

Category 4:

```
E [instance_of: A, rel1: X1, ..., reln: Xm]  
causes  
P [instance_of: PROP, is_trait_of: Y1, ..., is_trait_of: Yn]  
implies  
X=Y
```

where, $X \in \bigcup_{i=1}^m \{X_i\}$, and $Y \in \bigcup_{j=1}^n \{Y_j\}$

Intuitively, a statement of the above category means that if the execution of an event (E) causes a property (P) then an entity that participates in E is also associated with P.

Examples:

1. I took the water bottle out of the backpack so that it would be handy. What would be handy?

Correct Answer: the bottle.

Knowledge Instance:

```
E [instance_of: take out of, theme: X [instance_of: entity]]  
causes  
P [instance_of: handy, is_trait_of: Y [instance_of: entity]]  
implies  
X=Y
```

2. Many people start to read Paul's books and can't put them down. They are popular because Paul writes so well. Who or what are popular?

Correct Answer: the books.

Knowledge Instance:

```
E [instance_of: write well, theme: X [ instance_of: entity, instance_of: book]]  
causes  
P [instance_of: popular, is_trait_of: Y [instance_of: entity]]  
implies  
X=Y
```

3. I poured water from the bottle into the cup until it was full. What was full?

Correct Answer: The cup.

Knowledge Instance:

```
E [instance_of: pour, destination: X [instance_of: entity]]  
causes  
P [instance_of: full, is_trait_of: Y [instance_of: entity]]  
implies  
X=Y
```

4. I poured water from the bottle into the cup until it was empty. What was empty?
Correct Answer: the bottle.

Knowledge Instance:

E [instance_of: pour, source: X [instance_of: entity]]

causes

P [instance_of: empty, is_trait_of: Y [instance_of: entity]]

implies

X=Y

5. We went to the lake, because a shark had been seen at the ocean beach, so it was a dangerous place to swim. Which was a dangerous place to swim?

Correct Answer: The beach

Knowledge Instance:

E [instance_of: see, theme: Z [instance_of: entity, instance_of: carnivore], location: X [instance_of: entity]]

causes

P [instance_of: dangerous to swim, is_trait_of: Y [instance_of: entity]]

implies

X=Y

6. Pam's parents came home and found her having sex with her boyfriend, Paul. They were embarrassed about it. Who were embarrassed?

Correct Answer: Pam and Paul.

Knowledge Instance:

E [instance_of: find having sex, agent: Z [instance_of: entity, instance_of: parent], theme: X [instance_of: entity]]

causes

P [instance_of: embarrassed, is_trait_of: Y [instance_of: entity]]

implies

X=Y

7. Pam's parents came home and found her having sex with her boyfriend, Paul. They were furious about it. Who were furious?

Correct Answer: Pam's parents.

Knowledge Instance:

E [instance_of: find having sex, agent: X [instance_of: entity, instance_of: parent], theme: Z [instance_of: entity], related_to: X]

causes

P [instance_of: furious, is_trait_of: Y [instance_of: entity]]

implies

X=Y

8. John was doing research in the library when he heard a man humming and whistling. He was very annoyed. Who was annoyed?

Correct Answer: John.

Knowledge Instance:

E [instance_of: hear humming, agent: X [instance_of: entity]]

causes

P [instance_of: annoyed, is_trait_of: Y [instance_of: entity]]

implies

X=Y

9. John was doing research in the library when he heard a man humming and whistling. He was very annoying. Who was annoying?

Correct Answer: the hummer.

Knowledge Instance:

E [instance_of: hum, agent: X [instance_of: entity]]

causes

P [instance_of: annoying, is_trait_of: Y [instance_of: entity]]

implies

X=Y

10. The lawyer asked the witness a question, but he was reluctant to answer it . Who was reluctant to answer the question?

Correct Answer: The witness.

Knowledge Instance:

E [instance_of: ask, recipient: X [instance_of: entity]]

causes

P [instance_of: reluctant to answer, is_trait_of: Y [instance_of: entity]]

implies

X=Y

11. The cat was lying by the mouse hole waiting for the mouse, but it was too cautious. What was too cautious?

Correct Answer: The mouse.

Knowledge Instance:

E [instance_of: waiting for, recipient: X [instance_of: entity]]

causes

P [instance_of: cautious, is_trait_of: Y [instance_of: entity]]

implies

X=Y

12. The police left the house and went into the garage, where they found the murder weapon. Where did they find the murder weapon?

Correct Answer: garage.

13. When the sponsors of the bill got to the town hall, they were surprised to find that the room was full of opponents. They were very much in the majority. Who were in the majority?

Correct Answer: The opponents

14. When the sponsors of the bill got to the town hall, they were surprised to find that the room was full of opponents. They were very much in the minority. Who were in the minority?

Correct Answer: the sponsors.

15. John was jogging through the park when he saw a man juggling watermelons. He was very impressed. Who was impressed?

Correct Answer: John.

Knowledge Instance:

Execution of juggling watermelons by X with respect to John
may cause John.impressed = true

E [instance_of: see jugge watermelons, agent: X [instance_of: entity]]

causes

P [instance_of: impressed, is_trait_of: Y [instance_of: entity]]

implies

X=Y

16. John was jogging through the park when he saw a man juggling watermelons. He was very impressive. Who was impressive?

Correct Answer: the man (juggler).

Knowledge Instance:

E [instance_of: juggle watermelons, agent: X [instance_of: entity]]

causes

P [instance_of: impressive, is_trait_of: Y [instance_of: entity]]

implies

X=Y

17. I stuck a pin through a carrot. When I pulled the pin out, it had a hole. What had a hole?

Correct Answer: the carrot.

Knowledge Instance:

E [instance_of: stick a pin, destination: X [instance_of: entity]]

causes

P [instance_of: has hole, is_trait_of: Y [instance_of: entity]]

implies

X=Y

18. Mark told Pete many lies about himself, which Pete included in his book. He should have been more skeptical. Who should have been more skeptical?

Correct Answer: Pete.

Knowledge Needed:

E [instance_of: tell, recipient: X [instance_of: entity], topic: W [instance_of: lie]]

causes

P [instance_of: skeptical, is_trait_of: Y [instance_of: entity]]

implies

X=Y

19. Adam can't leave work here until Bob arrives to replace him. If Bob had left home for work on time, he would be here by this time. Who would be here?

Correct Answer: Bob

Knowledge Needed:

E [instance_of: leave on time, agent: X [instance_of: entity]]

causes

P [instance_of: be on time, is_trait_of: Y [instance_of: entity]]

implies

X=Y

20. We went to the lake, because a shark had been seen at the ocean beach, so it was a safer place to swim. Which was a safer place to swim?

Correct Answer: the lake.

Knowledge Instance:

E [instance_of: see, theme: Z [instance_of: entity, instance_of: predator], location: W [instance_of: entity]]

causes

P [instance_of: unsafe to swim, is_trait_of: Y [instance_of: entity]]

implies

W=Y

21. Joe saw his brother skiing on TV last night but the fool didn't have a coat on. Who is the fool?

Correct Answer: brother.

Knowledge Instance:

E [instance_of: ski, agent: X [instance_of: entity, trait: T [instance_of: no warm coat]]]

causes

P [instance_of: fool, is_trait_of: Y [instance_of: entity]]

implies

X=Y