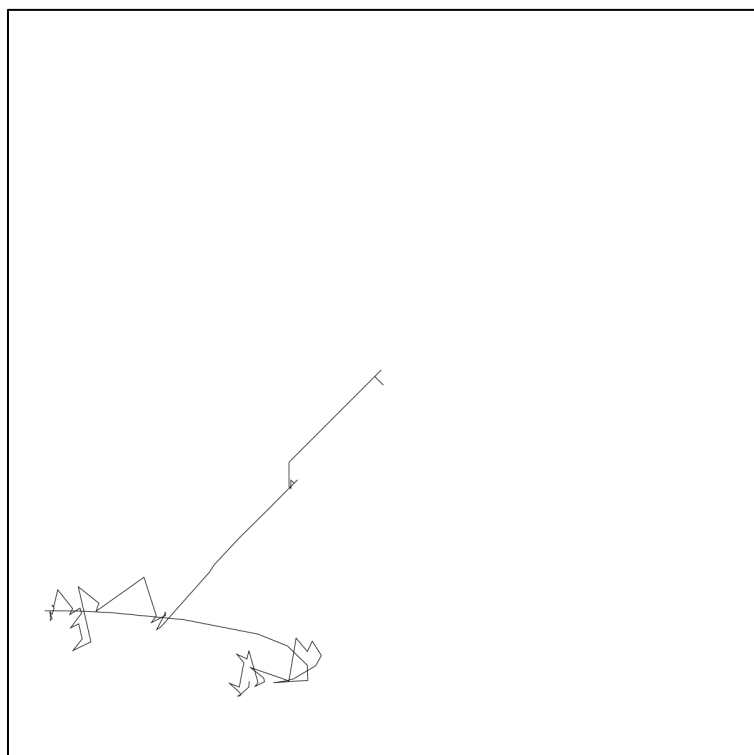
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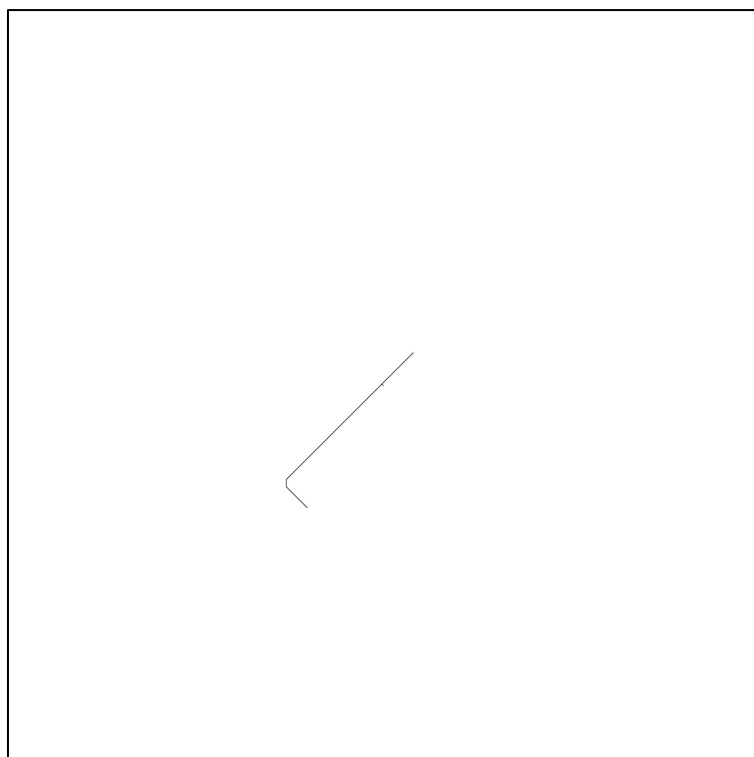
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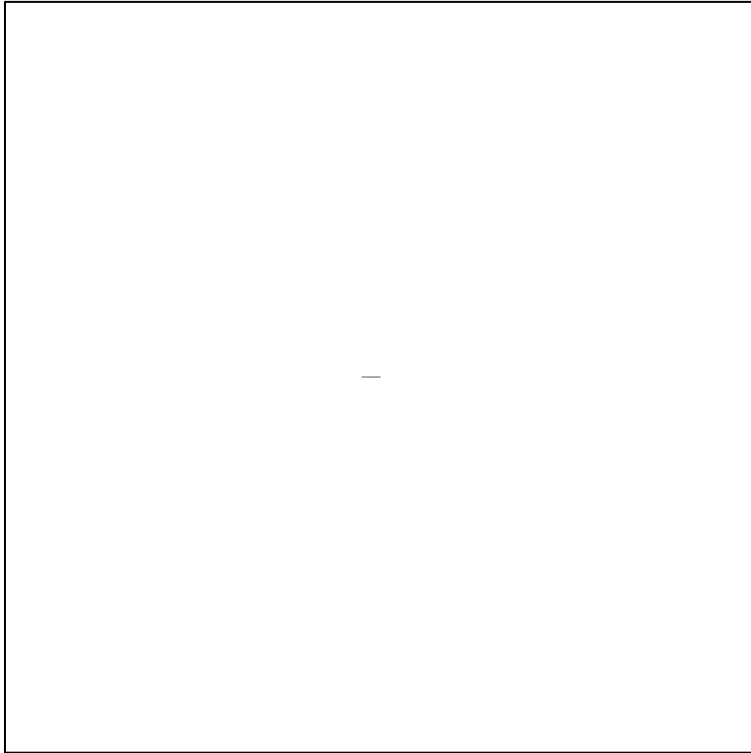
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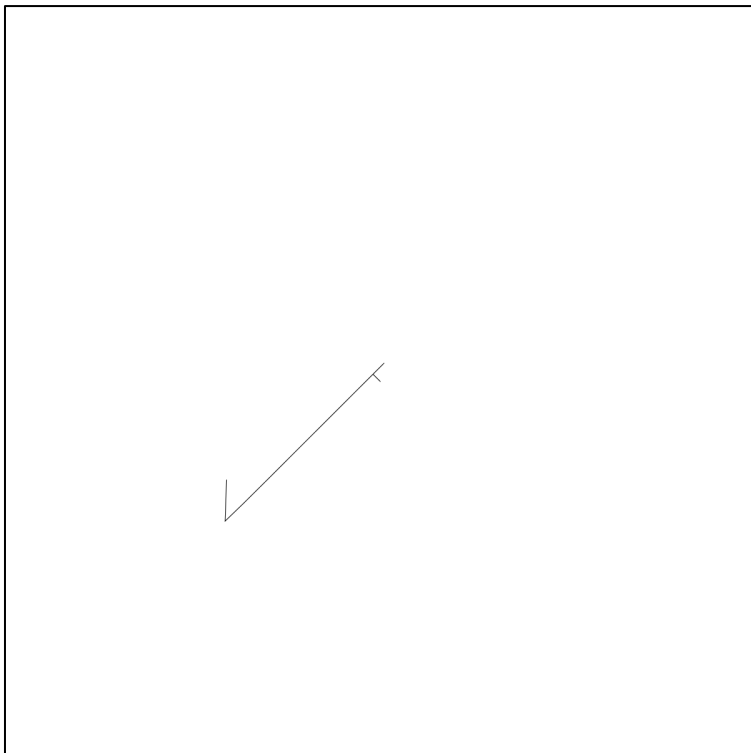
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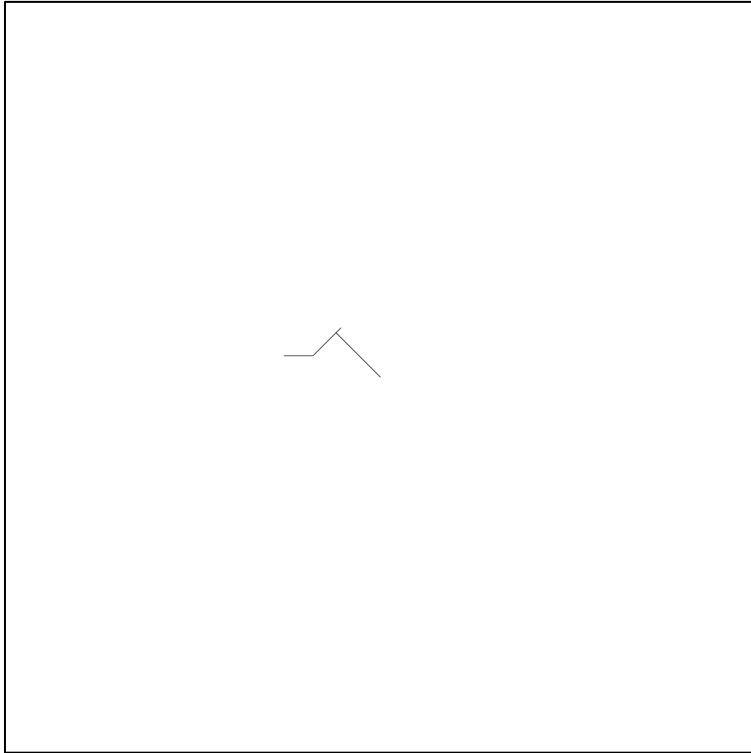
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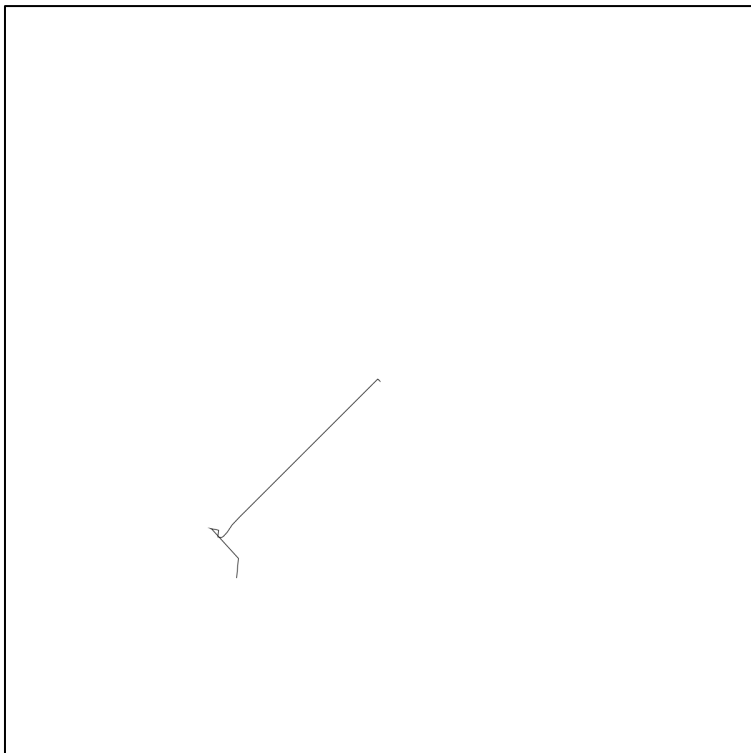
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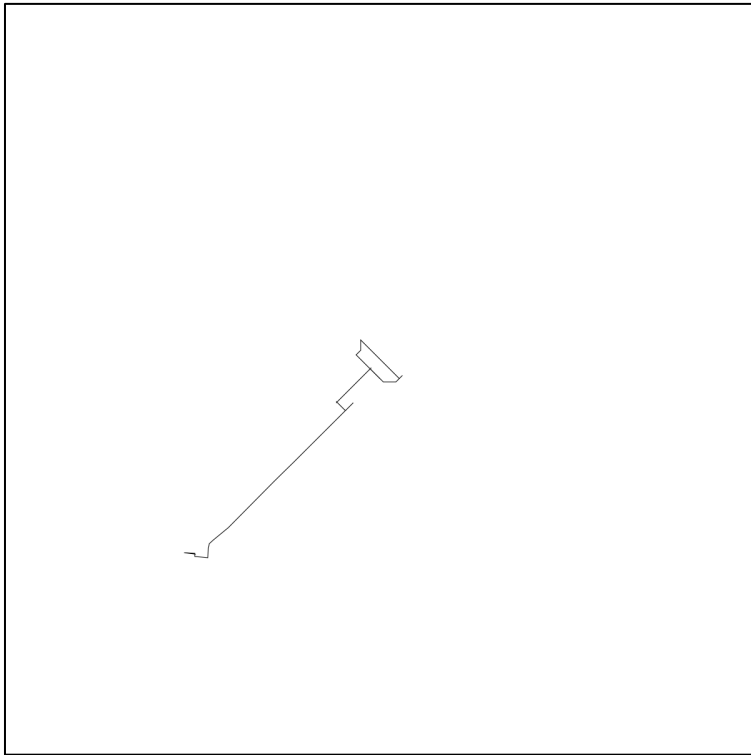
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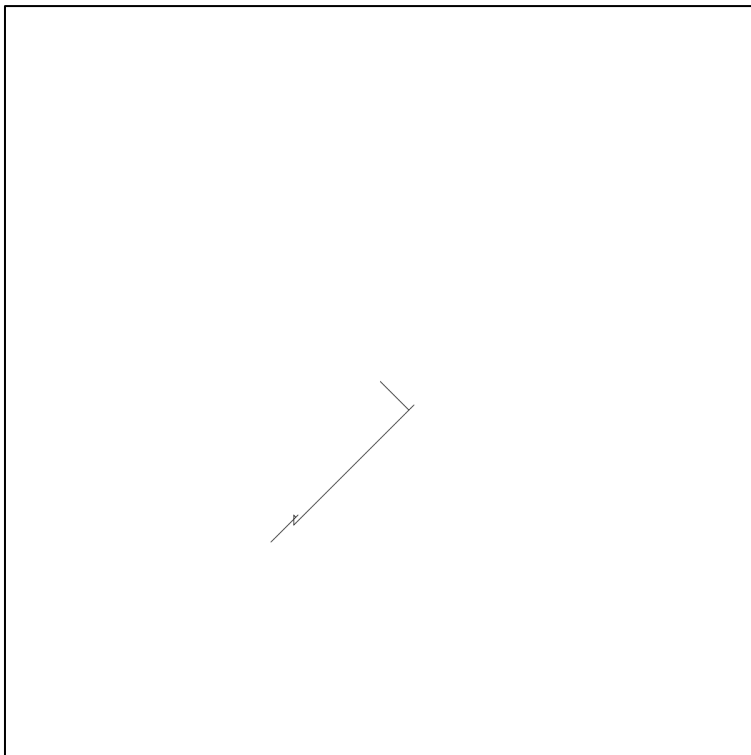
Convolute m:



Convolute p:



Convolute r:



APPENDIX B

Alphabetical list of part-of-speech tags used in the Penn Treebank Project:

| Number | Tag | Description |
|--------|-------|--|
| 1. | CC | Coordinating conjunction |
| 2. | CD | Cardinal number |
| 3. | DT | Determiner |
| 4. | EX | Existential <i>there</i> |
| 5. | FW | Foreign word |
| 6. | IN | Preposition or subordinating conjunction |
| 7. | JJ | Adjective |
| 8. | JJR | Adjective, comparative |
| 9. | JJS | Adjective, superlative |
| 10. | LS | List item marker |
| 11. | MD | Modal |
| 12. | NN | Noun, singular or mass |
| 13. | NNS | Noun, plural |
| 14. | NNP | Proper noun, singular |
| 15. | NNPS | Proper noun, plural |
| 16. | PDT | Predeterminer |
| 17. | POS | Possessive ending |
| 18. | PRP | Personal pronoun |
| 19. | PRP\$ | Possessive pronoun |
| 20. | RB | Adverb |
| 21. | RBR | Adverb, comparative |
| 22. | RBS | Adverb, superlative |
| 23. | RP | Particle |
| 24. | SYM | Symbol |
| 25. | TO | <i>to</i> |
| 26. | UH | Interjection |
| 27. | VB | Verb, base form |
| 28. | VBD | Verb, past tense |
| 29. | VBG | Verb, gerund or present participle |
| 30. | VBN | Verb, past participle |
| 31. | VBP | Verb, non-3rd person singular present |

| | | |
|-----|------|-----------------------------------|
| 32. | VBZ | Verb, 3rd person singular present |
| 33. | WDT | Wh-determiner |
| 34. | WP | Wh-pronoun |
| 35. | WP\$ | Possessive wh-pronoun |
| 36. | WRB | Wh-adverb |