

# PersonaBank: A Corpus of Personal Narratives and Their Story Intention Graphs

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## Abstract

We present a new corpus, PersonaBank, consisting of 108 personal stories from weblogs that have been annotated with their STORY INTENTION GRAPHS, a deep representation of the fabula of a story. We describe the topics of the stories and the basis of the STORY INTENTION GRAPH representation, as well as the process of annotating the stories to produce the STORY INTENTION GRAPHS and the challenges of adapting the tool to this new personal narrative domain. We also discuss how the corpus can be used in applications that retell the story using different styles of tellings, co-tellings, or as a content planner.

**Keywords:** Personal Narratives, Discourse and Narrative Representations, Computational Storytelling, Natural Language Generation

## 1. Introduction

Hundreds of thousands of personal narratives are published on the web each month in weblogs. These personal narratives provide direct insight into the daily lives of people, the activities they engage in and their beliefs, goals and plans. We have developed a new corpus, PersonaBank, that consists of 108 personal narratives annotated with a deep representation of narrative called a STORY INTENTION GRAPH or SIG. The story topics include stories about romance, travel, sports, holidays, watching wildlife, and weather. The stories have also been annotated for overall positive and negative tone. The SIG representation provides a propositional representation of the story timeline, the goals and motivations of the story characters, and the affective impacts of story events on characters.

Our approach builds on the corpus and tools associated with the DramaBank language resource, a collection of Aesop's Fables and other classic stories that utilize the SIG representation (Elson and McKeown, 2010; Elson, 2012a; Elson, 2010). This work is the first to apply this formalism to informal personal narratives, such as the story about *The Startled Squirrel* shown in Figure 1.

This is one of those times I wish I had a digital camera. We keep a large stainless steel bowl of water outside on the back deck for Benjamin to drink out of when he's playing outside. His bowl has become a very popular site. Throughout the day, many birds drink out of it and bathe in it. The birds literally line up on the railing and wait their turn. Squirrels also come to drink out of it. The craziest squirrel just came by- he was literally jumping in fright at what I believe was his own reflection in the bowl. He was startled so much at one point that he leapt in the air and fell off the deck. But not quite, I saw his one little paw hanging on! After a moment or two his paw slipped and he tumbled down a few feet. But oh, if you could have seen the look on his startled face and how he jumped back each time he caught his reflection in the bowl!

Figure 1: *Startled Squirrel* personal narrative

The SIG is an abstract model of narrative structure that was designed to be able to represent any story in terms of its characters, and their actions, intentions and affectual motivations. Part of a SIG is shown in Figure 2 and is described in more detail in Section 2. We believe SIGs provide a useful basis for theoretical analyses of narrative structure and for applications related to language processing or storytelling. There are several practical advantages to using the SIG representation for our corpus:

- DramaBank comes with an annotation tool called Scheherezade that produces the STORY INTENTION GRAPH. Previous research and our own experience suggest that it is easy to train naïve annotators to annotate stories with Scheherezade.
- Scheherezade includes a natural language generator that outputs a retelling of the original story that reflects the annotators' decisions.
- Many of the stories share similar themes, topics and activities that allow us to understand the common plot structures across stories with similar SIG representations.
- The SIG allows for the experimentation of producing variations in narrative structure for the same story and exploring stylistic differences in discourse structure and story tellings.

We have created the PersonaBank collection of SIG annotated stories with several purposes in mind that we believe will make the corpus useful to other researchers interested in everyday storytelling, narrative modeling, language generation, and language processing<sup>1</sup>. Section 2. begins by describing the SIG representation. Section 3. gives a detailed overview of our corpus. Section 4. describes the annotation process used to generate SIGs and the challenges of

<sup>1</sup><http://nlds.soe.ucsc.edu/personabank>

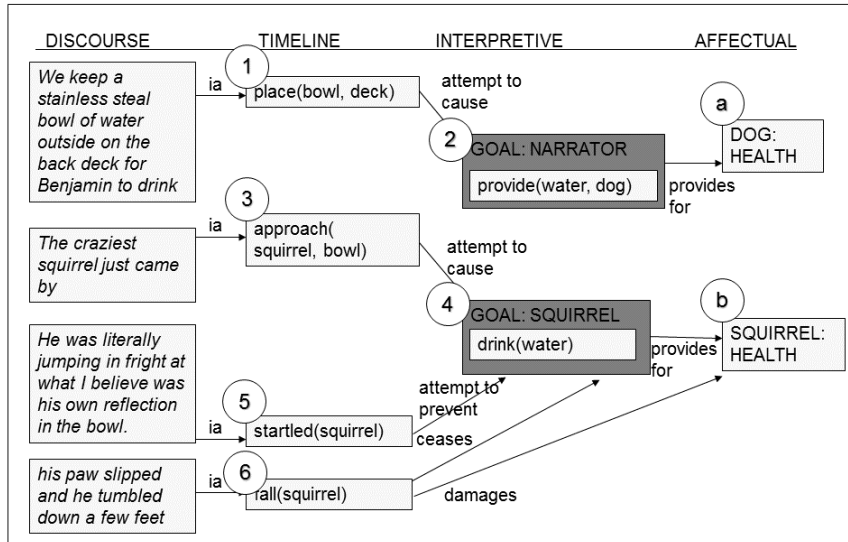


Figure 2: Part of the STORY INTENTION GRAPH for the *Startled Squirrel*

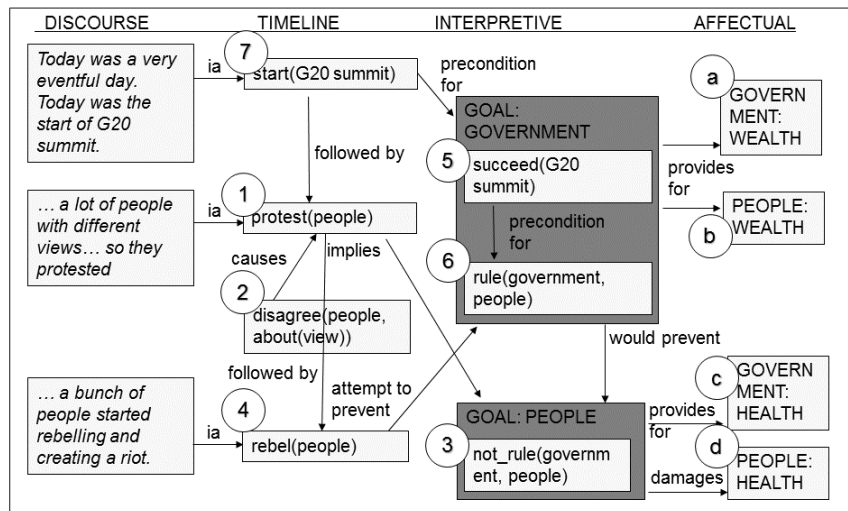


Figure 3: Part of the STORY INTENTION GRAPH for the *Protest Story*

adapting the tool to the personal narrative domain. Section 5. briefly summarizes some of the potential applications of the corpus, including existing work that explores generating many different versions of the same story given the deep representation of the SIG.

## 2. Story Intention Graphs

STORY INTENTION GRAPHS were built to find computational models that look beyond the surface form of a text to compare and contrast stories based on content, as opposed to style (Elson, 2012b). The STORY INTENTION GRAPH, or SIG, formalism is robust, emphasizing key elements of a narrative rather than attempting to model the entire semantic world of the story. It is an expressive and computable model of content that is accessible for human subject to use an annotation methodology to create an open-domain corpus.

SIGs represent a story along several dimensions, starting with the surface form of the story (first column in Figure 2) and then proceeding to deeper representations. The SIG bears some similarities to Lehnert's notion of recombinable plot units as a discourse model (Lehnert, 1981; Goyal et al.,

2010; Appling and Riedl, 2009; Nackoul, 2010). Characters and objects are created, actions and properties are assigned to them, and interpretations of *why* characters are motivated to take the actions they do are provided. The first dimension of the SIG (second column in Figure 2) is called the "timeline layer", in which the story facts are encoded as predicate-argument structures (propositions) and temporally ordered on a timeline. The timeline layer consists of a network of propositional structures, where nodes correspond to lexical items that are linked by thematic relations. The second dimension (third column in Figure 2) is called the "interpretive layer" which captures the interpretations of *why* characters are motivated to take the actions they do. This layer goes beyond summarizing the actions and events that occur, and attempts to capture story meaning derived from agent-specific plans, goals, attempts, outcomes and affectual impacts. Here, the SIG uses predicates (discourse relations) that signify plans and goals. The final dimension (fourth column in Figure 2) is the "affectual" layer. Here, affect relations and are represented by the arcs between story elements. There are a fixed number of types of arcs and affectual nodes that can be used to annotate any kind of

story in the interpretation layer, including “Beowulf” and “Gift of the Magi” (Elson, 2012a).

For the rest of this paper, we focus on the *Startled Squirrel* from Figure 1 and Story 7 from Table 3, which we call the *Protest Story*. We provide a brief walkthrough of how to interpret SIGs (interpretation arcs are represented in **bold**: in the *Startled Squirrel* SIG (Figure 2), the narrator places a bowl on the deck (#1) which **attempts to cause** the goal of the narrator to give the dog some water (#2) which would **provide for** the dogs’ health (a). Then the squirrel approaches the bowl (#3) to **attempt to cause** the squirrel’s goal to drink the water (#4) which would **provide for** the squirrel’s health (b). When the squirrel is started (#5), this attempts to prevent the goal of drinking the water, and when the squirrel falls (#6) this both ceases the goal (#4) and damages the squirrel’s health (b).

In the *Protest Story* SIG (Figure 3), the people are protesting (#1) because they disagree about a view the government has (#2) (the people disagree which **modifies (causes)** the protest), thus the peoples’ goal is for the government not to rule them, **providing for** their health (c) and **damaging** the governments wealth (d). The protest is **followed by** a rebellion (#4).

The government has two goals: that the G20 summit succeeds (#5) and that the government continue to rule over the people (#6). A **precondition** arc is created to restrict that the goal of the summit succeeding can only be initialized if the summit has started (#7). It is also a **precondition** that the summit must succeed in order for the government to rule. This would **provide for** the wealth of the government (a) and the people (b). However, if the government rules (#6), this **would prevent** the peoples’ goal (#3).

### 3. Overview of the Personal Story Corpus

The PersonaBank corpus contains 108 SIGs created from personal narratives. These stories were selected from the Spinn3r corpus and annotated for story topic (Burton et al., 2009). We use a lucene index in order to seed topics and rank stories from the 1.5 million stories (Swanson and Gordon, 2012). We start with a list of seeds, for example, for a gardening topic we use [tree, trees, farm, garden, yarn, grass, plant, ...]. We get the retrieved list of stories and decide if the story is relevant or not relevant to specified topic. We assign characteristics to the story that allows us to filter stories we believe are interesting, coherent, overall positive or negative and that we believe are possible to encode as SIGs by considering the following: the narrator is the storyteller, there a clear temporal sequence of events, and the story is not offensive for any reason.

We select 55 stories that are overall positive and 53 that are negative. 21 have their interpretation layers annotated. The average number of words per story is 269 words, and the minimum and maximum are 104 words and 959 words respectively (Table 1). 48 stories have some verbs of communication (e.g. “said”, “told”). 50 stories have an “in order to” contingency causal discourse relationship encoded in the SIG.

Table 2 describes a distribution of the topics that the stories cover and breaks them down into subtopics. This table also shows how many of each topic are positive and negative

Statistics	Stories
Total stories	108
Positive stories	55
Negative stories	53
Interpretation layers annotated	21
Average story length in words	269
Minimum	104
Maximum	959

Table 1: Overview Statistics of the Personal Story Corpus

Topic (#pos, #neg)	Subtopics (#pos, #neg)
Health (1,15)	Life (1,1), Death (0,3), Sickness (0,4), Stress (0,2), Accident (0,3), Embarrassment (0,2)
Weather (8,1)	Snow (7,0), Storm (1,1)
Wildlife (10,3)	Squirrels (1,0), Bugs (1,1), Frogs (4,0), Fish (2,0), Birds (0,1), Sharks (1,1), Clams (1,0)
Activities (5,6)	Photography (1,0), Haircuts (0,4), Workouts (1,0), Gardening (2,0), Travel (1,2)
Sports (14,2)	Swimming (0,1), Scuba (4,0), Fishing (1,0), Running (1,0), Olympics (1,0), Camping (3,1), Sledding (4,0)
Holidays and Family (19,4)	Christmas (7,1), Easter (3,0), Family (9,3)
Romance (2,22)	New Romance (2,0), Breakups (0,22)
Everyday Events (10,8)	Dream (1,0), Arrest (0,1) Technology (3,0), Pets (3,1), Work (3,6)

Table 2: Topics and Subtopics of Annotated Stories, classified as to overall affect as being Positive or Negative

stories. A few stories cover more than one topic. Table 3 shows a subset of the corpus stories with their topics, polarity, and an excerpt from the original text. All names have been anonymized with Anne, Jane, Jack and John.

### 4. Scheherazade for Personal Narratives

Scheherazade is a freely available annotation tool that facilitates the creation of SIGs (Elson and McKeown, 2010; Elson, 2012a; Elson, 2010). The annotation process involves sequentially labeling the original story sentences using a graphical user interface that has been shown to be usable by naïve annotators.

We create a new annotation tutorial specifically for personal narratives released with our language resource. We advise annotators that these stories are rich in language and description, and have many things that are not relevant to the annotation of the story events. Before they begin annotating with the tool, they should read the entire story and determine the characters and events that are crucial to the plot. The annotation process starts by displaying the original story that is to be annotated (Table 3). The annotator first defines characters and objects as props for the story. All the personal narratives are told in a 1st person voice. Thus, we define a narrator character to be that voice. For example, the *narrator* and the *squirrel* characters in *Startled Squirrel* in Figure 1 are defined as “characters”. The *bowl* and *deck* were defined as “props”. Similarly, the *group of leaders*, *police* and the *protestors* from *Protest Story* are defined as

Story id	Topic	Polarity	Excerpt
1	Wildlife, Bugs	POS	Bug out for blood the other night, I left the patio door open just long enough to let in a dozen bugs of various size. I didn't notice them until the middle of the night, when I saw them clinging to the ceiling. Since I'm such a bugaphobe, I grabbed the closest object within reach, and with a rolled-up comic book I smote mine enemies and smeared their greasy bug guts.
7	Work	NEG	Today was the start of the G20 summit. It happens every year and it is where 20 of the leaders of the world come together to talk about how to run their governments effectively and what not. Since there are so many leaders coming together there are going to be a lot of people who have different views on how to run the government they follow so they protest. There was a protest that happened along the street where I work and at first it looked peaceful until a bunch of people started rebelling and creating a riot.
17	Health, Accident,	NEG	So my most recent strangely happy moment. I was in a car accident the other day. Sort of. Heheh. I was heading to Anne's B-day party (mixed with her brothers, they're all born in the same month) and this girl Jane hits me when I'm about to hit the stoplight coming off an exit. I get out of my car, she's spazzing.
57	Work, Everyday Events	NEG	Pf changes really messed up my training. It was one person really. If you wouldve seen this schedule i got you would understand. some of you did see it so you know what i mean. I went in last wednesday to take what i thought was my final training class. I was told i missed it and it was the day before. I was really confused because my schedule said i was off that day so i pulled it out and showed them. Then she says thats not your schedule. I was like its not what do you mean?
59	Weather, Snow	POS	The first day of winter is a huge event, especially for those who are in South Dakota. It is impossible to escape the snow if you're living in SD. For me, this year I was working when it was snowing. I was so sad because I was unable to go out and play in it like I have done ever since I was a child. Fortunately work ended shortly after that and I was able to call up my friends and head to their place.

Table 3: Excerpts from PersonaBank

“characters”, and the *tear gas* and *police cars* are “props”. Next, the annotator assigns actions and properties to the characters and props. The annotator highlights segments of text from the original stories and creates story points for each selected segment by encoding it in predicate-argument structures where nodes correspond to lexical items that are linked by thematic relations. These story points create the timeline layer and make up a network of propositional structures (Column 2 in Figure 2).

Scheherazade uses the predicate-argument structures from the VerbNet lexical database (Kipper et al., 2006) and uses WordNet (Fellbaum, 1998) as its noun and adjectives taxonomy. Figure 4 shows a screenshot of the Scheherazade annotation tool, illustrating the process of assigning propositional structure to the sentence “20 of the leaders of the world come together to talk about how to run their government effectively and what not” from *Protest Story*. We want to annotate the idea of “coming together” or “meeting”, and decide on the idea of “a group of leaders coming together to discuss how to run their governments”. We encode this in Scheherazade as two propositions: `meet(group of leaders)` and `in order to(talk about running(the group of countries))`. We begin by typing “meets” into the Scheherazade GUI (Figure 4). A list of possible verb senses and arguments from VerbNet are shown. The annotator selects the one most appropriate for their text span. After selecting a sense, the GUI displays the slots within the frame that need to be filled. In this example, the GUI asks ‘who is meeting’ and we select “the group of leaders” from our characters we previously defined. Next, we encode a nested proposition as the prepositional phrase `in order to(talk about running(the`

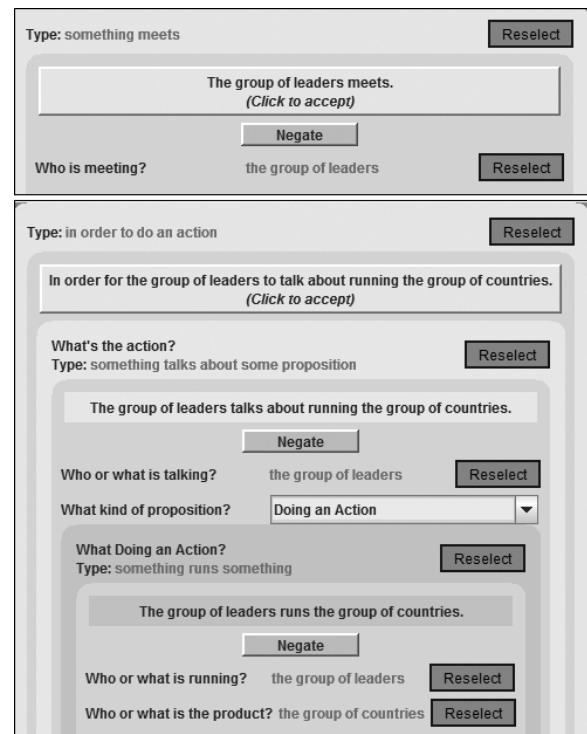


Figure 4: Scheherazade annotation screenshot using WORDNET and VERBNET lexical resources

group of countries)). Both actions (`meet` and `in order to talk`) contain references to the story characters and objects (`group of leaders` and `group of countries`) that fill in slots corresponding to semantic roles.

The annotation process is facilitated by the fact that

Scheherazade includes a built-in language generation module that helps naïve users produce correct annotations by automatically generating the natural language realization of their encoding incrementally as they annotate the story (Bouayad-Agha et al., 1998). This is called a what-you-see-is-what-you-mean (WYSIWYM) paradigm. The result of our annotation for the propositions `meet (group of leaders)` and `in order to (talk about running (the group of countries))` is *The group of leader meet in order to talk about running the group of countries*. Figure 5 and 6 show the entire realization for the *Protest Story* and *Startled Squirrel*. We also include the Scheherazade outputs for each story in the corpus.

WordNet and VerbNet provide a great deal of flexibility in the underlying semantic representation of the SIG timeline. For example, it is easy to define and name objects like “G20 summit” for the meeting in *Protest Story*. Because the SIG representation uses a discourse model of the characters and props in the story, the WYSIWYM realizer also automatically understands entities for coreference. For example, the *Startled Squirrel* describes a group of squirrels and then an individual crazy squirrel. The realizer knows the difference between both squirrels, realizing the first as “a group of squirrels” and the individual squirrel as “a crazy second squirrel” so they can be referred to as different entities.

There once was a group of leaders. The group of leaders was meeting in order to talk about running a group of countries and near a workplace. A group of peoples protested because the group of leaders was meeting and began to be peaceful. A group of peoples stopped being peaceful, began to be riotous, burned a group of police cars and a group of peoples pelted a group of police officers. A group of police officers wore some armor because a group of peoples was riotous. A group of peoples smashed a group of windows of a group of stores, and a group of police officers attacked a group of peoples with a tear gas and with a group of riot guns.

Figure 5: Scheherazade Realization of *Protest Story*

A narrator placed a steely and large bowl on a back deck in order for a dog to drink the water of the bowl. The bowl began to be popular, and a group of birds drank the water of the bowl and bathed the group of birds in the bowl. The group of birds organized itself on the railing of the deck and in order to wait. A group of squirrels drank the water of the bowl. A crazy second squirrel approached the bowl. The second squirrel began to be startled because it saw the reflection of the second squirrel. The second squirrel leaped because it was startled and fell over the railing of the deck and because it leaped. The second squirrel held the railing of the deck with a paw of the second squirrel. The paw of the second squirrel slipped off the railing of the deck, and the second squirrel fell.

Figure 6: Scheherazade Realization of *Startled Squirrel*

When annotating personal narratives, we find difficulties in adapting the annotation tool to this new domain. Personal narratives might contain some descriptive parts that are not easy to annotate and interpret using SIG representation. These descriptions mostly do not pertain to the key

aspects of the story. For example, Story 57 begins with the following sentences: “Pf changs really messed up my training. It was one person really. If you wouldve seen this schedule i got you would understand. some of you did see it so you know what i mean.” These are observations that aren’t critical to the events of the story. The action starts at the fifth sentence: “I went in last wednesday to take what i thought was my final training class.” We encourage annotators to ignore descriptive observations in texts such as these if they are not central to the action of the narrative.

There are other situations where annotators cannot find the exact words or expressions from the original story in the WordNet or VerbNet dictionaries. We encourage them to choose an appropriate paraphrase that conveys the same concept. For example, to annotate the phrase “There was a protest that happened”, note there are many possible propositional representations of this event. Our annotator selected the proposition “the people protested because the group of leaders was meeting”. As another example, the expletive “it” as in “It was hard to...” can be represented instead as “The situation was hard to...”. The blogs often discuss events the narrator was involved with, and use the pronoun “we”. This cannot be annotated in WordNet or VerbNet, so to represent “we decide to...” we can annotate it as “A group of friends decided to...” where we choose an appropriate group of characters based on the context of the story. Similarly, we can use groups for plurals. Instead of “five trees” we represent “a group of trees”.

There are many possible interpretations of these stories, and thus many possible annotations. For the phrase “There was a protest that happened” we may instead decide to annotate it as “the people protested against the group of leaders because the group of leaders was meeting” or “the people protested against the group of leaders because the people disagree about an ideality”. We may instead choose a different verb for the deep representation such as “the people disagree about an ideality”, “the people dislike the government”, or “the people distrust the government because the people disagree about an ideality”.

All our stories were annotated once by expert annotators. We did not believe annotator agreement was an important task for us because there are so many ways to interpret a story. The DramaBank contains multiple encodings for some of the Aesop’s Fables. (Elson, 2012a) examines annotator agreement for Aesop’s Fables and found this a very difficult task to measure. We imagine it would be even more difficult with the complexity of personal narratives. Instead, we ensure that each annotation is very rich and complete in itself. The final realization reflects one annotators’ interpretation of the story.

Our expert annotators can annotate the timeline layer of a story in about one hour. Annotating the interpretive and affectual layers requires more subjective judgement and takes an additional hour for each story. We review the annotations with our annotators until they feel comfortable with the annotation process. We find that annotation is facilitated by using annotators that have a background in linguistics and most of our annotations have been produced by linguistics undergraduates working as research assistants. We are continually adding new stories to the corpus.

## 5. Applications

To date, there are several projects that have made use of the SIG representation for applications related to storytelling, game playing and narrative generation. (Harmon and Jhala, 2015) draw parallels between the narrative representation of SIGs and Skald, a narrative generator. This combination allows for narrative generation while keeping the affordances of the SIG representation. SIGs are also hugely beneficial as a content planner. (Antoun et al., 2015) has used the SIG as an intermediate representation of meaning by transforming a play trace of the PromWeek game into a representation which can be used to generate natural language recaps of the game.

Our companion paper (Hu et al., 2016) released the Story Dialogue with Gestures (SDG) corpus which contains 50 personal narratives rendered as dialogues between two agents with complete gesture and placement annotations. Their first approach for generating dialogues manually split personal narratives. Their second approach uses SIGs of personal narratives as a way to get story content from the WYSIWYM realization and automatically produce dialogues from this telling, using the EST.

The Expressive-Story Translator (EST) explores the use of personal narratives in storytelling by utilizing the rich representation of SIGs. Storytellers dynamically adjust their narratives to the context and their audience, telling and retelling the same story in different ways depending on the listener and the particular communicative goal or intention and “explore” incidents by offering many interpretations of the same incident (Mateas, 2004). For example, storytellers tell richer stories to highly interactive and responsive addressees (Thorne, 1987), and stories told by young adults “play” to the audience, repeatedly telling a story to get a desired effect and communicate effectively with the audience (Thorne and McLean, 2003).

(Rishes et al., 2013) use SIGs of Aesop’s Fables from the DramaBank for retelling these stories in different ways by creating a mapping between the content representation of the SIG and the syntactic representation used by the PERSONAGE natural language generation engine (Mairesse and Walker, 2007). This syntactic representation of a story enables the retelling of any story that is represented as a SIG. Table 4 shows an excerpt from Story 57, the corresponding WYSIWYM realization, and the generated output from the EST and the syntactic structure that allows the EST to generate variations.

PersonaBank allows for the exploration of storytelling by retelling personal narratives by implementing a variety of narrative and sentence parameters including contingency discourse relations into the generation of stories (Lukin and Walker, 2015; Lukin et al., 2015). Our current work examines many possible combinations of parameters and generates many versions of a sentence according to different framing goals. For example, Table 5 shows how the EST generates surface strings from the syntactic template from Table 4 and how we can create many variations by utilizing generation parameters. Variations 1 thru 6 are in the first person perspective, and 7 thru 12 are in the third person voice and reference the narrator as Anne. All the sentences vary the sentence construction in some way. Sentences 1, 2,

Original excerpt: I went in last wednesday to take what i thought was my final training class.
WYSIWYM excerpt: A resolute narrator named Anne excitedly entered a restaurant in order for a disgruntled manager to train the narrator.
EST output: I excitedly entered PF Changs in order for the manager to train me.
Syntactic structure: <pre>&lt;dsyntns id="0"&gt; &lt;dsyntnode class="verb" lexeme="enter" mode="" mood="ind" rel="II" tense="past" wn_offset="2016523"&gt; &lt;dsyntnode article="no-art" class="common_noun" gender="fem" lexeme="narrator" number="sg" person="1st" pro="pro" rel="I"/&gt; &lt;dsyntnode article="no-art" class="proper_noun" gender="neut" lexeme="PF Changs" number="sg" person="" rel="II" wn_offset="4081281"/&gt; &lt;dsyntnode class="preposition" lexeme="in_order" rel="ATTR"&gt; &lt;dsyntnode class="verb" extrapo="+&gt; lexeme="train" mode="inf-to" mood="inf-to" rel="II" tense="inf-to" wn_offset="603298"&gt; &lt;dsyntnode article="def" class="common_noun" gender="fem" lexeme="manager" number="sg" person="" rel="I" wn_offset="10014939"/&gt; &lt;dsyntnode article="no-art" class="common_noun" gender="fem" lexeme="narrator" number="sg" person="1st" pro="pro" rel="II"/&gt; &lt;/dsyntnode&gt; &lt;/dsyntnode&gt; &lt;dsyntnode class="adverb" lexeme="excitedly" position="pre-verbal" rel="ATTR"/&gt; &lt;/dsyntnode&gt; &lt;/dsyntns&gt;</pre>

Table 4: Excerpt from Story 57, and corresponding WYSIWYM realization, output from EST and deep syntactic structure.

Num	Sentence Variations
1	I rather excitedly entered PF Changs because the manager wanted to train me.
2	The manager wanted to train me, so I excitedly entered PF Changs, okay?
3	I excitedly entered PF Changs in order for the manager to train me.
4	The manager wanted to train me, so I excitedly entered PF Changs.
5	Ok, I excitedly entered PF Changs in order for the manager to train me, right?
6	Because the manager wanted to train me, I excitedly entered PF Changs.
7	The manager wanted to train Anne, so she excitedly entered PF Changs, as it were.
8	Because the manager wanted to train Anne, she excitedly entered PF Changs!!
9	Anne excitedly entered PF Changs
10	Essentially, ok, the manager wanted to train Anne, so she excitedly entered PF Changs.
11	Actually, Anne excitedly entered PF Changs in order for the manager to train her.
12	The director wanted to train Anne, so she excitedly entered PF Changs.

Table 5: Sentence Variations from Story 57

5, 7, 8, 10, 11, and 12 include additional variations provided by Personage parameters, including hedging, acknowledgements, synonyms, and exclamation marks.

The SIG offers rich information in the interpretation layer that has not yet been utilized in existing work. We plan to derive character emotions from this layer according to ap-

praisal theory. With a rich understanding of the impact of actions of characters in the story, this information can be used by a variety of expressive methods to enhance the storytelling experience including using more expressive language, gestures, and speech influenced by emotions.

Other potential applications of the SIG and storytelling include question and answering from SIGs about the story domain. Because the SIG provides all the world knowledge about the story, it is possible to ask questions about the narrative structure, events that happened, and the effects they had on characters and their plans.

## 6. Conclusion

We have described the PersonaBank corpus, a corpus of personal narratives that have been annotated with the STORY INTENTION GRAPH representation for stories as used in the DramaBank language resource. We believe this corpus will be of general utility both for theoretical analyses of narrative structure and for applications related to storytelling and dialogue.

## 7. Acknowledgements

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## Appendix: Story Intention Graphs

The Appendix provides three more SIGs corresponding to Story 1 (Figure 7), Story 17 (Figure 8), and Story 57 (Figure 9) from Table 3, illustrating the generality of the SIG modeling to be applied to any domain.

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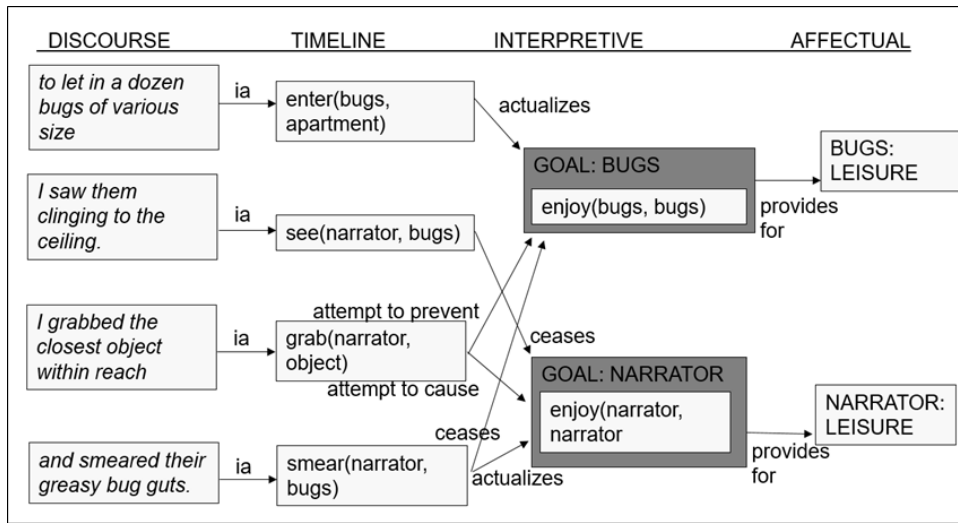


Figure 7: Part of the STORY INTENTION GRAPH for Story 1

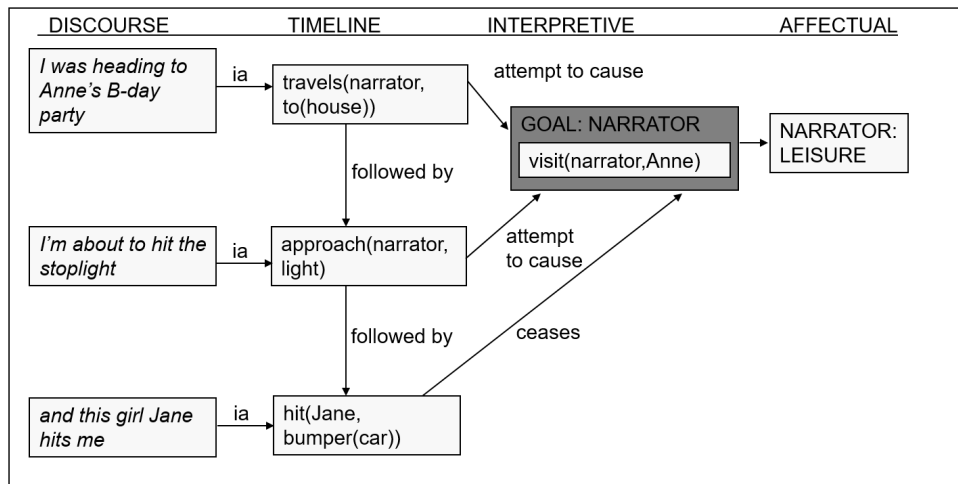


Figure 8: Part of the STORY INTENTION GRAPH for Story 17

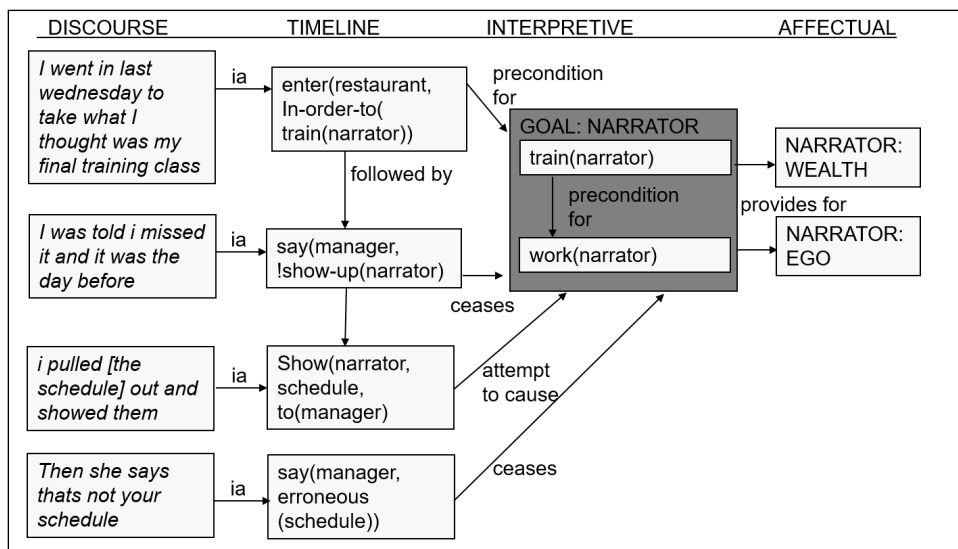


Figure 9: Part of the STORY INTENTION GRAPH for Story 57