
UNIT 7 TRANSLATION OF CATEGORICAL PROPOSITIONS INTO STANDARD FORM*

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7.0 OBJECTIVES

Language is a dynamic and ever evolving phenomenon. Many arguments in our day to day life contain non standard form propositions. A standard form categorical syllogism is constituted of standard form propositions. In everyday interactions many syllogistic arguments contain nonstandard form propositions. In order to reduce an argument to standard form categorical syllogism it is required that their constituent propositions should be translated to standard form propositions. It is important to understand the meaning designated by a proposition to determine which of the categorical proposition is asserted or denied by it. To this end the list of methods enumerated to translate a proposition into standard form categorical proposition can never be exhaustive.

The objective of the present unit is,

- to explain comprehensive understanding of some methods used to translate a proposition into standard form categorical proposition.

7.1 INTRODUCTION: TRANSLATING ORDINARY LANGUAGE STATEMENTS INTO STANDARD FORM

In our everyday life we use language to communicate our thoughts and convey our emotions. In unit 1 we have discussed that this communication is possible through grammatical unit called 'sentence.' Moreover, in natural and social sciences we present our analysis through hypothetical, conjectural, speculative, perspectival opinions and beliefs. Broadly, sentences can be declarative, imperative, exclamatory, interrogative and of several other variety. However, in formal logic we are concerned with declarative statements i.e. propositions, since only they

assert or deny a state of affairs. To begin with let us consider few examples of propositions, which are not in standard form:

“All students are not hard working”

“A cow is a vegetarian animal”

“Many dogs are pets”

“Roses are red”

“Lilies are fragrant”

The above mentioned propositions can be translated in standard form categorical propositions:

“Some students are not hard working people”

“All cows are vegetarian animals”

“Some dogs are pets”

“Some roses are red flowers”

“All lilies are fragrant flowers”

Many syllogisms, used for argumentations in our day to day life, are composed of nonstandard form propositions. In order to get standard form categorical syllogism we are required to translate the constituent propositions into standard form. We can form a categorical syllogism only with the help of standard form categorical propositions. There are various methods to reduce a non standard form sentence into standard form proposition. However, it is impossible to form an exhaustive list of set of rules for such translation as ordinary language is multifaceted and full of diversity. Although we can never develop a complete set of rules but we can describe a number of techniques that prove useful in dealing with certain kinds of non standard form of propositions. It is very significant that we have the capability to understand the given non standard form proposition so that the meaning of the given proposition should not be lost in this

process. The present unit has primarily followed the methods for standard-translations suggested by Copi, Cohen and McMahon (2016) and Hurley and Watson (2019).

7.1 ARRANGING STANDARD FROM INGREDIENTS IN ORDER

In many propositions, although all the four components of standard form categorical proposition are present but it is observed that they are not arranged in the proper order. First, subject and predicate terms have to be identified and second all the constituents of a proposition have to be arranged in the standard schema:

Quantifier (subject term) copula (predicate term)

Bats are all blind.

Standard form translation: All bats are blind.

All is well that ends well.

Standard form translation: All things that end well are things that are well.

Gone are days of fun.

Standard form translation: All days of fun are days that are gone.

7.2 TRANSLATING TERMS WITHOUT NOUNS BY REPLACING THEM WITH PLURAL NOUN OR PRONOUN

In a categorical proposition, nouns or pronouns denote classes. For e.g. in the categorical proposition, 'Some Dogs are pets', 'dogs' being a common noun stands for class of dogs and 'pets' being a common noun stands for class of pets. If either subject or predicate is not noun, then it has to be translated into appropriate noun. However, in categorical propositions adjectives (and participles) connote attributes. In case a proposition has any term (subject or predicate), which is adjective then we will have to use a plural noun or pronoun in its place as only they denote the class. We should ensure that in a standard form categorical proposition there is one

subject term (noun) and one predicate term (noun) and a copula to join them. In the examples taken below 'green' and 'vegetarian' designate attributes rather than a class and therefore these propositions have to be translated into standard form.

All cacti are green.

Standard form translation: All cacti are green plants.

All elephants are vegetarian.

Standard form translation: All elephants are vegetarian animals.

7.3 NON STANDARD VERBS TO BE REPLACED WITH STANDARD COPULA

In our day to day communication we often use statements which either incorporate other forms of the verb 'to be' or do not have any form of the verb 'to be.' We have already qualified in the first unit on categorical propositions that schematic representation of standard form categorical propositions follows 'are' and 'are not' as copula. The first variety of statements which have other forms of verb "to be" can be translated as follows:

Some geography books will be delivered shortly.

Standard form translation: Some geography books are books that would be delivered shortly.

Some people drink coffee.

Standard-form translation: Some people are coffee drinkers.

The second variety of statements, wherein there is no occurrence of the verb "to be", can be translated as follows:

All tigers roar.

Standard form translation: All tigers are animals that roar.

All pigeons fly.

Standard form translation: All pigeons are birds that fly.

Some monkeys climb the tree.

Standard form translation: Some monkeys are animals that climb the tree.

Ojas plays football.

Standard form translation: Ojas is a football player.

7.4 TRANSLATING SINGULAR PROPOSITIONS

A singular proposition either asserts or denies that a particular individual or object belongs to a given class. They make assertion or denial about a specific person, thing, time or place. These propositions are generally converted into Universal propositions (A or E). Examples:

Einstein is a physicist.

This table is not an antique.

Unlike categorical propositions they do not affirm or deny the inclusion of one class in another. However, we can interpret a singular proposition as a proposition which deals with classes by interpreting them in the following manner:

“To every individual object there corresponds a unique **unit class** (one-membered class) whose only member is that object itself. Then, to assert that an object *s* belongs to a class *P* is logically equivalent to asserting that the unit class *S* containing just that object *s* is wholly included in the class *P*. And to assert that an object *s* does *not* belong to a class *P* is logically equivalent to asserting that the unit class *S* containing just that object *s* is wholly excluded from the class *P*.”

(Copi et al., 2016, p.186)

Moreover, Singular propositions are translated into universal propositions by using a “parameter” which is a tool used in a statement to alter the form without causing any change in meaning. Some parameters suggested are:

places identical to

people identical to

things identical to

cases identical to

times identical to

Let us translate the following singular propositions with the help of parameters:

Einstein is a physicist.

Standard form translation: All people identical to Einstein are people who are physicists.

Explanation: Effectively what we are claiming here is that only one person can be identical to Einstein i.e. Einstein himself, the term “people identical to Einstein” denotes Einstein as this class has Einstein as its only member. (Hurley and Watson 2019, p.261)

This table is not an antique.

Standard form translation: No things identical to this table are things which are antique.

Geet went shopping.

Standard form translation: All people identical to Geet are people who went shopping.

Or

Geet is a person who went shopping.

However, at this juncture it is important to take note that there are some pertinent issues arising out of existential import of categorical propositions, namely, according to Boolean interpretation singular propositions have existential import but universal propositions do not have existential import, which we shall see in the upcoming units.

Check your Progress I

Note: a) Use the space provided for your answer.

b) Check your answers with those provided at the end of the unit.

1. Translate the following statements to standard form propositions.

1. All roses are fragrant.
2. Skyscrapers are all tall buildings.
3. All dogs bark.
4. Some pigeons flew.
5. Reet plays tennis.
6. No neem leaf is sweet.
7. Some cars are not spacious.
8. There are no insurance policies which give good return claims.
9. Rohan is sitting at home.
10. Some cats climb the trees.
11. Not everyone subscribes to educational journals.
12. The moon is full tonight.
13. I hate wine.
14. All ducks swim.
15. Some birds fly during the winter.

7.5 TRANSLATING CATEGORICAL PROPOSITIONS WHOSE QUANTITIES ARE INDICATED BY WORDS OTHER THAN THE STANDARD FORM QUANTIFIERS “ALL” “NO” AND “SOME”

Many times statements begin with quantity designators other than the quantifiers or the quantity designators are not specified at all. The former cases require us to examine the statement in proper context and then rephrase the quantity designator. However, in the latter case the quantity designator is missing and we ought to provide it in terms of standard form.

Case 1

Statements beginning with 'every' 'any' 'everything' 'anything' (without any negation) are translated as A propositions in the following manner:

Every person has his day.

Standard form translation: All persons are beings who have their days.

Any day of the week is convenient.

Standard form translation: All days of the week are convenient days.

Everything in this room is expensive.

Standard form translation: All things in this room are expensive things.

Anything comes at a cost.

Standard form translation: All things are entities that come at a cost.

In parallel to these there are other examples of designators belonging to class of persons, like, whoever, everyone, anyone, whosoever, who and others. They are also translated as A propositions. For example:

Whoever votes, is a good citizen.

Standard form translation: All who vote are good citizens.

Anyone who goes to the party would be implicated.

Standard form translation: All who go to the party are those who are implicated.

Everyone who votes is above 18 years of age.

Standard form translation: All who vote are above 18 years of age.

Case 2

Indefinite articles 'a' or 'an', 'the' are also used to designate quantity. Although they do not clearly state quantity represented by them but when we examine the statement in its context,

depending on the meaning, it is either translated as A or I proposition. Let us first consider examples of propositions which can be reasonably interpreted as universal propositions:

A dog is a mammal.

Standard form translation: All dogs are mammals.

An elephant is vegetarian.

Standard form translation: All elephants are vegetarian animals.

The snake is a reptile.

Standard form translation: All snakes are reptiles.

Let us now discuss different examples of propositions carrying 'a', 'an' and 'the' where the standard form translation is done to particular propositions.

A pigeon flew over the bridge.

Standard form translation: Some pigeons are birds which flew over the bridge.

A cat is rescued from the sea.

Standard form translation: Some cats are creatures that are rescued from the sea.

The frog in the left corridor is green.

Standard form translation: Some frogs in the left corridor are creatures that are green.

Judging from the context we can make out that article 'a' in the above two cases refers to a member and do not refer to all members of the class of pigeons, who flew over the bridge; or cats which are rescued from the sea. Similarly, article 'the' in the last case does not refer to all members of the class of frogs. While judging these propositions we have to be sensitive to the context.

We have translated the propositions beginning with 'every' and 'any' as A propositions in Case 1. Now let us see the examples of propositions beginning with 'not every' and 'not any.' In case

of 'not every' the proposition is translated as particular negative and 'not any' is translated as universal negative. Examples:

Not every rose is red.

Standard form translation: Some roses are not red.

Not any student is full-time employed.

Standard form translation: No students are people who are full-time employed.

Words like 'hardly', 'rarely', 'seldom', 'scarcely', 'little', 'not always', 'not everywhere', 'sometimes not' are indicators of particular negative propositions. But the words like 'never', 'nowhere', 'under no circumstances' indicate universal negative propositions. (Copi et al., 2016, p.188)

7.6 CATEGORICAL PROPOSITIONS WHICH CARRY WORDS WHICH DESIGNATE QUANTITY MORE SPECIFICALLY THAN STANDARD FORM PROPOSITIONS

Quantifiers such as, 'one', 'two', 'three', 'many', 'few', 'a few', 'most' or any other number mentioning quantity have to be translated to standard form. Proposition carrying 'one' should be translated same as a singular proposition. However, a proposition carrying all other numerical designators like, two, three, four, ten, fifty etc. to designate quantity should be translated as I propositions carrying 'some' as quantifier. 'Many', 'several', 'sometimes', 'usually', 'generally' 'occasionally' 'once', 'majority', 'most of them', 'once' etc should also be translated as 'some'.

However, special attention should be put to propositions using 'a few' and 'few' as designators. They cannot be translated into a single categorical proposition. Instead they are translated as a compound of I and O proposition. (Hurley and Watson, 2019, p. 264)

A few soldiers are heroes.

Standard form translation: Some soldiers are heroes and some soldiers are not heroes.

Few girls are passionate.

Standard form translation: Some girls are passionate and some girls are not passionate.

Most policemen are honest.

Standard form translation: Some policemen are honest.

7.7 CATEGORICAL PROPOSITIONS WHICH DO NOT CARRY ANY WORDS AT ALL TO INDICATE QUANTITY

At times there are propositions with no quantifier. In these cases what the sentence wants to express becomes quite ambiguous. In these cases the meaning of the sentences can be determined only by examining the context in which they occur. Let us take some examples:

Whales are mammals.

Students are absent.

Cars are parked in front of the house.

In the first example, “Whales are mammals”, it is very probable that it refers to all whales and should be translated as “All whales are mammals”. In the case of second statement, “Students are absent” it is clear that only some students are referred to and thus the standard form translation would be “Some students are beings who are absent”. Similarly, on a careful analysis of the context the third statement would also be translated as “Some cars are vehicles that are parked in front of the house”.

7.8 TRANSLATING PROPOSITIONS WHICH DO NOT RESEMBLE STANDARD FORM CATEGORICAL PROPOSITIONS AT ALL BUT THEY CAN BE TRANSLATED INTO THEM

In such cases, we begin by identifying the relevant context. Furthermore, we shall identify subject term and predicate term and then place the appropriate copula.

Not all citizens believe in God.

Standard form translation: Some citizens are not believers in God.

There are red roses.

Standard form translation: Some roses are red things.

Nothing is both hard and soft.

Standard form translation: No hard objects are soft objects.

There are good human beings.

Standard form translation: Some human beings are good human beings.

There are no red frogs.

Standard form translation: No frogs are red things.

Check your Progress II

Note: a) Use the space provided for your answer.

b) Check your answers with those provided at the end of the unit.

1. Translate the following statements to standard form propositions.

1. Textbooks are useful.
2. Logic problems are difficult.
3. A tiger is a mammal.
4. A fish is not a mammal.
5. Children are human beings.
6. Not every citizen votes.
7. Not a single dog is a cat.
8. Many entertainers are actors.

9. Few sailors are courageous.
10. Any student is eligible.
11. Every student is not resourceful.
12. Students are present.
13. There are honest politicians.
14. Flowers are beautiful.
15. Emeralds are green gems.
16. There are lions in the zoo.
17. A tiger is a mammal.
18. A fish is not a mammal.
19. A tiger roared.
20. Children are human beings.
21. Children live next door.
22. Children are naughty.
23. Not all players are physically fit.
24. Not every event is well organized.
25. There are no blue parrots.



7.9 TRANSLATING EXCEPTIVE PROPOSITIONS

There are quasi-numerical terms, which require our careful attention like ‘almost all’, ‘all but’, ‘all except’ and others. Statements which use these expressions are called exceptive statements because they make exceptions in a general class. For example:

All except children are allowed to enter the cinema hall.

All but children are allowed to enter the cinema hall.

Children alone are not allowed to enter the cinema hall.

Translating these propositions is difficult as these propositions make two assertions. They are compound propositions and therefore we cannot choose them to represent one single standard form categorical proposition. To make a fair representation of their meaning each of these propositions should be translated into a conjunction of two standard form categorical propositions. All three propositions mentioned above have the same meaning and would be translated as “All non children are allowed to enter the cinema hall, and no children are allowed to enter the cinema hall.” Their logical form and standard translation can be represented as:

All except S is P

Standard form translation: All non S are P, and no S are P.

Another set of quasi numerical qualifiers include ‘almost all’, ‘not quite all’, ‘all but a few’ and ‘almost everyone.’ Propositions carrying these phrases would be treated in the similar manner as the set of exceptive propositions mentioned above. However, they will be written as conjunction of I and O proposition. Examples of these compound propositions:

Almost all employees were in the office.

Not quite all employees were at the office.

All but a few employees were at the office.

Almost everyone among employees were at the office.

Both propositions mentioned above have the same meaning. They assert that some employees were at the office and deny that all employees were at the office. Therefore they are translated as:

Some employees are persons who were at the office, and some employees are not persons who were at the office.

7.10 TRANSLATING EXCLUSIVE PROPOSITIONS

Categorical Propositions involving the words ‘only’, ‘none but’ ‘none except’ and ‘no...except’ are called exclusive propositions for the reason in these propositions the predicate term is exclusively applied to the subject named. Usually we confuse the positioning of subject and predicate terms in these propositions. Examples of such propositions are;

Only adults can enter cinema halls.

Standard form translation: All those who can enter the cinema hall are adults.

None but the citizens can vote.

Standard form translation: All those who can vote are citizens.

Propositions beginning with ‘only’ and ‘none but’ usually translate into A propositions. They follow the general rule of reversing the subject and predicate, and replace ‘only’ with ‘all’.

Therefore the form of this translation would be:

Only S is P or None but S’s are P’s

Standard form translation: All P is S.

However, there can be some context in which ‘only’ and ‘none but’ are used to convey some different meaning. “Only S is P” and “None but S is P” can be taken to suggest either that “All S is P” or “Some S is P.” Therefore, we should take into account the context to determine meaning. However, in case we are not presented with any additional information the translations of these propositions should be done into A proposition.

7.11 TRANSLATING ADVERBS AND PRONOUNS

Let us consider the following example:

“The poor always you have with you.”

This proposition neither asserts that all the poor are with you, nor even that some poor are with you. If we notice the key word ‘always’ here this word means ‘at all times’ and when we use the word ‘times’ in both subject and predicate terms we can translate the propositions as “All times are times when you have the poor with you” The word ‘times’ which appears in both the subject and the predicate terms is used as a ‘parameter’. We have shown the requirement and usage of a parameter in the previous sections of the unit.

When a proposition contains a temporal adverb, like, ‘when’, ‘whenever’, ‘anytime’, ‘always’ or ‘never’ it can be translated in terms of ‘times.’

Smith always wins at billiards.

Standard form translation: All times when Smith plays billiards are times when Smith wins at billiards.

Dogs bark whenever a car passes by.

Standard form translation: All times when a car passes by are times when the dogs bark.

Jones loses a sale whenever he is late.

Standard form translation: All times when Jones is late are times when Jones loses sales.

When a proposition contains a spatial adverb, like, ‘where’, ‘wherever’, ‘anywhere’, ‘everywhere’, ‘nowhere’ it might be translated in terms of ‘places.’ To translate some propositions into standard form, the words ‘places’ can be introduced as parameters.

Where there is no vision the people perish.

Standard form translation: All places where there is no vision are places where the people perish.

They go where they choose.

Standard form translation: All places they choose are places where they go.

The alarm rings wherever the safe is touched.

Standard form translation: All places where the safe is touched are places where the alarms ring.

Propositions containing pronouns, like, 'who', 'whoever', 'anyone' may be translated in terms of 'people.'

Whoever works hard will succeed.

Standard form translation: All people who work hard are people who will succeed.

Propositions containing pronouns, like, 'what', 'whatever', 'anything' may be translated in terms of 'thing.' All of these propositions are translatable into standard form categorical propositions.

Consider the following examples:

Rohan does what he wants.

Standard form translation: All things Rohan wants to do are things Rohan does.

Moreover, we should notice the order of subject and predicate terms in the example. When translating such statements there is a possibility to confuse the subject term with the predicate term. The implicit rule to be followed: For W words ('who', 'what', 'when', 'where', 'whoever', 'whatever', 'whenever', 'wherever') the language following the "W" word goes into the subject term of the categorical proposition. (Hurley and Watson, 2019, p.263)

7.13 TRANSLATING CONDITIONAL STATEMENTS

In case of a conditional statement if the antecedent and consequent refers to the same class of people or things, then the statement is translated into universal categorical proposition. We have to note that the language which follows 'if' goes in the subject term of the categorical proposition, and the language following 'only if' goes in the predicate term. Let us consider few examples.

Sweet is tasty if it is made of pure ghee.

Standard form translation: All sweets made of pure ghee are tasty things.

If it is a whale, then it is a mammal.

Standard form translation: All whales are mammals.

If a dog is hungry, then it is dangerous.

Standard form translation: All hungry dogs are dangerous animals.

A meal is tasty only if it is made by mother.

Standard form translation: All tasty meals are meals made by mothers.

Moreover, a conditional statement which has a negated consequent but an affirmative antecedent is translated as E proposition. For example:

If it is a pigeon, then it is not an animal.

Standard form translation: No pigeons are animals.

A motorbike will run at a high speed only if it is not old.

Standard form translation: No motorbikes that run on high speed are old motorbikes.

Also, the word 'unless' means 'if not.' Statements which contain 'unless' are translated as categorical propositions which have negated subjects. For example:

Unless students misbehave they will be treated with respect.

Standard form translation: All students who do not misbehave are students who will be treated with respect.

Check your Progress III

Note: a) Use the space provided for your answer.

b) Check your answers with those provided at the end of the unit.

1. Translate the following statements to standard form propositions.

1. If it's a mouse, then it is a mammal.

2. Jewelry is expensive if it is made of gold.
3. A car is a Camry only if it is a Toyota.
4. If it is not a turkey, then it is not a mammal.
5. Unless a boy misbehaves he will be treated decently.
6. Violence breeds violence.
7. All that glitters is not gold.
8. Children alone are not allowed to enter the cinema hall.
9. If it is a dog, then it is not a bird.
10. Anyone who jumps high sees the heights.
11. None but the brave deserve the fair.
12. Only policemen are indispensable.
13. All except children are allowed to do a job.
14. Almost all police men are at the station.
15. Accountants are the only one who will be hired.

7.14 LET US SUM UP

Propositions, which are not in standard form can be put into standard form following few tips.

- Translation must have a proper quantifier, subject term, copula and predicate term.
- Translate singular propositions by using a parameter.

- Translate adverbs and pronouns by using parameters i.e. “persons”, “places” “things” and “times.”
- Language following “if”, “the only” and W words (“who” “what” “when” “where”, “whoever”, “whatever”, “whenever”, “wherever” goes in the subject term.
- Language following “only if” “only” “none but” “none except” and “no...except” goes in the predicate term.
- Propositions starting with ‘few’, ‘a few’, ‘almost all’, ‘all but a few’, ‘almost everyone’ must be translated as a compound of I and O propositions.
- Propositions of the form ‘All except S is P’ are translated as ‘All non S are P, and no S are P.’

Key word (to be eliminated)	Translation Hint
Whoever, wherever, always, anyone, never, etc.	Use “all” together with people, places, times
Few, several, many	Use “some”
If..... then	Use “all” or no”
Unless	Use “if not”
Only, none but, none except, no....except	Use “all”
The only	Use “all”
All but, all except, few	Two statements required
Not every, not all	Use “some..... are not”
There is, there are	Use “some”

Table Source: (Hurley and Watson, 2019, p. 267)

7.15 KEY WORDS

Exclusive Propositions: Propositions that assert that the predicate term applies exclusively only to the subject term.

Exceptive Proposition: Proposition that asserts that all members of some class, with the exception of the member of one of its subclasses, are members of some other class.

Parameter: An auxiliary symbol or phrase introduced to uniformly translate categorical propositions into standard form.

Singular Propositions: A proposition with a unit class, having only one member. Singular propositions assert or deny that the member has some specific attribute.

Standard form Categorical Propositions: Any categorical proposition of the form “All S is P” (universal affirmative), “No S is P” (universal negative), “Some S is P” (Particular Affirmative), “Some S is not P” (particular negative). They are known as A, E, I and O propositions respectively.

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7.17 ANSWERS TO CHECK YOUR PROGRESS

Check your Progress I

1. All roses are fragrant flowers
2. All skyscrapers are tall buildings
3. All dogs are animals that bark.

4. All pigeons are birds which fly.
5. Reet is a tennis player.
6. No neem leafs are sweet things.
7. Some cars are not spacious vehicles.
8. No insurance policies are policies which give good return claims.
9. All people identical to Rohan are people who are sitting at home or Rohan is a person who is sitting at home.
10. All cats are animals that climb the tree.
11. Some people are not subscribers of educational journals.
12. All things identical to moon are things that are full tonight.
13. All things identical to wine are things that I hate.
14. All ducks are swimmers.
15. Some birds are animals that fly during the winter.

Check your Progress II

1. All textbooks are useful.
2. All logic problems are difficult problems.
3. All tigers are mammal.
4. No fish is a mammal.
5. All children are human beings.
6. Some citizens are not voters.
7. No dogs are cats.
8. Some entertainers are actors.
9. Some sailors are courageous people and some sailors are not courageous people.
10. All students are eligible people.

11. Some students are not resourceful.
12. Some students are persons who are present here.
13. Some politicians are honest beings.
14. All flowers are beautiful things.
15. All emeralds are green gems.
16. Some lions are animals in the zoo.
17. All tigers are mammals.
18. No fishes are mammals.
19. Some tigers are animals that roared.
20. All children are human beings.
21. Some children are people who live next door.
22. All children are naughty.
23. Some players are not physically fit.
24. Some events are not well organized.
25. No parrots are blue things.

Check your Progress III

1. All mice are mammals.
2. All pieces of jewelry made of gold are expensive things.
3. All Camrys are Toyotas.
4. No turkeys are mammals.
5. All boys who do not misbehave are boys who will be treated decently.

6. All acts of violence are violence breeders.

7. Some things that glitter are not gold or Some glittery things are not gold.

8. All non Children are allowed to enter the cinema hall and No children are allowed to enter the cinema hall.

9. No dogs are birds.

10. All people who jump high are people who see the heights.

11. All those who deserve the fair are those who are brave.

12. All indispensable people are policemen.

13. All non children are allowed to do a job and No children are allowed to do a job.

14. Some policemen are at the station and some police men are not at the station.

15. All those who will be hired are accountants.