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A Study on Proposition and Sentence in English Grammar

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Abstract:

Proposition and sentence are two separate entities indicating their specific purposes, definitions and problems. A proposition is a logical entity. A proposition asserts that something is or not the case, any proposition may be affirmed or denied, all proportions are either true (1's) or false (0's). All proportions are sentences but all sentences are not propositions. Propositions are factual contains three terms: subject, predicate and copula and are always in indicative or declarative mood. While sentence is a grammatical entity, a unit of language that expresses a complete thought; a sentence may express a proposition, but is distinct from the proposition it may be used to express: categories, declarative sentences, exclamatory, imperative and interrogative sentences. Not all sentences are propositions, propositions express sentence. Sentence is a proposition only in condition when it bears truth values i.e. true or false. We use English sentences governed by imprecise rule to state the precise rules of proposition. In logic we use sentence as logical entity having propositional function but grammatical sentences are different from logical sentences while the former are having only two divisions namely subject and predicate and may express wishes, orders, surprise or facts and also have multiple subjects and predicates and the latter must be in a propositional form which states quantity of the subject and the quality of the proposition and multiple subjects and multiple predicate make the proposition multiple.

Keywords: Proposition, logical sentence, grammatical sentence, truth values, logical operators, analytical philosophy, language, utterances.

1. Introduction

Propositions are the material of our reasoning. Proposition is the logical unit of philosophy or we can say thinking. Propositions are sentences but only some sentences are able to take the position of proposition. The best quality for proposition is that it is either true (1,s) or false (0,s). A sentence is group of words which gives a complete sense or meaning. There are different type of sentences viz, exclamatory, negative, interrogative, optative, imperative but in order to become proposition sentence must satisfy same conditions which are necessary for proposition i.e.: sentence must contain three terms (subject, predicate, and copula) having truth values (true/false), must be in a declarative or assertive mood and must be a fact. A sentence is a grammatical entity belongs to a specific language. The question: how old are u? Who is your father? Is u a student? Which colour you like most? commands: go there, get out, shut up, take whatever available and exclamation: what a beautiful girl! what a book! Oh my God! How charming is you! are sentences. Such sentences don't have any truth values as they don't assert or deny anything. proposition thus of different from questions (which can be asked) and from commands (which can be given) and from exclamation (which can be uttered) none of these can be asserted or denied. Truth or falsity apply always to propositions but do not apply to questions, commands and exclamation. In logic, the word 'statement' is sometimes used instead of proposition which was advocated by the modern philosopher P.F. Strawson.

2. Objectives

The main objectives of this research problem are to distinguish logical proposition from grammatical sentence and to show the role of proposition or statement in field of classical logic (Aristotelian logic) and Symbolic logic (Mathematical logic). As we know inference is the subject matter of logic. The term refers to the argument in which a proposition is arrived at and affirmed or denied on the basis of one or more other propositions accepted as the starting point of the process. To determine whether or not an inference is correct the logicians examines the propositions that are the initial and end points of that argument and the relationships between them. This clearly denotes the significance of propositions in the study of logic. In this research problem propositions are differentiated from sentences on the basis of Quantity, quality and truth values. Sentence, its nature and structure is also analyzed in contrasted to propositions, their nature and structure.

3. Proposition

Proposition is that which is proposed or stated; the content of a declarative sentence capable of truth and falsity to grasp a proposition is to understand what is said, supposed, suggested and so on. The same proposition is expressed by two sentences from the same or

different languages, that are synonyms or correctly intertranslatable (where translation is judged without regard to tune, rhythm, and other implicatures). The doctrine of the indeterminacy of radical translation casts doubts on the objectivity of this test and some philosophers, notably Quine, have concluded that no respectable criteria of identity for proposition can be given for some philosophers. Propositions are the primary bearers of truth and falsity, with sentence only true and false deceptively, in virtue of expressing true and false propositions, but for others propositions are doubtful shadows of what is empirically given, which are utterances in specific contexts.

3.1. Propositions must be distinguished also from the sentences by means of which they are asserted.

Two different sentences consisting of different words differently arranged, may have same meaning and be used to assert the same proposition for e.g., "India won the 1983 cricket world cup" and "1983 cricket world cup was won by India" or plainly two different sentences that make the same assertion. Proposition is the term we use to refer to what it is that declarative sentences are typically used to assert sentences or parts of same language, but propositions are not tied to any given language. The four sentences:

1. It's raining (English)
2. Barsathorahihai (Hindi)
3. Mazhapawyunnu (Malayalam)
4. Bishtiporchhee (Bengali)

Are in different languages, but they have a single meaning; all four, using very different words, may be uttered to assert the very same proposition, are the same statement. The term statement is not an exact synonym of proposition, but it is used in logic in much the same sense. Some logicians prefer statement to proposition although the latter has been more common in the history of logic the same sentence can be used to make different statements if the context changes e.g., the sentence; the largest country in the world is third most populous country in the world was once a true statement or proposition about the Soviet Union, but it's now a false statement about Russia. Those very same words assert different propositions at different times.¹

3.2. Judgment and Proposition

Judgment refers to the process of thinking. Thinking involves judgment; therefore, judgment is a mental process. We think or judge though ideas and when these ideas constituting judgment are expressed in language, it is called proposition. Accordingly, we may say that proposition is an outer form of judgment where as judgment is a natural form of proposition. Judgment is a unit of thinking and it is wrong to assume that thinking begins concepts, but judgment and proposition are not identical, because is a mental process and have subjective to same extent but proposition is wholly objective, because a judgment becomes proposition when it is put into words and hence receives definitive form

3.2.1. Proposition

Logic is the science of ideas, we form ideas by the mental process of judgment. When this judgment is expressed in words it became a proposition of example, when I see a rose and I judge it to be red. The whole process is going in my mind, but the moment I say "this rose is red" make an assertion. This assertion is a proposition and let us consider certain facts of psychology of perception. And when I see a rose and judge it to be red I may also judge that rose in the garden and that it must be sweet smelling etc. but what I assert is limited to the fact that the colour of the rose is red my judgment is neither true nor false. Whereas a proposition is either true or false, because judgment is subjective and private while proposition is a meaningful assertion and is comprised of two terms subject and predicate related by a copula neither rose nor red are meaningful in themselves, only when the two are related do we have a meaningful idea. Accordingly, proposition is the basic unit of thinking.

A proposition is an assertion in which something is said of something; therefore, every proposition has two has two elements which are related in a particular way. The elements of a proposition are called terms and the word relating them is called copula. In the proposition "Aristotle was a wise man" Aristotle is the subject term "a wise man" the predicate term and "is" a copula.

- Subject: that about which something is said is the subject of a proposition.
- Predicate: what is said of the subject is the predicate.
- Copula: the copula of proposition is invisibly same form of verb "to be" i.e., "is" "are" etc. the copula may be positive or negative, that is it may show that, subject has certain attributes or may show it does not have them. However, the copula does not indicate whether the subject is existential or non-existential.²

4. Sentence: A Grammatical Unit

Sentence is the smallest unit of communication. The smallest entity whose production constitutes a message given such factors as variations of phonetics or spelling, recognition of two speech acts as the production of the same sentence is already a matter of interpretation, but one that is usually automatic to speakers of the same native language. Grammatically a sentence is the unit whose structure is subserved by other recognized features of a language. The priority of the sentence in much analytic philosophy is summed up in "Frege's dictum that that is it is only in the context of a sentence that words have meaning". The least controversial interpretation of the slogan is that for a word to mean anything is simply for it to contribute systematically to the meaning of whole sentences in which it is embedded. A word is not a thing with its own projection into parts of the world; instead, the presence of a word (or more accurately, a Morpheme) is a feature of a sentence. A more radical extension of the same line suggests that it is only in the context of a whole theory, or world view, or language, that a single sentence means anything. In the terminology of Dummett, according priority to words is semantic 'atomism' to sentences; 'molecularism' and to anything larger 'holism'.⁴

5. Sentence: A Logical Unit

Aristotle maintained that a single proposition was always either the affirmation or the denial of a single predicate of a single subject: 'Socrates is sitting' affirms 'sitting' of Socrates. 'Plato is not flying' denies 'flying' of Plato. In addition to simple predications such as those illustrated here, with individuals as subjects, he also regarded sentences with general subjects as predications: 'All Greeks are humans; 'dogs are mammals; 'cats are not bipeds' (Here he parts company from modern logic, which since Frege has seen such sentences as having a radically different structure from predications). Aristotle's logical theory is in effect the theory of general predications. In addition to the distinction between affirmation and denial, general predications can also be divided according as the predicates is affirmed or denied of all (universal) or only part (particular) of its subject. There are then four types of general predications.

- Affirmed (affirmative). Denial (negative)
- Universal Every human is mortal. No human is mortal.
- Particular " Some humans are mortal " Not every human is mortal".⁵

Despite their diversity, natural languages have many fundamental features in common. From the perspective of universal grammar (see.g. Chomsky 1986), such languages as English, Navajo, Japanese, Swahili, and Turkish are far more similar to one another than they are to the formal languages of logic. Most obviously, natural language expression falls into lexical categories (parts of speech) that do not correspond to the categories of logical notation, and some of them have affixes, including prefixes, suffixes, and markings for tense, aspect, number, gender, and case moreover, logical formalisms have features that language lack. Such as the overt presence of variables and the use of parenthesis to set off constituents. The conditions on well-formed formulas in logic. (WFFS)⁶ are far simpler than those of a well formed (Grammatical) sentences of natural language, and the rules for interpreting WFFS are far simpler than those for interpreting grammatical sentences compare any book on syntax and any book on formal logic and you will find many further differences between natural languages to documents those differences in detail fortunately, we will be able to discuss particular examples and some general issues without assuming any particular syntactic framework.

We will focus mainly on logically significant expressions (in English) such as 'and', 'or', 'if', 'some' and 'all' and consider to what extent their semantics is captured by the logical behaviour of their formal counterparts, 'and', 'or', '^', 'v', 'horse shoe', (or, >), there exists, for all, rendering 'if' as the material conditional 'horse shoe' is notoriously problematic, but, as we shall see, there are problems with the others as well in many cases, however, the problems are more apparent than real. To see this, we will need to take into account the fact that there is a pragmatic dimension to natural language.

Sentences of English, as opposed to (interpreted) formulae of logic, not only have semantic contents but also are produced and perceived by speakers (or writers) and listeners (or readers) in concrete communicative contexts to be sure, logical formulas are also produced and perceived by particular people, but nothing hangs on the fact that they are so produced and perceived. In ordinary speech (or writing), it is not just what a sentence means but the fact that someone utters (or writes) it plays a role in determining what its utterance conveys (Bach 1999 a). So, for example there is a difference between what is likely to be conveyed by utterances of (1) and (2).

1. Abe felt lousy and ate some chicken soup.
2. Abe ate some chicken soup and felt lousy.

And the difference is due to the order of the conjuncts yet 'and' is standard symbolized by the conjunction '&' and the logic the order of conjuncts doesn't matter. However, it is arguable that (1) & (2) have the same semantic content and that it is the fact that the conjuncts are uttered in a certain order, not the meaning of 'and' that explains the difference in how the utterances are likely to be taken. One recurrent question in our discussion is to what extent rendering natural language sentences into logical notation exhibits the logical formula of those sentences in addressing this question, we will need to observe a distinction that is often overlooked, it is one thing for a sentence to be rendered into a logical formula and quite another for the sentence itself to have a certain logical form. When philosophers refer to the logical form of a sentence, often all they mean is the form of the (interpreted) logical or semi-logical formula used to paraphrase it, often for some ulterior philosophical purpose, for example to avoid any undesirable ontological commitments (see Quine 1960) or to reveal the supposedly true structure of the proposition it expresses. A logical paraphrase of a natural language sentence does not necessarily reveal inherent properties of the sentence itself. However, as linguists construe logical form, it is a level of syntactic structure, the level that provides the input to semantic interpretation, the logical form of a sentence is a property of the sentence itself, not just of the proposition it expresses or of the formula used to symbolize it.

The difference is evident if we consider a couple of simple sentences and how they are standard symbolized:

3. there are quarks.
4. Some quarks are strange.

In first order predicate logic (3) and (4) would be symbolized (3PI) & (4PI).

(3PI) (there exists) $\exists x$

(4PI) (there exists) $(\exists x \& Sx)$

Whereas (3) expresses an existential proposition & (4) apparently does not, both sentences are symbolized by means of formulas containing an Existential quantifier.⁷

(A sentence is Atomic if it contains no Sentential connectives. Thus the sentence Mr. Copi loved Lucy is atomic, while the sentence Lucy did not love Frank Churchill.

Mrs Elton was a snob & Miss Bates a bore are not atomic, for the first contains a negative & the second a conjunction). In Sentential logic, sentences from every language are translated into a notation using terms, predicates, quantifiers, and Sentential connectives e.g. some juniors are pretty ($\exists x, \exists x$).⁸

6. Relation between Sentence and Proposition

As we know that proposition is a logical unit and sentence is a grammatical unit. Propositions are stated using sentences. However, all sentences are not propositions for example the sentences:

- (a) Snakes are poisonous
- (b) Some students are hard workers

are the two statements that are assertions and we can say of these statements that they may be either be true or false. Therefore, they are propositions.

Let us consider some sentence which is not propositions I.e.

- (a) How old are you.
- (b) May God bless you.
- (c) What a car.
- (d) Vote for me.

May God bless you, is a ceremonial statement and it is neither true nor false. Therefore, such statements are not propositions.

'What a car' is exclamatory and has nothing to do with being true or false. Exclamatory sentences are not propositions. 'Vote for me' is an appeal or command. We cannot attribute truth or falsity to it. Therefore, evocative statements are not propositions.

However, we can't say whether or not the question "How old are you"? is true or false. The essence to the question 'I am 16 years old' may be true or false. The question is not a proposition, while the answer is a proposition.

6.1. Sentential Connectives

In the propositional calculus, the words 'and' and 'or' are commonly rendered as truth - functional, binary Sentential connectives, 'S1 and S2' is symbolized as $p \& q$, true if 'p' is true and 'q' is true, & 'S1 or S2' as ' $p \vee q$ ' true if 'p' is true 'q' is true.⁹

Formal logic is primarily concerned with sentences and predicates. But philosophical logic must be concerned with propositions and properties. Both propositions & sentences can be asserted or said and both predicates and properties can be predicated or attributed or said of. But propositions and properties are more important for philosophy, which makes for problems in the assimilation of formal logic and its impressive results. The great precision and secure consistency of some systems of formal logic may seem to point in favour of nominalism but we can continue to value this precision while keeping open the possibility of a consistent use of propositions and properties in philosophy.

6.2. Sentential logic in Aristotle and Afterwards

Aristotle never developed an account of Sentential logic (the inferences that rest on Sentential operators such as ('and' 'or' 'if' 'not')). In my opinion, this is closely connected with his use of his logical theory in the posterior Analytics. His argument that 'every regress terminates' can only work if the logic of arguments 'in the figures' is the only logic there is; & for that to be so, every proposition must either affirm or deny a predicate of a subject, in fact, Aristotle thinks that this is so, and he undertakes to show it in the prior Analytics. This requires him to reject Sentential composition. He does not recognize conjunction, disjunction, or conditional as individual proposition. Precisely how this is to work is not clear, though we can discern a few details. For instance, because he treats affirmations and denials as two basic types of sentences, he does not think of negations as compound sentences, he appears to regard conjunctions not as single compound sentences but only as, in effect, collections of sentences (I.e. their conjuncts), and he treats conditionals not as assertions but as agreements to the effect that one sentence (the Antecedent of the conditionals) entails another (the consequent). Subsequent logicians, including Aristotle's own close associate Theophrastus, did not follow him in this and instead offered analysis of the role of Sentential composition in arguments with Chrysippus, this develops into a full - fledged Sentential logic, resting on five, Indemonstrable, forms of inference. The Stoics stated that these using ordinal numbers as place - holders for propositions:

1. If the first, then the second, the first; therefore, the second.
2. If the first, then the second, not the first; therefore, not the second.
3. Not both the first & the second; the first; therefore, not the second.
4. Either the first or the second; the first; therefore, the not the second.

5. Either the first or the second; not the first; therefore, the second. Russell's early ontology, posited the existence of a true or false 'proposition' as the meaning of an 'asserted' sentence and this is the easily conflated with the postulation of utterances construed as the 'meaning' of a given type of speech act. Linguists tend to assume that languages must be semantically analyzed in terms of mental constructs. Philosophers favour ontological approaches that render semantic analysis of natural language in terms of intentional entities such as properties, propositions, nonexistent objects & the like. Both the approaches to semantics leave themselves open to a blurring of the semantics / pragmatics distinction. Proposition, for instance may seem like utterances, assertions, or speech acts of a sort, made an occasion of use. But 'reference' and 'truth' which are normally semantic notions, are not properly semantic when taken to be the properties of utterances, utterances involve the production of token of certain types of speech act, and belong to the pragmatic study of how context of utterance and speaker's intent contribute to the communication of meaning. In Austin's theory of speech act for instance, utterances of complete sentences are classified as 'locutionary', 'illocutionary' or 'perlocutionary', acts of referring and communication of one's intended reference, are components of illocutionary speech acts. When an illocutionary act is a

statement or a predication or other 'connective' act, it may be said to be true or false. These notions of reference & truth are a part of pragmatics & not Semantics.¹⁰

6.3. Nyaya Philosophy on Logical Structure of the Sentence

The question is: what is a sentence and how does it become intelligible? A sentence, we are told, is a group of words (pada) arranged in a certain way. A word, again is a group of letters arranged in a fixed order. The essential nature of a word lies in its meaning. A word is that which has a fixed relation to some object, so as to recall it whenever it is heard or read i.e. it means an object. So we may say that words are significant symbols. This capacity of words to mean their respective objects is called their Shakti or potency, and it is said to be due to the will of God. That a word has a fixed and an unalterable relation to certain things only, or that this word always means this object and not others is ultimately due to the supreme Being who is the ground and reason of all the order and uniformity that we find in the world.

A sentence (Vakya) is a combination of words having a certain meaning. Any combination of words, however, does not make a significant sentence. The construction of an intelligible sentence must conform to four conditions. These are Akanksa, Yogyata, Sannidhi, and Tatparya.

By Akanksa or expectancy is meant that quality of the words of a sentence by which they expect or imply one another generally speaking, a word cannot by itself convey a complete meaning. It must be brought into relation with other words. In order to express a full judgment. When one hears the word 'bring' he at once asks 'what'? The verb 'bring' has a need for some other words denoting some object or objects, e.g. the jar. Akanksa is the mutual need that the words of a sentence have for one another in order to express a complete sense. The second condition of the combination of words in a sentence is their Yogyata or mutual fitness. It consists in the absence of contradiction in the relation of objects denoted by a sentence. When the meaning of a sentence is not contradicted, there is Yogyata or fitness between its constituent words. The sentence "moisten the fire" is devoid of meaning, because there is a contradiction between fire, and moistening.

Sannidhi or Asatti (proximity) is the third condition of verbal knowledge it consists in the juxtaposition or proximity between the different words of a sentence. If there is to be an intelligible sentence, then its constituent words must be continuous with one another in time or space. Spoken words cannot make a sentence when separated by long intervals of time similarly, written words cannot construct a sentence when they are separated by long intervals of space. Thus the word (bring-a-cow) will not make a sentence when uttered in three days or written in three pages, even though they possess the first two marks of Akanksa or expectancy and Yogyata or fitness. Tatparya as a condition of verbal knowledge stands for the meaning intended to be conveyed by a sentence. A word may mean different things in different cases whether it means this or that thing in a particular case depends on the intention of the person who uses the word. To understand the meaning of a sentence, therefore, we must consider the intension of the writer or the speakers who uses it. Thus when a man is asked to bring a 'bat', he is at a loss to understand whether he is told to bring a particular kind of animal or a wooden implement, for the word means both. This can be found out only if we know the intention of the speaker. Hence the understanding of a sentence depends on the understanding of its Tatparya or intended meaning. In the case of ordinary sentences used by human beings, we can ascertain their Tatparya from the context (prakarana) in which they are used. For the understanding of the Vedic texts we are to the help of the logical rules of interpretation systematized by the Mimamsa.¹¹

There is no great distinction between statements and performative utterances. "the relation between the performative utterances and the statement of various kinds which certainly are true or false we mentioned as especially notable connections, if the performative utterance 'i apologize' is happy, then the statement that i am apologizing is true.

Act(A) or locution

He said to me 'shoot her' meaning by 'shoot' shoot and referring by 'her' to her

Act (B) or illocution

He urged (or advised, ordered) me to shoot her.

Act (Ca) or perlocution.

He persuaded me to shoot her

Act (Cb)

He got me to (or made me,) shoot he.

Three kinds of acts or statements -the locutionary, the illocutionary, and the performative are mentioned by Jhon Langshaw Austin in his work "How to do things with words".

It was the assumption of philosophers that the business of a 'statement can only be to describe 'some state of affairs or to state some fact, which it must do either truly or falsely. Grammarians, indeed, have regularly pointed out that not all sentences are (used in making) statements. there are traditionally besides (grammarians) statements, also questions and exclamations, and sentences expressing commands or wishes, or concessions and doubtless philosophers have not intended to deny this, despite some loose use of 'sentence' for statement. Doubtless, too, both grammarians and philosophers have been aware that it is by no means easy to distinguish even questions, commands, and so on from statements by means of the few grammatical marks available, such as word order, mood, and the like.¹²

(what are we to call a sentence or an utterance of this type? I propose to call it a performative sentence or a performative utterance, or, for short, 'aperformative' the term 'performative' will be used in a variety of cognate ways and constructions, much as the term 'imperative' is. The name is derived, of course, from 'perform' the usual verbs with the noun 'action' it indicates that the issuing of the utterance is the performing of an action. Sentences form a class of 'utterances' which class is to be defined, so far as I am concerned, grammatically, though I doubt if the definition has yet been given satisfactory with performative utterances are

contrasted, for example and essentially, 'constative' utterances: to issue a constative utterance (i.e. to utter it with a historical reference) is to make a statement. To issue a performative utterance is, for example, to make a bet.¹³

7. Conclusion

Logical sentences which we analyze in the field of Mathematical logic or symbolic logic is different from grammatical sentence which expresses questions, imperatives, exclamatory, optatives, wishes, orders, emotions etc., although sentence which expresses Assertions is included as a proposition or statement. We can say that all terms are words but all words are not terms likewise, all propositions are sentences but all sentences are not propositions. Propositions or statements are the basic units of making logical judgment which from the Greek philosophy up to contemporary era had been used with the names of concepts, judgments, truths and assertions. Thus proposition is logical entity which express sentence but grammatical sentence cannot express proposition.

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