

## UNIT 20 PARTICIPANT ROLES

**Entry requirements** A grasp of logical formulae for SIMPLE PROPOSITIONS (Unit 13), MEANING POSTULATES (Unit 17), DERIVATION (Unit 19). If you feel familiar with these, take the entry test below. Otherwise, review the relevant units.

- Entry test**
- (1) Give a logical formula for *The workmen spoiled the carpet with their boots* (using **w**, **c**, and **b** as logical names).  
.....
  - (2) Similarly, give a logical formula for *The boots spoiled the carpet*.  
.....
  - (3) What is the relationship between the two predicates *boil* ( $boil_1$  and  $boil_2$ ) in *The liquid boiled* and *John boiled the liquid*?  
.....
  - (4) Which of the following meaning postulates correctly describes the relationship between the two predicates *boil*? Circle your choice.
    - (a)  $x \text{ BOIL}_2 y \rightarrow x \text{ CAUSE } (y \text{ BOIL}_2)$
    - (b)  $x \text{ BOIL}_2 y \rightarrow y \text{ CAUSE } (x \text{ BOIL}_1)$
    - (c)  $x \text{ BOIL}_2 y \rightarrow x \text{ CAUSE } (y \text{ BOIL}_1)$

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**Feedback** (1) **w SPOIL c b** (2) **b SPOIL c** (3)  $boil_2$  is the causative of the inchoative  $boil_1$  (4) (c)

If you got at least 3 out of 4 correct, proceed to the introduction.  
Otherwise, review the relevant unit(s).

**Introduction** The basic semantic ingredients of a common type of simple sentence, as we have analysed it, are (1) a predicate, and (2) a number of referring expressions. The referring expressions correspond to actual things, persons, etc. in the world more or less directly, *via* the device of reference. The function of the predicate is to describe the specific relationship between the things, persons, etc. referred to, i.e. to describe how the things and/or people participate in the particular situation described. In this unit, we shall investigate a proposed way of being more precise about the different ways in which things and people participate in some of the real-world situations described by sentences.

**Practice** We start with a well-known example.

- (1) Which are the referring expressions in the sentence *John opened the door with the key*?  
.....
- (2) What is the predicate which relates these referring expressions in the sentence concerned?  
.....
- (3) Picture to yourself the situation described by *John opened the door with a key*. Could the sentence *The key opened the door* also be used to describe this same situation (even though giving less information about it, by not mentioning John)? Yes / No
- (4) Could this same situation also be described (even less informatively) by the bare sentence *The door opened*? Yes / No
- (5) In the situation described there is a door.  
(a) Is it opening? (b) Or is it being opened? (c) Or both opening and being opened?
- (6) There is a key in this situation, too.  
(a) Is it opening the door? (b) Or is it being used to open the door? (c) Or is it both opening the door and being used to open the door?

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**Feedback** (1) *John, the door, the key* (2) *open* (3) Yes (4) Yes (5) (c) (6) (c)

**Comment** In all three sentences

*John opened the door with the key*

*The key opened the door*

*The door opened*

the roles played by the participant objects (door, key) and people (John) do not vary. In this example, the roles played by the participants are labelled as follows:

John	AGENT
the door	AFFECTED
the key	INSTRUMENT

We give rough definitions of these terms below, but you should be warned that it will not be easy to apply these definitions in all cases.

**Definition** The AGENT of a sentence is the person deliberately carrying out the action described, e.g. John in *John opened the door*.

The AFFECTED participant is the thing (not usually a person, although it may be) upon which the action is carried out, in many cases the thing

changed by the action in the most obvious way, the door in our example. Some semanticists refer to the affected participant as the PATIENT.

The INSTRUMENT is the thing (hardly ever a person) by means of which the action is carried out, the key in our example.

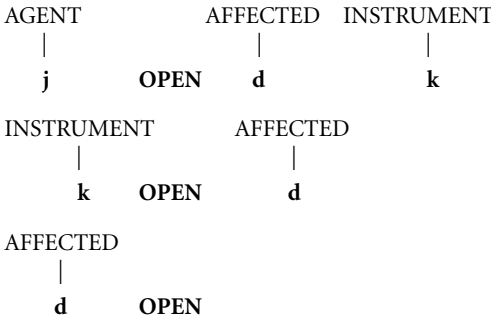
- Practice (1) Identify the Agents in the following sentences by circling them as in (a).
- (a) A burglar ransacked my house
  - (b) My mother's Imari bowl was broken by a thief
- (2) Identify the Affected objects (or persons) in the following:
- (a) Muriel dealt the cards carefully to each player
  - (b) The tree was felled by a single blow from Paul's axe
- (3) Identify the Instruments in the following:
- (a) Seymour sliced the salami with a knife
  - (b) Hamish used a screwdriver to open the tin

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Feedback (1) (b) a thief (2) (a) the cards (b) the tree (3) (a) a knife (b) a screwdriver

Comment The notion of role (e.g. Agent, Instrument, etc.) adds a new dimension to our view of the meanings of sentences. In rough logical formulae, we could represent *John opened the door with the key* as **j OPEN d k**, treating *open* as a three-place predicate. *The key opened the door* would be **k OPEN d** (with *open* as a two-place predicate), and *The door opened* would be **d OPEN** (*open* as one-place predicate). This notation fails to show that in all three cases the door is involved in exactly the same way in the action of opening, and it also fails to show that in the first two cases the key's participation in the action is the same.

One could augment the logical formulae with this information in the following way:



This makes it clear, for example, that no matter whether *the door* appears before or after the verb *opened* (or whether its logical name **d** is mentioned first or second in the logical formula), the way in which the door participates in the act of opening described is the same: the door is the object AFFECTED in this situation.

**Practice** For each of the sentences given below, write out an augmented logical formula as in the examples just given, indicating what objects or persons play the roles of Agent, Affected, and Instrument. (Use the abbreviations AG, AF, IN. We have done the first one for you.)

- (1) *Floyd smashed the glass with the hammer*  
AG                      AF IN  
f SMASH g h  
.....
- (2) *The hammer smashed the glass*  
.....
- (3) *The glass smashed*  
.....
- (4) *Crippen dissolved the body with the acid*  
.....
- (5) *The acid dissolved the body*  
.....
- (6) *The body dissolved*  
.....

**Feedback** (2) IN                      AF      (3) AF                      (4) AG                      AF IN  
                 h SMASH g                      g SMASH                      c DISSOLVE b a  
(5) IN                      AF      (6) AF  
                 a DISSOLVE b                      b DISSOLVE

**Comment** The position of a referring expression in a sentence is only very loosely correlated with the role of its referent in the situation described. Let us distinguish three different grammatical positions in the sentence, as follows:

- Subject position – preceding main verb
- Object position – immediately following main verb
- Complement – after the verb, but not immediately, often after a preposition

**Example** SUBJECT                      OBJECT                      COMPLEMENT  
                 |                      |                      |  
                 John opened the door with the key

**Practice** The following chart provides a box for each logically possible combination of role and grammatical position. For instance, the top left-hand box corresponds to the occurrence of an Agent in subject position.

	Subject	Object	Complement
Agent			
Affected			
Instrument			

Among the sentences below, you will find examples illustrating some of these possibilities. Put the numbers of the sentences in the appropriate boxes above. (Some numbers will go in more than one box; some boxes will remain blank.)

- (1) *The dynamite blew the safe open*
- (2) *The hut was set alight by vandals*
- (3) *Alfred burnt the cakes*
- (4) *Charles built Emily a mahogany bookcase*
- (5) *Sidney swatted the fly with his hat*

Feedback

3, 4, 5		2
2	1, 3, 5	4
1		5

**Comment** Certain clear tendencies in the relationship between grammatical position and participant role emerge from this chart (which is quite representative of the general situation). We get you to identify these trends below.

**Practice** (1) Which two combinations of participant role with grammatical position are the most common?

.....

(2) Which two combinations are not represented in the chart, and are generally rare in the language at large?

.....

(3) Which grammatical position, or positions, is, or are, the most versatile, i.e. which position(s) can be used for the greatest variety of different participant roles (as far as we have seen)?

.....

(4) Which grammatical position is least versatile?

.....

Feedback

(1) Agent – Subject and Affected – Object are the most frequent correlations. (2) Agent in Object position, and Instrument in Object position (3) Subject position and Complement position are the most versatile. (This is partly, but only partly, the result of our rather broad definition of Complement position.) (4) Object position is the least versatile.

**Comment** We emphasize that participant roles, such as Agent, Affected, and Instrument are defined semantically, in terms of the meanings of sentences, and not grammatically, in terms of position in sentences. Grammatical positions in a sentence and the participant roles which occupy these positions are

independent kinds of linguistic notions and should be kept distinct from one another. Clearly, there is some systematic relationship between the semantic roles and the grammatical positions, but it is evidently a complicated relationship.

We will now mention several further roles that have been identified in the semantic literature: location and beneficiary. We want to make it clear that we are not going to attempt to describe every kind of role that has been proposed, but just focus on the ones that seem to occur most frequently.

**Definition** The role of LOCATION is played by any expression referring to the place where the action described by a sentence takes place.

The BENEFICIARY is the person for whose benefit or to whose detriment the action described by the sentence is carried out. It is usually assumed that the Beneficiary, if mentioned, is distinct from both the Agent and the Affected. Note that the word ‘beneficiary’ as used in semantic theory has a special technical sense that differs from the way it is used in everyday English. This is clear from the fact that the Beneficiary of an action might not always be positively affected by that action, but could be negatively affected, depending on the action in question.

**Example**

AFFECTED		LOCATION
Caesar	was assassinated	in Rome

AGENT		BENEFICIARY		AFFECTED
Keith	gave	Gill		a replica of the Venus de Milo

AGENT		BENEFICIARY		AFFECTED
The terrorists	sent	the Prime Minister		a letter bomb.

**Practice** (1) Identify the Locations in the following sentences by circling them:

- (a) *It is windy in Edinburgh*
- (b) *I'm meeting Dick at Waverley Station*
- (c) *Tallahassee is humid in summer*

(2) Identify the Beneficiaries in the following:

- (a) *Ruth knitted Bryan a sweater*
- (b) *Alan was sent a special offer from the Reader's Digest*
- (c) *Glenn bought a micro-computer for his son*

<b>Feedback</b>	(1) (a) in Edinburgh (b) at Waverley Station (c) Tallahassee (2) (a) Bryan (b) Alan (c) his son
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**Comment** With these two new roles, we again see the versatility of Subject position and Complement position. Both roles are found correlated with both grammatical positions. Note further that in Complement position each role has one or more characteristic prepositions that is used to signal it. We will bring these facts out in the following practice.

- Practice**
- (1) In sentences in the previous section, two different prepositions are used in connection with the expression of Location. What are they?  
.....
  - (2) Write down three other prepositions that can be used to express Location.  
.....
  - (3) In sentence (2) (c) above, what preposition is used to express the Beneficiary role?  
.....
  - (4) Give another preposition that can be used to express the Beneficiary role. (Think of paraphrases of the examples used above.)  
.....
  - (5) When the Instrument role is expressed in the Complement of a sentence, what preposition is typically used to express it?  
.....
  - (6) When the Agent role is expressed in the Complement of a sentence (as in passive sentences) what preposition expresses this role?  
.....

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**Feedback** (1) *in, at* (2) *on, under, near, by, above*, etc. (3) *for* (4) *to* (5) *with* (and sometimes *by*) (6) *by*

**Comment** We have so far given definitions and examples of five different roles. Some proponents of the theory of roles envisage that it is necessary to define further roles, perhaps bringing the total of roles to about a dozen or so. But all agree on the need to postulate relatively few roles: the more roles one postulates, the weaker is the theory of roles, because the proliferation of roles makes it more difficult to capture broad generalizations on how participant roles work. Agreeing on what roles are necessary, exactly how many there are, and how to define them with respect to one another has proved very difficult. We illustrate some interesting cases in this respect below, in which we find data with referring expressions that don't seem to fit any of the roles we have considered so far.

Practice	(1) In the situation described by <i>Napoleon saw Josephine</i> , is any action necessarily taking place?	Yes / No
	(2) Can we infer from <i>Napoleon saw Josephine</i> that Napoleon deliberately saw her?	Yes / No
	(3) And can we infer that Josephine deliberately involved herself in this event of seeing?	Yes / No
	(4) Is it obvious who, if anyone, is Agent in <i>Napoleon saw Josephine</i> ?	Yes / No
	(5) Who, if anyone, is Affected in <i>Napoleon saw Josephine</i> ?	.....
	(6) Do any of the roles Location, Beneficiary, or Instrument fit the part played by Josephine in this episode?	Yes / No

**Feedback** (1) No (2) No (3) No (4) No (5) If anyone, it is Napoleon, but his role does not really fit the notion of Affected as defined earlier. (6) No

**Comment** What such examples show is that in the area of participant roles, as everywhere else in semantics, there are cases which require further analysis and further elaboration of the theoretical and descriptive framework. Let's dig a little deeper into how we might go about expanding the inventory of roles somewhat to account for examples like the one immediately above. A sentence like *Napoleon saw Josephine* suggests the need to posit at least two additional roles beyond the ones considered so far. Semanticists have called these roles 'experiencer' and 'theme'.

**Definition** The EXPERIENCER is typically a person who is mentally aware of, perceives, or experiences the action or state described by the sentence, but who is not in control of the situation. (Experiencer characteristics can also sometimes be attributed to animals.)

The THEME participant is a thing or person whose location is described, or a thing or person that is perceived by an Experiencer.

Example	EXPERIENCER		THEME
	<i>The children</i>	<i>heard</i>	<i>the loud noise</i>

- Practice**
- Identify the Experiencers in the following:
    - Jane saw a movie last night*
    - Janice became sick when she heard the news*
    - The thunder was heard by everyone*
  - Identify the Themes in the following:
    - My computer is sitting on that desk*
    - Jack saw a play last week*
    - The Honda belongs to Jim*



**Feedback** (1) (a) Jane (b) Janice (c) everyone (2) (a) My computer (b) a play (c) The Honda

**Comment** As was the case with other participant roles we have examined, we also see that the Experiencer and Theme roles are not restricted to Subject position. To make this clearer, try to answer the following questions.

**Practice** (1) What role other than Agent can be expressed in the Complement of a sentence (as in passive sentences) after the preposition *by*?

.....

(2) Which two positions can be occupied by the Theme role?

.....

(3) In the examples given in this practice, does the Theme ever appear in Complement position?

.....

.....

**Feedback** (1) Experiencer (2) Subject and Object (3) No

**Comment** Note that the need to posit the additional roles of Experiencer and Theme does not necessarily invalidate the notion of roles altogether. Though, as mentioned earlier, we would like to hold down the total number of roles as much as possible, we have to be prepared to posit new ones where the facts clearly call for it, as we have just seen. Later in this unit we shall mention other areas where the roles as we have defined them cannot be assigned clearly. Meanwhile we look at another interesting case that provokes thought in relation to the idea of roles.

**Practice** (1) Do the sentences *Ahmed bought a camel from Abdullah* and *Abdullah sold a camel to Ahmed* describe the same event? Yes / No

(2) In the event described by these sentences, there are three participants, Ahmed, Abdullah, and the camel. Which one is the Agent? .....

(3) Might it be more satisfactory to relate the notion of Agent, not to the actual situation described, but rather to some specific sentence chosen to describe it? Yes / No

(4) Following this line of thought, would one then say that *Abdullah* was the Agent in the sentence with *buy*, and *Ahmed* the Agent in the sentence with *sell*? Yes / No

(5) Now, granting that *Ahmed* is the Agent in one sentence, but not in the other, is there still not some role which we feel Ahmed is playing in both sentences? What might this role be? .....

Feedback	(1) Yes (2) Not the camel, certainly, but either Ahmed or Abdullah (or both) could be thought of as the Agent. (3) Yes, if we insist on there only being one Agent per case. (4) No, the other way around ( <i>Ahmed</i> the Agent in the sentence with <i>buy</i> , and <i>Abdullah</i> in the sentence with <i>sell</i> ). (5) Yes, it seems that <i>Ahmed</i> could be regarded as the Beneficiary in both cases (and so, actually, could <i>Abdullah</i> ).	
Comment	<p>Cases such as this raise the question of whether a referring expression can bear more than one role relation to the verb in a particular sentence. This question has played an important part in the issue of how meaning and grammar are interrelated in recent linguistic theories, but we will not go further into this matter here.</p> <p>We will now show how information about participant roles can be included in the dictionary. Proponents of the notion of role envisage that in the dictionary entry for each verb in the language there will be a ‘role-frame’, indicating what roles must be, and what roles may be, mentioned in connection with the verb. These role frames are considered to be part of the semantic representation of each verb.</p>	
Example	<p>OPEN: (AGENT) AFFECTED (INSTRUMENT)</p> <p>This is part of the dictionary entry for the verb <i>open</i>. The parentheses indicate that the roles shown within them (i.e. Agent and Instrument) are optional with this verb, and the role not enclosed by parentheses, Affected, is obligatory. I.e. when describing some act of opening, one must mention what gets opened, and one may also mention who did the opening and what he did it with. Recall that in</p> <p><i>John opened the door</i> <i>The key opened the door</i> <i>The door opened</i></p> <p>the door is mentioned in all three sentences, but John and the key are not mentioned in all three sentences.</p>	
Practice	(1) What two roles are mentioned in <i>Julia planted a tree?</i>	.....
	(2) What further role is mentioned in <i>Julia planted a tree in the garden?</i>	.....
	(3) What single role is mentioned in <i>A tree was planted?</i>	.....
	(4) Is the Agent role mentioned in some, but not all, of these examples?	Yes / No
	(5) Is the Location role mentioned in some, but not all, of these examples?	Yes / No
	(6) Is the Affected role mentioned in all of these examples?	Yes / No

- (7) Which of the following role-frames captures these facts correctly?
- (a) (AGENT) (AFFECTED) (LOCATION)
  - (b) AGENT AFFECTED (LOCATION)
  - (c) (AGENT) AFFECTED (LOCATION)
  - (d) (AGENT) AFFECTED LOCATION

**Feedback** (1) Agent and Affected (2) Location (3) Affected (4) Yes (5) Yes (6) Yes (7) (c)

**Practice** Listed below are a number of verbs, with some example sentences containing them. On the basis of what occurs in all of the example sentences, and what only occurs in some of them, formulate a role-frame for the dictionary entry of each verb.

- (1) BLOW UP: .....  
*Vacek blew up the tank with a hand grenade*  
*The hand grenade blew up the tank*  
*The tank blew up*
- (2) RAIN: .....  
*It's raining in Paris*  
*It's raining*
- (3) CHASE: .....  
*John chased the ball to the bottom of the hill*  
*The ball was chased to the bottom of the hill*  
*The ball was chased*
- (4) GIVE: .....  
*John gave Mary a book*  
*Mary was given a book*  
*A book was given to Mary*
- (5) PUT: .....  
*Lucy put a log on the fire with the tongs*  
*Lucy put a log on the fire*  
*A log was put on the fire*

**Feedback** (1) BLOW UP: (AGENT) AFFECTED (INSTRUMENT) (2) RAIN: (LOCATION) (3) CHASE: (AGENT) AFFECTED (LOCATION) (4) GIVE: (AGENT) AFFECTED BENEFICIARY (5) PUT: (AGENT) AFFECTED (INSTRUMENT) LOCATION

**Comment** The Affected role, when it is permitted at all, is obligatory in these examples. The Agent role is frequently permitted, though never obligatory, in these examples. These two facts reflect a quite general trend in the language.

We will now point out a certain economy in the dictionary that the role-frame notation makes possible in the case of verbs which, like *blow up* and *open*, can appear in a non-passive form even when no Agent is mentioned.

- Practice (1) A how-many-place predicate is *shake* in *Patrick shook the table*? .....
- (2) A how-many-place predicate is *shake* in *The table shook*? .....
- (3) Does *Patrick shook the table* entail *The table shook*? Yes / No
- (4) Would this entailment be accounted for in an analysis which assumed two separate verbs *shake*, one a two-place predicate and the other a one-place predicate, with (partial) dictionary entries as follows?
- SHAKE<sub>2</sub>: two-place,  $x \text{ SHAKE}_2 y \rightarrow y \text{ SHAKE}_1, \dots$
- SHAKE<sub>1</sub>: one-place . . . Yes / No
- (5) Is it more economical to postulate a single verb *shake* with an optional Agent in its role-frame, as in
- SHAKE: (AGENT) AFFECTED? Yes / No

Feedback (1) two-place (2) one-place (3) Yes (4) Yes (5) The role-frame notation is slightly more economical.

Comment We have compared the role-frame approach to dictionary entries with the logical, meaning postulate approach in order to show that, as far as we have seen, the two approaches are not incompatible. The two approaches have different emphases. Whereas logical approaches emphasize entailment relations between sentences, the role-frame approach concentrates more on the semantic relationships between referring expressions inside a sentence, that is, on the way in which the action denoted by a verb can be said to involve participants in a number of different roles.

Some of the differences between the two approaches are rather accidental. Thus the role-frame approach pays more attention to the roles typically expressed by adverbial phrases, such as Location and Instrument, which logical approaches frequently neglect. On the other hand, the role-frame approach generally pays little attention to the logician's insight that not only verbs, but also nouns, adjectives and prepositions are all semantically predicates. The role approach concentrates almost exclusively on verbs. We show below some of the difficulties which arise when one tries to generalize the idea of role to all predicates.

We consider first prepositions, which we take to be two-place predicates (three-place in the case of *between*).

- Practice (1) What is the predicator in *The bull is in the 40-acre field*? .....
- (2) Stretching the definition of Location (p. 249) to include states as well as actions, would it seem reasonable to say that *the 40-acre field* played the role of Location in the above sentence? Yes / No
- (3) Granted that we can assign Location to *the 40-acre field*, which of the other roles that we have seen (Agent, Instrument, Beneficiary, Affected, Experiencer, Theme) seems to be played by *the bull*? .....
- (4) What is the predicator in *This book is for Louise*? (Again, assume that there is a predicator here.) .....
- (5) Allowing Beneficiary to be applied in the case of states as well as actions, could one assign the Beneficiary role to *Louise* in this sentence? Yes / No
- (6) If so, what role could one plausibly assign to *this book*? .....

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Feedback (1) *in* (2) Yes (3) Theme seems to fit reasonably well according to its definition given earlier. (4) *for* (5) Yes (6) In this case none seems to fit well.

Comment We see that the Theme role fits the case of the referring expression *the bull* in Subject position in the sentence *The bull is in the 40-acre field*, because, according to our definition of Theme, a referring expression whose location is described relative to some other entity can be regarded as fulfilling this role. But none of the roles that we have mentioned so far seems to fit the case of the referring expression *this book* in Subject position in the example *This book is for Louise*. Now let's look at some one-place predicates.

- Practice (1) What is the predicator in *That animal is a cow*? .....
- (2) Does the referring expression *that animal* here seem to be in an Agent relationship with the predicate *cow*? Yes / No
- (3) Does it seem to be in an Instrument relationship with the predicate *cow*? Yes / No
- (4) Or Beneficiary perhaps? Yes / No
- (5) Location? Yes / No
- (6) What is the predicator in *This poppy is red*? .....
- (7) Does the referring expression *this poppy* seem to bear any of the role relationships that we have mentioned to the predicate *red*? Yes / No

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Feedback (1) *cow* (2) No (3) No (4) No (5) No (6) *red* (7) No

**Comment** These examples show that none of the roles mentioned so far (Agent, Instrument, Beneficiary, Location, Affected, Experiencer, Theme) fit the relation borne by a grammatical Subject to a noun, adjective, or preposition predicate. One way to deal with this problem that has been suggested by some semanticists would be to extend the notion of Theme to include situations such as these in which a referring expression is essentially inert or neutral with respect to the predicator in the sentence. If this is accepted, then the Theme role becomes a kind of default or catch-all role that is invoked when none of the more specific ones fit. While such a solution will work, it is unsatisfactory to a certain extent due to its lack of precision. So there is clearly room for more research in this area of semantics.

**Summary** The notion of participant role adds a new dimension to the study of sense relations. Participant roles indicate relationships between a verb (and possibly other predicators) and the referring expressions in a sentence. We have illustrated a number of such roles that have been proposed, namely Agent, Affected, Instrument, Location, Beneficiary, Experiencer, and Theme. We have seen how dictionary information involving roles can be presented and we have mentioned several problems with the notion of participant role.

## **Unit 20** Study Guide and Exercises

**Directions** After you have read Unit 20 you should be able to tackle the following questions to test your understanding of the main ideas raised in the unit.

- 1 You should understand these terms and concepts from this unit:
  - some participant (semantic) roles
    - Agent
    - Affected (Patient)
    - Instrument
    - Location
    - Beneficiary
    - Experiencer
    - Theme
  - role frame of a verb
  - grammatical positions in the sentence
    - Subject position
    - Object position
    - Complement position
- 2 What are **participant (semantic) roles**? Is there any current fixed number of such roles accepted by linguists?

- 3 Translate each of the following sentences into an augmented logical formula, indicating which entities play the roles of **Agent**, **Affected**, and **Instrument**.
  - a The worker moved the beam with a crane
  - b The crane moved the beam
  - c The beam moved
  - d The arsonist burned the house with fire
  - e The fire burned the house
  - f The house burned
- 4 In each of the following sentences identify the participant role and the grammatical position (i.e. either Subject, Object, or Complement) of each referring expression. Possible semantic roles include **Agent**, **Affected**, **Instrument**, **Location**, **Beneficiary**, **Experiencer**, and **Theme**.
  - a Mary roasted the duck
  - b Jane smelled the burning dinner
  - c The duck was roasted by Mary
  - d The bomb destroyed the building
  - e Jane kicked the tyre with her foot
  - f Fred saw a comedy show in that club
  - g I saw Mortimer in Detroit
  - h Jane gave Mary the book
  - i Mary was given the book by Jane
  - j Jerry did the favour for me
  - k Detroit is a big city
  - l Jane gave the book to Mary
- 5 What problem arises when we try to assign semantic roles such as Agent and Affected (Patient) to the participants in a sentence like *Mortimer saw Millie* (as opposed to sentences such as *Mortimer chased Millie* or *Fred broke the glass*)? How was this problem dealt with?
- 6 In a sentence such as *Mortimer kicked the bully*, is it possible that *the bully* might have more than one semantic role? If so, which ones? Explain briefly, and justify your choices. Can you give another example where a given participant could conceivably have more than one role assigned to it?
- 7 Formulate a **role frame** for each of the following verbs which would be part of its dictionary entry. To do this think of several sentences involving the verb in which you try to leave out various arguments (in much the same way as was done in this unit). Which role always seems to be present if it is permitted at all?
  - a *set* .....
  - b *snow* .....

- c *donate* .....
- d *melt* .....

- 8 How does the role frame approach to dictionary entries compare and contrast with the logical, meaning postulate approach? What are the strengths and weaknesses of each?
- 9 We claimed that a problem with the role frame approach is that it is difficult to propose a suitable semantic role for the italicized referring expressions in Subject position in sentences like the following:
- a *This book* is for Louise
  - b *The car* is red
  - c *The movie* is interesting

What exactly is the difficulty, given how we have defined the roles presented in this unit? We suggested that we might be able to extend the Theme role somehow to deal with this problem, but we didn't provide any details as to how this might be done. Another possibility, not mentioned previously, would be to propose a different role, in addition to those described in this unit, which could account for these examples. See if you can sketch out a way of elaborating the theory of participant roles to deal with these issues.