

## Linguistics 103

### Worlds, Time and Narrative

We have seen that one way of understanding the meaning of a linguistic expression (a 'proposition') is that it ascribes a **state-of-affairs** to the world.

(1) Snow is white

This asserts that it is true of the world that snow is white.

We can call these ascriptions of states-of-affairs to the world **eventualities**, that is, ways in which a world might or might not be.

Two matters complicate this simple picture:

#### ***Implicature and Conveyed Meaning***

In the context of conversation (or indeed any sort of communication), the listener will normally assume that the speaker is being cooperative.

→ Gricean maxims (quantity, quality, relevance, etc.)

Where a statement seems to *flout* one of the maxims, the listener attempts to *make sense* of what has been said by imagining what additional states-of-affairs might need to make the speaker's behavior consistent with the maxims.

The interpretation that the listener arrives at may be quite different, then, depending on the context of utterance of the expression.

We call the interpretation of the listener the *conveyed meaning*.

#### ***Worlds***

In the simple case a linguistic expression defines states-of-affairs said to be true of **this** (real) world.

But human language is considerably more flexible than this.

In particular, it is more accurate to say that a proposition divides the **set of all possible worlds** into those in which the proposition is true and those in which it is false.

(1) Snow is white

True (in all worlds where snow is white)

False (in all worlds where snow is not white)

What kind of worlds are there besides the **real world**?

There are many ways in which the notion of 'different worlds' can be used in linguistics and in the philosophy of language.

### Worlds and Time

(2) Reagan is President

This **was** true in 1982. This **is not true** now.

We can distinguish as many worlds as there are times.

**Tense** is one grammatical expression of time-related notions. Logically we can say that **tense** is an 'operator' that controls what time-worlds are involved.

(3)    Reagan was President.  
            Some time in the past (Reagan = President)

True, as long as there is some time in the past at which Reagan was president.

(4)    Whoopi Goldberg will be President.  
            Some time in the future (Whoopi Goldberg = President)

True, as long as there is some time in the future at which Whoopi Goldberg is president.

In our usual metaphysics, time worlds are ordered as if on a line:

<----- | ----->  
past times                  now                  future times

If two time worlds A and B occupy different points on this line, then necessarily either A is *before* B or B is *before* A. Thus we can say that all time worlds are ordered by the *before relation*.

Since the linguistic expression of propositions normally contains tense information, some operation over tense worlds is nearly always present in the interpretation of any expression.

## **Worlds of belief**

(5) Albert thinks the moon is made of cheese.

True, as long as in **the world of Albert's beliefs** the moon is made of cheese.

## **Deontic worlds**

Deontic means 'that which ought to be'.

(6) Hortense should not beat her dog.

= It would be a better world if Hortense did not beat her dog.

True, as long as in **some** world equally or more deontic than the real world, Hortense does not beat her dog.

## **Worlds of volition**

(7) I would like to go to Brazil in January.

True, as long as in **some** world equally or more consistent with my desires than the real world, I go to Brazil in January.

## **Worlds of possibility**

(8) Francine might be going out with Jethro.

True, as long as in **at least one possible world** Francine is going out with Jethro.

(9) Francine must be going out with Jethro.

True, as long as in **every possible world** Francine is going out with Jethro.

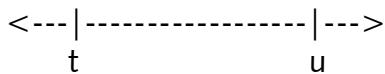
## Types of eventualities

Although worlds of time can be ordered by the before relation, many propositions do not in fact ascribe states-of-affairs to **single points** in time.

Rather, human language expressions often ascribe states-of-affairs to **intervals of time**.

- (10) a. Phineas knew Latin.  
b. Romeo loved Juliet.  
c. Barney the Dinosaur loves everyone.  
d. Alfie is drinking beer.

In each of these instances the knowing/loving/drinking occurs over some interval of time, which is, however, unexpressed.



In 'Romeo loved Juliet' it is asserted that there is some set of time-world points stretching from t to u (an interval of time) such that

- (11) a. At every point after t and before u, Romeo loved Juliet.

Of course, t and u may be unspecified. In the case of assertions that are **gnomic**, that is, true of all time, t and u are infinitely in the past and the future.

We call eventualities which hold of an interval of time either

**states**      e.g. love, know, own

or

**activities**    e.g. be running, be drinking, be bothering etc.

The difference between these is difficult to pinpoint logically.

In a state, **nothing is happening**. A world is asserted to have a property.

In an activity, **something is happening**, i.e. the world is in a state of change, but **no final state is specified**.

Some expressions however, do involve **points** in time:

- (12) a. The bomb exploded.  
b. The runner crossed the finish line.  
c. Billy thumped Ricky (once) in the stomach.

<----- | ----->  
          t

In 'the bomb exploded' it is asserted that there is some point in time t (before now), at which

- (12) At all times before t the bomb had not exploded.  
and  
At all times (at or after t) the bomb had exploded.

Eventualities with this sort of time-world entailment are called **punctual events**, or **achievements**.

Finally, there are eventualities that entail **an interval of time with a final endpoint**.

- (13) Gertrude recited 'Hiawatha'.

Here there must be an interval of time during which Gertrude **is reciting** Hiawatha, and in addition an **endpoint** at which it becomes true that Gertrude has **finished** reciting the poem.

We call such complex eventualities **accomplishments**.

**The classification:**

**States, Activities, Achievements, Accomplishments**

was originally proposed by Vendler 1967, Dowty 1979

**State:** not dynamic; occurs on an interval without any specified endpoint (although there may be one specified adverbially); homogeneous; subject is never an agent.

(----->	interval with no specified end point
(-----	interval with adverbially specified end point

BE RED, KNOW LATIN, ITCH (FOR 3 DAYS), INVOLVE, HEAR

- doesn't occur in the progressive

**Activity:** an (dynamic) event on an interval without a specified endpoint (although an end point may be specified adverbially). Activities involve changes of state but do not specify a final change of state. May be homogeneous or majoritative/occasional. Subject is agentive.

(-:-:-:-:-:-:-:-:->	dynamic event on an interval with no specified endpoint
(-:-:-:-:-:-:-:-:-	dynamic event on an interval with adverbially specified endpoint

BE RUNNING (UNTIL NOON), BE READING (WAR & PEACE), BE SMOKING, DRIVE A CAR (FOR AN HOUR)

- does occur in the progressive; 'φ for an hour' is grammatical'; 'x almost φed' is not ambiguous

### **Accomplishment:**

The predicate denotes both an punctual event and a process, where the event is a natural terminal point or a point of completion of the process. Wholistic. Subject is agentive. Includes resultatives.

(-:-:-:-:-:-:-:-:-o	dynamic event on an interval with punctual event endpoint
---------------------	---

RUN A MILE, RECITE A POEM, DRINK A GLASS OF WINE, BLINK  
DRAW A PICTURE, LOOK UP (SOMETHING), WIPE (SOMETHING) CLEAN,  
DRIVE (SOMEONE) CRAZY

- 'x finished φ' OK; 'x almost φed' is ambiguous

### **Achievement:**

The predicate denotes simply an event and not a process. Subject may be agentive or nonagentive (unaccusative). Includes inchoatives.

o	punctual event involving 'instant' change of state
---	--

ARRIVE AT, REMEMBER, FORGET, LEAVE, BRIGHTEN UP, ACQUIRE,  
AWAKEN, EXPLODE, WIN (A CONTEST), PASS (AN EXAM)

- 'φ for an hour' is ungrammatical or forces an iterative reading

## Criteria to distinguish verb classes

	state	activity	accomp	achievement
1. progressive (-ing) form	bad	ok	see #1 below	see #1 below
2. complement of <i>force, persuade</i>	bad	ok	ok	ok/•
3. imperative	bad	ok	ok	ok/•
4. occur with <i>deliberately, carefully</i>	bad	ok	ok	ok/•
5. pseudo-cleft	bad	ok	ok	ok/•
6. simple present entails habituality	no	yes	yes	yes
7. 'φ for an hour, spend an hour φing'	ok	ok	ok	bad
8. 'φ in an hour, take an hour to φ'	bad	bad	ok	ok
9. 'φ for an hour' entails φ at all times in the hour: (not wholistic)	yes	yes	no	bad
10. 'x is φing' entails 'x has φed'	bad	yes	no	no/yes <sup>1</sup>
11. homogeneous	yes	yes	no	bad
12. complement of <i>stop</i>	ok	ok	ok	bad
13. complement of <i>finish</i>	bad	bad	ok	bad
14. ambiguous with <i>almost, totally</i>	no	no	yes	no
15. complement of <i>managed to</i>	bad	bad	ok	ok

- Tests 2–5 test for an agentive subject. Nonagentive achievements are bad in these cases.

<sup>1</sup> on iterative reading

1 The progressive or achievement or accomplishment verbs are either:

- (1) iterative habitual achievement:
  - a. Jane is always forgetting to bring an umbrella.
  - b. Alice is running a mile each day.
- (2) uncompleted achievements or accomplishments:
  - a. The plane is arriving at Heathrow.
  - b. The mogul was hiding a million dollars in a Swiss bank (when he was arrested).

5 A *pseudo-cleft* version of a sentence has the form:

What *Subject* did was *Verb*.

- a. #What Alice did was know Latin.
- b. What Alice did was run a mile.
- c. #What Alice did was itch.

- 10
- a. Bill is driving a car → Bill has driven a car. (activity)
  - b. Bill is driving to San Diego —/→ Bill has driven to San Diego (accomplishment)
  - c. Bill is arriving at Heathrow —/→ Bill has arrived at Heathrow (achievement)
  - d. Jane is (always) forgetting her umbrella → Jane has forgotten her umbrella (iterative habitual achievement)

- 11 If a predicate is *homogenous*, then it remains true for any subinterval of an interval of time during which it is true.

- a. Fred itched all day. → Fred itched from noon until 1 pm. (state)  
Fred itched all day. While Fred was itching, he itched.
- b. Bill drove all day yesterday. → Yesterday from noon until 1pm Bill was driving. (activity)
- c. Roger guzzled three beers. \*While Roger was guzzling three beers, he guzzled three beers. (accomplishment)
- d. Roger guzzled beer all evening. While Roger was guzzling beer all evening, he guzzled beer. (activity)

(----->  
|----|

state ITCH

(-:-:-:-:-:-:-:->  
| -:-:-:- |

activity DRIVE, GUZZLE BEER

- 12,13 a. ??The bomb finished exploding (accomplishment reading only).  
 b. Alice stopped running a mile (iterative habitual reading only).  
 c. Alice finished running a mile (accomplishment)  
 d. Alice almost ran a mile (ambiguous: she ran almost a mile/she didn't run, but it was almost the case that she ran)  
 e. The bomb almost exploded (unambiguous: the bomb did not explode)  
 f. Bill almost looked for his keys (unambiguous: Bill didn't do any looking)  
 g. Fred almost tasted the artichoke (unambiguous: Fred didn't do any tasting)  
 h. Kim almost passed the exam (unambiguous: Kim didn't pass).  
 i. Donna almost pounded the metal flat (ambiguous: the metal is almost flat/it was almost the case that Donna did some pounding).  
 j. Donna almost smashed the vase to pieces (unambiguous: the vase is intact/#the vase is smashed but not into pieces)
- 14 a. The bomb totally exploded (Most assuredly, the bomb exploded).  
 b. Alice totally ran a mile (Most assuredly, Alice ran a mile/ Alice ran a whole mile)  
     Alice totally *did (so)* run a mile (Most assuredly, Alice ran a mile)  
 c. Kim totally passed (*did pass*) the exam (Most assuredly, Kim passed the exam.)  
 d. Donna totally drives Bill crazy (Most assuredly, Donna drives Bill crazy/ Donna drives Bill completely crazy)  
 e. Donna totally *does (so)* drive Bill crazy.
- 15 a. Alice managed to run a mile before collapsing. (accomplishment)  
 b. #Fred managed to be stupid all day. (accomplishment reading only)  
 c. Kim managed to pass out after holding her breath for 2 minutes (achievement)  
 d. Donna managed to pass the exam. (achievement)  
 e. Alice managed to love Fred. (achievement?)

- (1) ARRIVE: achievement
- a. #How long did it take for Jane to arrive at Heathrow?
  - b. #Jane's arrival at Heathrow ended at noon.
  - c. #Jane finished arriving at Heathrow at noon.
  - d. #Jane arrived at Heathrow for three hours.
- (2) READ: activity or accomplishment
- a. Jane read for three hours. (activity)
  - b. Jane read War & Peace for three hours. (activity).
  - c. Has Jane finished reading? (accomplishment only: implies that there was some set amount that needed to be read).
- (3) RUN: activity or accomplishment
- a. ?Jane ran a mile for three hours. (activity only: Jane repeatedly ran miles for three hours).
  - b. Jane ran a mile in five minutes (accomplishment)
  - c. Jane ran for three hours (activity)
  - d. ?Jane ran in three hours (accomplishment only)
- (4) BLINK: ordinarily achievement, other readings can be forced
- a. Alice blinked at precisely 3:05 p.m. (achievement)
  - b. How long did it take for Alice to blink? (accomplishment)
  - c. When did Alice finish blinking? (accomplishment)
  - d. Alice blinked in 40 milliseconds (accomplishment)
  - e. Alice blinked for 20 minutes (activity only: repeated blinking)
  - f. Alice managed to blink precisely at 3:05 p.m. (achievement)
- (5) DO LAUNDRY: activity or accomplishment
- a. Fred spent an hour doing laundry. (activity)
  - b. Fred managed to do his laundry yesterday. (accomplishment)
  - c. It took five hours for Fred to do his laundry. (accomplishment).
  - d. #Fred did his laundry at precisely 5 pm (only on 'inceptive' reading: Fred began doing his laundry at 5 pm)
- (6) KISS: achievement or activity; accomplishment reading can be forced
- a. Fred and Alice kissed for three hours/Fred and Alice were kissing for three hours (activity)
  - b. Alice kissed Fred at precisely 2:34 p.m. (achievement)
  - c. # It took Alice three weeks to kiss Fred. (accomplishment: Alice needed three weeks to get the nerve or opportunity to kiss Fred.)
  - d. Alice has been kissing Fred. (iterative habitual achievement)
  - e. Alice has been kissing Fred since 10 pm. (activity)
- (7) DISAPPEAR: achievement, accomplishment or activity
- a. The ghost suddenly disappeared. (achievement)
  - b. The ghost disappeared slowly before our eyes. (accomplishment)
  - c. The middle class is disappearing in America. (activity)
  - d. The ghost almost disappeared.  
= It was almost the case that the ghost disappeared (ach or accomp) OR  
= The ghost disappeared only partly (accomplishment)
  - e. The middle class is almost disappearing  
? = It is almost the case that the middle class is disappearing  
? = The middle class has disappeared partly.

## Narrative

A narrative is, minimally, a set of two or more propositions in which at least one pair of eventualities expressed are ordered (non-trivially) by the before relation.

Humpty Dumpty sat on a wall  
Humpty Dumpty had a great fall  
All the kings horses and all the kings men  
Couldn't put Humpty together again

- a = interval during which HD is sitting on wall  
b = point at which HD falls  
c = interval during which horses and men can't reassemble HD



Mary had a little lamb, little lamb, little lamb  
Mary had a little lamb whose fleece was white as snow.  
And everywhere that Mary went the lamb was sure to go.

- a = interval during which Mary has the lamb  
b = interval during which lamb's fleece is white as snow  
c = interval during which lamb accompanies Mary constantly

