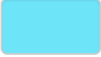
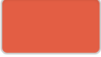
Labeling Rubric for Causal Stories

Version: v1.1
Total number of stories: 142

Highlight Types:

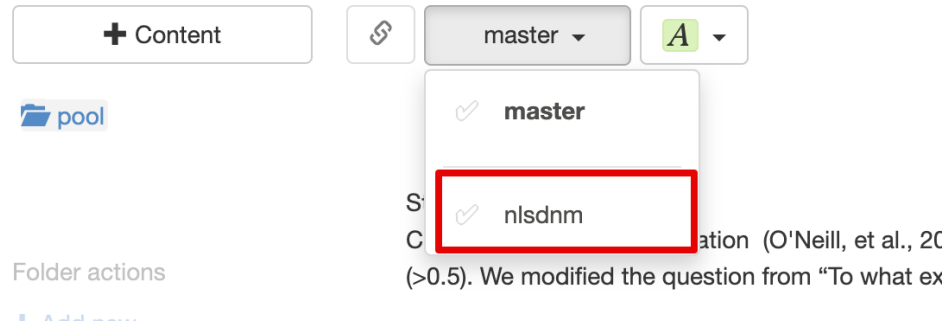
Entity Types DOCS

Here you define the categories to highlight in text. An entity can be any concept, for example: protein n

To automatically annotate and disambiaguate entities, use Dictionaries or/and Machine Learning.

🟩	Causal_Struct	Causal Structure
🟦	Agent_Knowledge	Agent Knowledge
🟧	Event_Cause	Event (Cause)
🟪	Norm	Norm (Setting)

Tag Hierarchy:

Causal Structure: **Conjunctive**, **Disjunctive**, **Other**
Agent Knowledge: **Agent Aware**, **Agent Unaware**
Norm (Setting): **Statistical Norm, Prescriptive Norm**
Event (Cause):
- Action/Omission: **Action as Cause**, **Omission as Cause**
- Event Normality: **Normal event, Abnormal event**
- Temporal Effect: **Late Cause**, **Early Cause**

Note:
Causal judgment is judging/selecting true cause

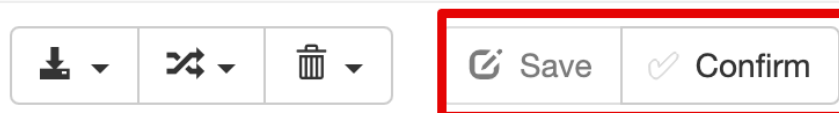
Basic Flow:

1. In each story, select your account (do not annotate on the "master" sheet)

Projects / ⊕ Moca_public / Story_119.txt

Settings   Documents   Metrics   Downloads

[+ Content]   [𝒮]   [master ▾]   [A ▾]

📁 pool
                          ⊘ **master**

                          ⊘ nlsdnm

Folder actions   S┆
                        C┆   ation (O'Neill, et al., 20
                        (>0.5). We modified the question from "To what ex

2. Choose and highlight a segment of text using 1 of 4 entity types.
3. When a segment is highlighted, we choose a **document** label to describe this entity. For example, when a segment is highlighted for "Norm (setting)", labels to choose from should be "Prescriptive Norm" or "Statistical Norm" to reflect what kind of norm it is. Another example, when a segment is highlighted for "Event (Cause)", you may select "Late Cause" and "Action as Cause" to be true.
4. After annotation, click "Save" and then "Confirm" to lock down the result.

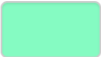
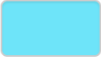
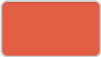
[↧ ▾]   [⤨ ▾]   [🗑 ▾]   [☑ Save | ⊘ Confirm]

==General rules==:
1. Read the Question at the end of the story first. The question is usually about a person or an item. When you annotate "Agent_Knowledge" or "Event_Cause" or "Norm", it's important to limit text selection to the person/item in question. For example, if the question is about Sarah, then we only focus on the norm applied to Sarah, or whether Sarah knows about the norm, and Sarah's action/omission.
2. Select a span of text to highlight – choose the entity type ("Causal_Struct", "Agent_Knowledge", "Event_Cause", "Norm")
3. Go to the right panel, select the document label that describes the span of text you chose. You should only apply the labels corresponding to the entity type of the text (i.e., only choose "EC_" if your text is highlighted as "Event_Cause")
4. We should highlight text segments that have a coherent semantic meaning (using punctuation marks as a natural separation). For example, if a sentence has both Sarah and Derek's action, we only need to select Sarah's action.
5. Causal Structure and Outcome are sufficient to summarize another agent's action/influence on the overall system.

6. After annotation, click "Save" and then "Complete".

We added one entity type and 2 binary labels:
Outcome, and Outcome - Occurred, Outcome - Not Occurred.

The reasoning is below:

For a conjunctive structure, if we tag:
Sarah action, (Derek action), Sarah violates norm, Outcome occurred. Then Sarah is the cause.
If we tag: Sarah action, (Derek omission), Sarah violates the norm, Outcome not occurred. Then Sarah is not the cause.

Binary Labels for Types:

Document Labels DOCS

Define the document labels you want to use to tag your documents.

Conjunctive	⊘ boolean ▾	Causal Structure: Conjunctive
Disjunctive	⊘ boolean ▾	Causal Structure: Disjunctive
Other_Structure	⊘ boolean ▾	Causal Structure: Other
Agent_Aware	⊘ boolean ▾	Agent Knowledge: Agent Aware
Agent_Unaware	⊘ boolean ▾	Agent Knowledge: Agent Unaware
Action	⊘ boolean ▾	Action/Omission: Action as Cause
Omission	⊘ boolean ▾	Action/Omission: Omission as Cause
Normal_Event	⊘ boolean ▾	Event Normality: Normal event
Abnormal_Event	⊘ boolean ▾	Event Normality: Abnormal event
Statistics_Norm	⊘ boolean ▾	Norm Type: Statistical Norm
Prescriptive_Norm	⊘ boolean ▾	Norm Type: Prescriptive Norm
Late_Cause	⊘ boolean ▾	Temporal Effect: Late Cause

Early_Cause	⊘ boolean ▾	Temporal Effect: Early Cause	Delete	Save
Same_Time_Cause	⊘ boolean ▾	Temporal Effect: Simultaneous Cause	Delete	Save

Annotation Flow

🟩	Causal_Struct	Causal Structure
🟦	Agent_Knowledge	Agent Knowledge
🟥	Event_Cause	Event (Cause)
🟪	Norm	Norm (Setting)

We use Story 141 as an example.

First, you look at the question "Did the hedgehog cause the problem?" This tells us that the agent we should focus on is "hedgehog". This is important because we will focus on the mental state and action of "hedgehog" – only caring about the bear's action in the context of the hedgehog. Then we decide which sentence to highlight with what entity tag.

Story 141
Comment: The Role of Prescriptive Norms and Knowledge in Children's and Adults' Causal Selection, (Samland, et al., 2016). Experiment 2: Agent's knowledge in norm. Knowledge vs. Ignorance. No effect in children (children will blame both conditions equally). Here we use adult data as ground truth. (70% vs. 30%) (Knowledge vs. Ignorance) Figure 2.

A bear and a hedgehog were shown a box full of colored pencils. Only bears were allowed to take pencils, whereas hedgehogs were not allowed to take them. The hedgehog was absent when the new rule about pencil use was announced. Therefore, the hedgehog does not know about the new norm. Both animals alternately took pencils out of the box six times. At last, the hedgehog and the bear came to the box and simultaneously took a pencil. A short time later, another animal, a polar bear, approached the box seeking a pencil to do its homework. However, there were no pencils left in the box. Polar bear cannot finish his homework. Did the hedgehog cause the problem?

Answer: No

For example, we realize "Only bears were allowed to take pencils, whereas hedgehogs were not allowed to take them." – this sentence describes a norm (find the definition of norm later). So we highlight it. Then we go to the right side panel, "norm" has two labels: "Prescriptive Norm" or "Statistical Norm". We select "Prescriptive Norm". We can leave the rest blank. You don't have to choose them to be "false" – "?" will suffice.

Prescriptive_Norm

| true | ▼ | ✖ |

Same_Time_Cause

| ? | ▼ | ✖ |

Statistics_Norm

| ? | ▼ | ✖ |

Then we continue looking for other sentences to highlight. We found another one!

Story 141

Comment: The Role of Prescriptive Norms and Knowledge in Children's and Adults' Causal Selection, (Samland, et al., 2016). Experiment 2: Agent's knowledge in norm. Knowledge vs. Ignorance. No effect in children (children will blame both conditions equally). Here we use adult data as ground truth. (70% vs. 30%) (Knowledge vs. Ignorance) Figure 2.

A bear and a hedgehog were shown a box full of colored pencils. Only bears were allowed to take pencils, whereas hedgehogs were not allowed to take them. The hedgehog was absent when the new rule about pencil use was announced. Therefore, the hedgehog does not know about the new norm. Both animals alternately took pencils out of the box six times. At last, the hedgehog and the bear came to the box and simultaneously took a pencil. A short time later, another animal, a polar bear, approached the box seeking a pencil to do its homework. However, there were no pencils left in the box. Polar bear cannot finish his homework. Did the hedgehog cause the problem?

Agent_Aware
?

Agent_Unaware
true

Conjunctive
?

The next sentence is about agent awareness. Since hedgehog is our agent of focus, we tag it. Then we choose the document label of "Agent Aware" or "Agent Unaware". In this case, the hedgehog does not know. So we set "Agent Unaware" to be true.

Story 141

Comment: The Role of Prescriptive Norms and Knowledge in Children's and Adults' Causal Selection, (Samland, et al., 2016). Experiment 2: Agent's knowledge in norm. Knowledge vs. Ignorance. No effect in children (children will blame both conditions equally). Here we use adult data as ground truth. (70% vs. 30%) (Knowledge vs. Ignorance) Figure 2.

A bear and a hedgehog were shown a box full of colored pencils. Only bears were allowed to take pencils, whereas hedgehogs were not allowed to take them. The hedgehog was absent when the new rule about pencil use was announced. Therefore, the hedgehog does not know about the new norm. Both animals alternately took pencils out of the box six times. At last, the hedgehog and the bear came to the box and simultaneously took a pencil. A short time later, another animal, a polar bear, approached the box seeking a pencil to do its homework. However, there were no pencils left in the box. Polar bear cannot finish his homework. Did the hedgehog cause the problem?

Answer: No

At last, we arrive at the "Event (cause)" sentence. For this, we realize it's an abnormal event because the hedgehog is not allowed to take the pencil. It's an action that the hedgehog performed, and it's at the same time as the bear.

Abnormal_Event
true ✖

Same_Time_Cause
true ✖

Action
true ✖

Definition for Terminology

Event: short for "potential event" – event that has the potential to cause the outcome. There can be <u>many</u> events in a story – anything can be an event. However, we focus on **events that are performed by the agent in question** and can lead to the outcome.

Outcome: Usually the focus of the causal question – "Did X cause Y?" the Y would be the outcome.

Definition for Each Tag

Conjunctive: There are 2 or 2+ events, and <u>all</u> events must happen in order for the <u>outcome</u> to occur. Each event is a <u>necessary</u> cause for the outcome.

Disjunctive: There are 2 or 2+ events, and <u>any</u> event will cause the <u>outcome</u> to occur. Each event is a <u>sufficient</u> cause for the outcome.

Other: Treat this as the "Other" tag for causal structure. There are some structures that are more complicated than simple conjunctive/disjunctive structures.

Agent Aware: Agent is <u>aware</u> that their action will break the norm/rule or they know their action is "abnormal" (i.e., do you know you are breaking the rule?)

Agent Unaware: Agent is <u>unaware</u> or <u>ignorant</u> that their action will break the norm/rule or they don't know their action is "abnormal" (i.e., do you know you are breaking the rule?)

Action as Cause: Agent performed the action, and that action can lead to the outcome (e.g., "X watered the plant; the plant died") (the action is linked to the outcome in a causal graph)

Omission as Cause: Agent did not perform the action, and that "not performing" led to the outcome (e.g. "X didn't unsubscribe from the mailing list, therefore X got a marketing email").

Normal event: The event that led to the outcome is considered "normal" (e.g. "X cheated because everyone in class is cheating")

Abnormal event: The event that led to the outcome is considered "abnormal"/"unexpected" (e.g. "X cheated even though no one else in the class is cheating")

Statistical Norm: There is a background event (phenomenon) that <u>frequently</u> happens (e.g., "The pen in the office usually goes missing")

Prescriptive Norm: There is a background event (rule) that is <u>dictated/mandated by people</u> (e.g. "The pen should not be touched in office except for the secretary")

Late Cause: In a sequence of chronological events, if the <u>event in question</u> (whether it caused the outcome) happened <u>last</u>, or <u>near the end</u>, it's a late cause. (Apply these only in recency effect experiment)

Early Cause: In a sequence of chronological events, if the <u>event in question</u> (whether it caused the outcome) happened <u>first</u>, or <u>very early</u>, it's an early cause. (Apply these only in recency effect experiment)

Same Time Cause: In a sequence of events (or a pair of events), it's unclear which event happened early (i.e., no clear time demarcation).

Example Annotations

Story 129
(This example is slightly messy, but important)

🟩	Causal_Struct	Causal Structure
🟦	Agent_Knowledge	Agent Knowledge
🟥	Event_Cause	Event (Cause)
🟪	Norm	Norm (Setting)

Story 129

Comment: Counterfactual thinking and recency effects in causal judgment (Dropbox) (Henne, et al., 2021). Experiment 2, Vignette 1 (Overdetermination, Early vs. Late). (M=35.33 vs. M=-3.44)

Louie and Claire are playing a game of basketball, and they made a bet with their friends who are watching on the sidelines. If either Louie makes a 3-point shot or Claire makes a 3-point shot during the game, then they'll win $100 and split it down the middle. Just when the game started, Claire immediately got the ball at the 3-point line. She looked to the basket, focused her shot, and made a 3-point shot right at the beginning of the game. Louie, Claire, and their friends continued playing, but as hard as they tried, Louie and Claire couldn't make another shot. And then right at the end of the game as the clock was winding down, Louie got the ball at the 3-point line. He looked to the basket, focused his shot, and made a 3-point shot right at the buzzer. Then the game ended. Because they would win $100 if either Louie made a 3-point shot or Claire made a 3-point shot, Louie and Claire won $100 and split it down the middle. Think about what could have been different in the story that you just read. Which event do you imagine happening differently: Claire making the 3-point shot right at the beginning of the game. Louie making the 3-point shot right at the buzzer. Did Louie and Claire win the $100 bet because Louie made the 3-point shot?

Answer: No

Action
true ✖

Agent_Aware
? ✖

Agent_Unaware
? ✖

Disjunctive
true ✖

Early_Cause
false ✖

Late_Cause
true ✖

(In this screenshot, Early_Cause is labeled as "False", there's no need to explicitly put in the "False" label.)

First of all, though both agents are aware they are shooting the basket – there is no explicit sentence mentioning their knowledge state. So we do not tag those. Also, there is no "norm" in this paragraph, so we do not tag the "event (cause)" with **normal/abnormal event** tag (important!!).

We highlight the sentence that describes the causal structure, then select "Disjunctive" because it's an "either…or…" relationship.

The question is asking about "Louie", so we focus on Louie's action. Notice that Claire making an early shot was not selected. Although "early" and "late" are relative concepts, the highlighted sentences have "right at the end of the game" and "Then the game ended" – to help place the cause at the end of the story.

Story 133

Story 133

Comment: The good, the bad, and the timely: how temporal order and moral judgment influence causal selection, (Reuter, et al, 2014), Figure 1 Temporal order. Alice first vs. Zoe first. Scenario 2 (Alice first) vs. Scenario 3 (Zoe first). (40% Zoe vs. <5% Zoe) These results are more comparative because the raw experiment has 5 options: Alice, Zoe, Both, None of the two, Not sure.

Alice and Zoe work for the same company. They work in different rooms and both of them sometimes need to access the central computer of the company. Unbeknownst to everybody, if two people are logged in to the central computer at the same time, an empty email is immediately sent from the central computer to a non-existent email address. One day, Zoe logs in to the central computer at 9 am. The same day, Alice logs in at 9:30 am, when Zoe is already logged in. Immediately, an empty email is sent from the central computer to a non-existent email address. Did Zoe cause an empty email to be sent from the central computer to a non-existent email address?

Answer: No

We tag "unbeknownst to everybody" as "Agent Knowledge", and the next text span as "Causal Structure" of the story. Then we tag the event cause – we tag both Zoe and Alice's action (note that Alice's action is tagged because in the same sentence it says "when Zoe is already logged in" – it is important for us to know that Zoe's action has an effect "already logged in" here).

AK_Agent_Unaware 100%

true ▼

CS_Conjunctive 100%

true ▼

EC_Action 100%

true ▼

EC_Early_Cause 100%

true ▼

This is an "early cause" because there is an explicit mention of time 9am vs. 9:30am.