

Referent Properties

What is a Referent Property?

A referent property is a *property* that is associated with a particular mention of a *referent*. A *referent* is something that is being referred to in the text – it may be a character, an object, an event, a state of affairs, or any number of other things that can be referred to; a referent is something like “John” in (1), or “The red ball” in (2). A *property* of a referent is something like “brave” in (1) or “red” in (2), namely, something which describes some *relatively permanent* feature of the object in question.

- (1) [John] is brave.
- (2) [The red ball] bounced down the stairs.

For all examples in this document, the identified properties will be underlined, and the referent mention to which they are attached will be surrounded by square brackets. If something is to be picked out as something that looks like it might be a property, but is not, it will be underlined with dashes.

What to Annotate

For this representation you will be annotating the following information:

- 1. The tokens that express the property
- 2. The referring expression to which the property attaches
- 3. A general type for the property

What Counts as a Property?

As noted above, a property is something that is a relatively permanent feature of a referent. To be more precise, features of a referent count as a property when they satisfy the following constraints:

- i. It is a fact that does not change over the course of the story
- ii. It is not a relationship between two or more marked referents
- iii. It is not a part of a semantically non-compositional part of the phrase (i.e., a multi-word expression)

Properties should attach to the closest referring expression of the referent that has the property.

Property Types

In addition to identifying the extent of a property, you must assign it a type. There are 13 different types, which are listed in Table 1.

Property	exception	Property
(1) Descriptive	unless another type	
(2) Physical		
(3) Material		
(4) Location		
(5) Personality		
(6) Name / Title	unless a →	(7) Class
(8) Origin	unless a →	(9) Whole
(10) Ordinal		
(11) Quantification	unless one of →	(12) Mass Amount (13) Countable Amount

Table 1: Thirteen Property Types, with precedence relationships

The table shows how to determine the primacy of the types. Property types have precedence relationships which indicate which type you should choose if a property falls into two classes. For example, some properties, like “princess” in [Princess Maria], can also be used as a Name or Title. When faced with a Name/Title that is also a Class, choose Class. If a property is a member of two types that are not in a precedence relationships, the property should be marked twice, once with each type.

PHYSICAL

Physical properties include visible or measurable characteristics such as size, height, and weight. Mark subjective properties such as “beautiful” as descriptive, not physical. Properties responding to the questions “How much?” and “How many?” are not Physical properties, but belong to Mass Amount and Countable Amount, respectively.

(1) [The furrow] is fourteen feet high

(2) [A] little [dog]

MATERIAL

Material properties indicate what a referent is made or composed of, or one of its ingredients. They do not include distinct parts of a whole (which are instead listed as referring expressions in their own right).

(3) [My cake] of rye

(4) Clay [legs]

(5) [A crust] of dry bread

LOCATION

Generally, locations should *not* be marked – unless the location represents a permanent (within the story) or intrinsic property AND is not a separate referring expression. An example of when *not* to mark location is: “The tanner in the city of Kiev was” The city of Kiev is a referring expression in its own

right, and the spatial relationship indicated by “in” is captured elsewhere. Locations that are not referring expressions *should* be marked as properties. As a general rule, locations indicated by adjectives are good candidates for marking:

- (1) Two front [teeth]
- (2) The upper [room]

PERSONALITY

Personality properties indicate non-physical character traits of people – or personified animals or things – in the text. They do not characterize particular actions or moods, but rather the individual overall. (Age, while non-physical, falls under the category of description.)

- (3) Father, our gracious [sovereign]
- (4) My faithful [servants]
- (5) I am young and foolish

NAME or TITLE (unless CLASS)

Names include nicknames, proper names, and other terms of address/appellation for specific people, places, personified animals, etc. All names should be marked as properties, despite being referring expressions (an exception to the general rule). Titles (such as Mr., Ms., etc.) should be marked, except when they indicate the individual's membership in a group or designate him/it as a particular *type* of person – such cases (prince, princess, tsar) are marked as CLASS properties. Mark first and last names together as one property. Mark class and name/title separately, rather than lumping them together as one name. (“Princess Maria”'s name is Maria and her class is Princess.) Examples:

- (6) Madam mother
- (7) Brother gypsy
- (8) Burenushka, the little red cow
- (9) Princess Maria
- (10) The city of Kiev

CLASS

Mark words that answer the question “What kind?” as class properties. These may indicate a type of person or thing, or membership in a group or particular strata of society.

Class properties are generally nouns, with the exceptions of adjectives that designate kind or function (mark “boundary” in “boundary line”). It is not necessary to mark parts of terms or expressions that are both highly common and can be found in the Story Workbench dictionary (do not mark “apple” in “apple tree”). Examples of class properties:

- (11) Princess Maria
- (12) The laborer Shabarsha
- (13) The youngest brother, the thief
- (14) The city of Kiev

ORIGIN (unless WHOLE)

As a general rule, *do not* mark an Origin property if it the property itself is a referring expression. However, if the source is *not* a separate referring expression, it should be marked (mark “cockroach” in “cockroach milk”).

Do not mark origin when dealing with a whole and its parts – in such cases it should instead be marked as WHOLE (see below).

Origin should be marked when it is not sufficiently specific to constitute a separate referring expression within the text:

(15) Cockroach [milk] (no particular cockroach)

(16) A Russian [bone] (no particular Russian)

WHOLE

Mark as Whole whatever property indicates the unit or entirety a referring expression is (or was formerly) a part of. As a general rule, *do not* mark whole if it is itself a referring expression. Whole should be marked when it is not sufficiently specific to constitute a separate referring expression within the text:

(17) Chicken [legs] (no specific chicken)

(18) A Cockroach [antenna] (no specific cockroach)

QUANTIFICATION (unless AMOUNT)

Quantification properties answer the question “Which one(s)?”

Non-informational determiners (“a”, “an”, “the”, “such”) should not be marked. Determiners such as “every”, “all”, and “some” *should* be marked as properties, as they serve to delimit the scope of the reference. Indicators of negation, such as “no” or “not” should also be marked; however, you should be careful that the negation does not attach to a verb rather than the property.

Do not include “of” or other helping words as part of quantification. For example, with “all of them”, only mark “all”. Also do not mark “more”, because it is a discourse relationship to determine co-reference, like “same”, “other”, “another” (*do not* mark “more” in “more teeth”).

Examples of Quantification:

(19) Every corner

(20) All my bones

(21) A certain kingdom

(22) Some of the money

Note the difference between Quantification and Mass Amount (see below). “Some” could fall under either category, depending on its meaning.

AMOUNT, COUNTABLE

Countable Amount properties are numbers. They answer the question “How many?” including a specific figure though they may be estimates (“about”, “or so”).

Do not mark as Countable Amount apparent numbers that are not meant to be specific; do not mark “one” when it means “any/a/an” rather than “one” (versus two, three).

Examples:

- (23) Five thousand little children
- (24) Fourteen feet
- (25) His own two feet
- (26) Twenty or so trees
- (27) Twelve hides

AMOUNT, MASS

Mass amount properties answer the question: “How much?” They may also answer the question “How many?” in general, non-numeric terms.

On the distinction between countable and mass amounts: Mark something countable only if it has a specific number mentioned in the property; it doesn’t depend on whether the modified referent is countable or mass.

Examples:

- (28) A handful of hemp
- (29) A dishful of berries
- (30) A pinch of tobacco
- (31) A great multitude of people
- (32) A verst’s distance
- (33) A long time
- (34) Some money

If the head of the phrase is not clear, you can mark both the Mass Amount and the Material:

- (35) A bit of the entrails (“bit” is mass amount, “entrails” is material)

ORDINAL

Mark as ordinal any properties that indicate the order or position of a referring expression. Do *not* mark “next” or “other” as ordinal properties (do *not* mark “next” in “the next morning” or “other” in “the other eye”).

Examples of ordinal properties:

- (36) The thrice tenth [kingdom]
- (37) The second [sister]
- (38) A third [flock]
- (39) My middle [brother]
- (40) The elder [sister]

DESCRIPTIVE (default catch-all, unless in another type)

Mark as Descriptive any properties that do not fall into one of the other categories listed above. These may be physical or non-physical. Mark as descriptive any physical properties that express point of view rather than fact, or that are more detailed than size or weight. Note that “little” can be a descriptive property when it is not meant literally.

- (41) Their native [land]
- (42) His royal [treasury]
- (43) Foreign [lands]
- (44) Various [provinces]
- (45) [An old man] who looked to be about seventy
- (46) Little [mother]

What Does Not Count as a Property?**Referent-Referent Relationships are not Properties**

The chart below provides a number of examples of referent-referent relationships. Referent-referent relationships are captured elsewhere and should not be marked as properties. One common example of a referent-referent relationship is possession, i.e. “[Julia] has [brown hair].” However, an alternative formulation, such as “[Julia] is brown-haired,” should be marked with a property.

ORIGIN [A dragon from [the black sea]] [A lovely maiden] from [every house] [Heavy tribute] from [the people]	LOCATION [A tanner in [the city of Kiev]] [The leaves in [the woods]] [The grass beneath [the window]]
PART [The cockroach with [the broken antenna]]	WHOLE [[The cockroach]’s antenna]
MEMBER [[Pvt. Smith]’s squad]	SET [The chief of [the guard]]
MATERIAL [The house made of [large stones]]	SUBSTANCE [The wood] of [the house]
OTHER [[The dragon]’s lair] [Julia] has [brown hair].	

Non-Compositional Semantics are not Properties

Multi-word expressions should not contain properties. For example, “[wedding dress].” “Wedding” should not be marked as a property because “wedding dress” is a multi-word expression. To determine if a multi-word expression is present, consult the dictionary.

Difficult Cases

Copulars, Appositives, and Relative Clauses are often Properties

Copular expressions may or may not yield properties. Consider “[X] is a [Y].” If Y is co-referent with X, and they are separate referring expressions, then Y should not be marked as a property. However, other copular expressions may contain properties. For example, “[the tsar] is rich.”

Appositives should be marked as properties, e.g., “[John, the Vice President], ran the company.”

Relative clauses can also be marked as properties. The property should include the wh-designator. For example, “[The house] where the princess lived”; “[An old man], who looked to be about seventy.”

Modal or State-Change Constructions

Sometimes properties are referred to in modal fashion, or in state changing constructions. For example, “[The princess] became kindlier to the dragon.” Constructions such as these should not be marked because they indicate something that is not permanent over the course of the story.

Functional in Context

Sometimes properties will appear as functional in context. For example, “[This measure] is not big enough.” These should not be marked.

Emphatics

Emphatics indicate discourse relationships and should not be marked as properties, e.g., “[such [a beautiful crown]].”

Referent Identity Markers

Referent identity markers should not be marked as properties, e.g. “[the same crust].” This information is captured elsewhere.

Conjunctions and Disjunctions

Properties strung together with conjunctions (“and”) or disjunctions (“or”) should be marked as a single property and not as multiple separate properties. If the group is marked as multiple separate properties, this would indicate the referent has all those properties individually.