

# Atomic Propositions in the Philosophy of Language

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## Abstract

Atomic propositions and their properties are the core of the philosophy of language. To define atomic propositions, it is necessary to clarify their nature. To this end, Frege, Russell, and Wittgenstein tried to understand the nature of atomic propositions by examining their unity. The question of the unity of atomic propositions has not been uniformly resolved, however. Frege and Russell largely agreed on the category and role of propositions, thinking that the object represented by a proposition is a Platonic abstract entity, but they had different understandings of the unity of propositions. Wittgenstein took a different approach, holding that the object of a proposition representation is the linguistic picture entity. Based on this understanding, the problem of examining the unity of atomic propositions becomes the problem of examining the representation form and content of the proposition, thus avoiding the formal ontology of propositions. Atomic propositions are the basic unit formed by the cognitive subject in the activity of representing the world, and their nature is the unity of the transcendental intentionality of the cognitive subject and the experiential activity.

## Keywords

Philosophy of Language, Frege, Russell, The Early Wittgenstein, Atomic Proposition, Propositional Properties

## 1. Introduction

Atomic proposition is the core concept in the philosophy of language. Russell once said that all credible philosophy should begin with the analysis of propositions (Russell, 1992: p. 9). Defining atomic propositions requires an explanation of the nature of atomic propositions. The key to this task is to show the unity of propositions.

The unity of the proposition is an old philosophical idea. The unity problem is when we have a list of words, for example, apples, are, sweet. This string of words is obviously different from the sentence “apples are sweet”. The former is a string of words that does not say anything, it’s not a sentence; The latter is a complete sentence that has something to say, and the proposition that the sentence expresses has content. Then we need to explain how strings of words combine together to form a complete proposition. Plato examined it in *Sophist*, and early analytical philosophy paid special attention to it. Davidson argues that without a theory of this unity, the philosophy of language would be missing one of its most important chapters (Davidson, 2008: p. 77). The answer to the question of propositional unity is to explain what a proposition is by clearly stating how it represents the world and thus has truth conditions (Soames, 2014: p. 33). Thus, to define atomic propositions, it is necessary to clarify the question of the unity of atomic propositions and explain how the components of propositions are connected.

## 2. Frege’s and Russell’s Understanding of the Unity of Atomic Propositions

Frege and Russell largely agreed on the category and role of propositions, and considered propositions to be the Platonic objective abstract entity. Nevertheless, they differed in their understanding of the unity of the proposition.

### 2.1. Frege’s Understanding of the Unity of the Atomic Propositions

Frege committed himself to the epistemological goal of providing a logical basis for arithmetic, and opposed psychologism, opening up the study of logic in the modern sense. Frege was then able to serve philosophy by analyzing language logically. His understanding of propositional unity was based on the unique logicist position that he developed.

Atomic propositions are the core of Frege’s philosophy, and the basic element of logical analysis. Frege shows that logic must deal with the smallest unit: the proposition. Moreover, atomic propositions are closely related to Frege’s theory of meaning. Frege’s proposition, or thought, is an objective abstract entity independent of mind and language (Sacchi, 2006). Frege held that atomic propositions are the original bearer of truth value, and their representational power is inherent.

Propositions are expressed through language. Consider, for example, the sentence “Socrates is wise” If one were to divide this sentence, one would naturally divide it into “Socrates,” “is,” and “wise.” But the enumeration of these parts does not have the completeness and unity of a sentence. These individual parts, or enumerations of parts, are not whole parts that can be true or false, so they are different from complete sentences. This is known as the unity problem.

Frege’s answer to the question of the unity problem is based on his unique logicist position. How the propositional elements are connected to form a unified whole needs to be explained in two respects: the propositional elements

themselves and the connections between the components. Frege's atomic propositional component consists of a saturated part and an unsaturated part, which can be explained as follows. Frege distinguished between functions and arguments: the parts of a symbolic expression that do not change are functions, and the replaceable parts are arguments. Frege used the example,  $2 \cdot 1^3 + 1$ ;  $2 \cdot 4^3 + 4$ ;  $2 \cdot 5^3 + 5$ . One can find the common part from these expressions, that is,  $2 \cdot x^3 + x$  after removing the  $x$  part  $2 \cdot ()^3 + ()$ . Frege said that this common part reflects the essential characteristics of the function (Frege, 1997), that is, the function itself is incomplete and unsaturated. The argument part is different from the function. It is independent, saturated, and can form a unified whole with the function. Frege emphasized that functions are fundamentally different from numbers.

The distinction between saturated and unsaturated applies at the linguistic, meaning, and referential levels (Hanks, 2022). A basic logical proposition consists of an object and a concept. The object and concept correspond to a proper name and a predicate, and at the level of meaning there is a mode of presentation of a proper name and a mode of presentation of predicate. Frege emphasizes that the saturated and unsaturated part of a proposition must be regarded as a primitive feature of the logical structure, which can only be recognized and accepted, and cannot be reduced to something more primitive (Frege, 1960).

Frege's propositional component must be considered as being "derived from the disassembly of the propositional totality," Frege said, "I do not begin with concepts and put them together to form an idea and a judgment; I take apart the 'thought' as a whole and get the parts of the thought (Frege, 1979: p. 253)." How, then, can such components be connected into a unified whole that represents the world and has truth conditions?

Frege first distinguishes between saturated and unsaturated components at the linguistic, meaning and referential levels, respectively, by distinguishing between functions and arguments. Second, he identifies which expressions fit together and which do not, and combines the two parts by filling in the unsaturated components with the saturated components to form a unified whole. Frege believed that the unity of a proposition comes from this process of saturation making it complete. Frege said, that

"not all the constituent parts of an idea are complete, but at least one of them must be "unsaturated" or predicative, otherwise the constituent parts cannot be held together... In the sentence "The number 2 falls under the concept of prime", what is used to join is contained in "... fall under." (Frege, 1951: pp. 179-180)

Frege's unity of proposition is then the unity of the sense level, and the propositional components are the mode of presentation of proper names and the mode of presentation of concepts. The realization of the unity of proposition is the realization of the saturation process between the mode of presentation of the proper name and the mode of presentation of the concept.

Propositional sentences express propositions, and the unity of sentences is a

reflection of the unity of propositions (Morris, 2008: p. 79). Frege's basic logical proposition = object + concept. Frege's proper name (subject) has a wide range of words, signs, combinations of signs, and expressions (Frege, 1997) that can represent or identify an object. In everyday language, there are simple proper names, "singular items," whose grammatical form begins with the definite article. Concepts are equivalent to predicates. According to Frege's, atomic propositions are expressed as  $f(x)$ ;  $f(x,y)$ , where " $f()$ " is the concept or predicate, and  $x$  is the object or subject. Thus, " $f(x,y)$ " contains two objects.

Frege's atomic proposition can be expressed as follows: simple proper name + predicate; or singular term + predicate. For example:

- (1) Mo Yan is a Nobel Prize winner.
- (2) The author of *The Wine Country* is a Nobel Prize winner.

The unity of sentences (1) and (2) comes from the unity of the proposition, which comes from the process of saturation. If this is an illustration of the unity of proposition, Frege faces a problem that poses a threat to the perception of propositional unity. First, Frege introduced function and argument in the Begriffsschrift, and then extended the function by introducing the symbols "=", ">," and "<" and introducing the function— $X$ , this function is a function whose value is always a truth value. Thus, the position of the argument is expanded from just  $x$  to, for example,  $(x^2 = 1)$ . Frege distinguishes between hierarchies of concepts, in which the position of objects can now be a function, meaning that a proposition can take the form of concepts filling concepts.

Frege's atomic statement can then be expressed in the following form:

- (3) Horse exists.
- (4) All horses are mammals.

In both examples, the position of the argument is a first-order concept, the position of a function is a second-order concept. Taking example (3), one can divide it into the first-order concept "x is a horse" and the second-order concept "There is some x, this x ...". Then, by filling in a second-order concept with a first-order concept, one gets "There exists some x, and this x is a horse".

Consider the following two sentences:

- (5) There is at least one square root of 4.
- (6) The concept of the square root of 4 is satisfied.

Sentence (5) "There exists at least one square root of 4" expresses the concept "the square root of 4" is not empty. In sentence (6) of the same meaning, "the concept of the square root of 4 is satisfied", "the concept of the square root of 4" is a syntactic form with the definite article added, and is a proper name in Frege's conception. The latter is an expression of the object, that is, it is satisfied. The aforementioned problem is often referred to as the concept paradox. The concept "horse" can be expressed as "x is a horse," but "the concept horse" as a whole becomes a Fregean proper name, which refers to an object, not a concept.

Thus, the distinction between the saturated and the unsaturated concept is destroyed. According to Frege, the fundamental distinction of component types and the process of saturation between components are the reasons for propositional unity. In addition, even if one still relies on the saturation process to explain the unity problem, then through functional relations, the complete logical statement is produced by the argument filling the function vacancy. But at the sense level, the propositional components are a mode of presentation of objects and a mode of presentation of concepts. How can they form complete thoughts? And an objective abstract entity independent of mind and language, can we know the unity process realized within this kind of entity? Frege fails to make a clear statement about the unity of proposition. Russell, however, had a different view of this problem, which he thought could be solved in another way.

## 2.2. Russell's Understanding of the Unity of Proposition

Russell opposed idealism from the nature of atomic propositions. His explanation of the nature of atomic propositions is a refutation of the idealist position and establishes his own objectivist position. His understanding of the unity of atomic propositions is based on his theory of entity and the theory of external relations.

Like Frege's, Russell's atomic propositions are abstract entities, but unlike Frege's, these entities are entities in the real world. Russell held that propositions are objects of assertion or belief, and that there is a primary binary relationship between the asserting or believing person and the object of assertion or belief (proposition) (Candlish, 2007). Russell indicated that such propositions are compound entities that contain simple entities as their constituent parts. These entities are called "terms", terms are things in the world, they are individuals, entities, or units as one. These terms are the entities represented by linguistic expressions (Russell, 1903, 2009b). For example, the statement "Aristotle respects Plato" is the fact "Aristotle respects Plato," which has three separate physical components, Socrates the person, respect relations, and Plato the person. In Frege's terms, these propositional components are all saturated.

Russell's atomic proposition embodies the two aspects above: on the one hand, an atomic proposition is the object of belief or assertion, and there is a primitive duality between mind and propositional entity, on the other hand, Russell's proposition is the fact, whose components are entities in the real world, and there is no type difference between the components.

According to Russell in *The Principles of Mathematics*, propositional statements include the entities referred to by nouns, verbs, and adjectives that act as predicates, i.e., object, relation, and attribute entities. Russell divides these entities (terms) into terms as things, which include objects, and terms as concepts, which include relation and attribute entities. The logical written form is  $R1(x)$ ;  $R2(x,y)$ ;  $R3(x,y,z)$ . Then, Russell's atomic propositional expression is:

(7) Socrates is a man.

(8) Socrates is dead.

(9) Socrates was a philosopher.

(10) Socrates respects Plato.

A proposition is a unity; it consists of substance and is itself substance (Russell, 1903, 2009b: p. 45). Propositions as a unified whole are different from mere enumerations of words. The elements of a proposition are joined together and “say something of something”, whereas the mere enumeration of words, such as “Socrates,” “respect,” and “Plato,” is obviously not unified in its arrangement. Russell could not deny the unity of proposition. Why, then, is a proposition forming a unity?

Russell’s understanding of the unity of propositions can be examined through sentence (7). Russell says that “Socrates is a man” consists of three elements, Socrates, humanity, and verbs, corresponding to objects, property, and relations. Russell believed that the source of the unity is the propositional verb (Russell, 1903, 2009b), which is the relation. But in “Socrates is a man,” the verb “is” cannot be used to express a relation, and yet there must be a relation between Socrates and humanity. This relation is the key to propositional unity. The relation is asserted by the verb. If there is no verb in the composition, then where is the verb, and where is the relation asserted by the verb?

Russell thought that this relation is implicit in the proposition, and the truth of the proposition requires Socrates to have an exemplary relation to humanity. Russell shows that this relation is not an assertion of terms but an assertion of referents (Russell, 1903, 2009b: p. 50). According to Russell, a logical verb in a proposition is always asserting a relation, the implied relation, the relation that actually relates. But Russell also insisted that “every element of every proposition must be able to be the logical subject, or it would contradict itself (Russell, 1903, 2009b: p. 49)”. So a verb can also be the subject. Sentence (8) can be used to discuss this point. Russell argues that “Socrates dies” can be transformed into “the death of Socrates” as a logical subject, which is not true or false. A problem arises here, however.

The whole proposition, by becoming a logical subject, is no longer asserted and no longer contains true and false. According to Russell, in “Socrates is dead,” propositional verbs assert relations, actually relating propositional components, and the unity of proposition is achieved. But when sentence (8) is turned into “the death of Socrates,” then

if we ask what the proposition “Socrates” asserts, the answer must be “the death of Socrates is asserted,” which means that “the death of Socrates” is true or false, but true and false do not belong to simple logical entities (Russell, 1903, 2009b: p. 49).

Russell explains that “the death of Socrates” has an external relation to truth and falsehood. But there is a problem here. In Russell’s view, the verb is an independent term, meaning that it belongs to the group that needs to be related, not to the group that actually relates. This means that the verb is still the same

verb, but it has changed its identity. So the verb has two identities, one as a term that needs to be related, and one as a verb that actually relates propositional elements. The contradiction that Russell faced was that the former destroyed the unity, while the latter achieved it. According to Russell, “verbs, when used as verbs, embody the propositional unity and are therefore distinguished from verbs as terms. Although I do not know how to state clearly the exact nature of this distinction.” (Russell, 1903, 2009b: pp. 50-51) Because of this paradox, the unity of proposition cannot be fully explained.

In addition to the contradictions above, Russell also faced the difficulty of false propositions. According to Russell’s view of propositions, propositions are objects of belief or assertion (Russell, 1904), and propositions are facts. Consider sentence (9): the object of one’s belief that “Socrates is a philosopher” is the proposition “Socrates is a philosopher” and the fact that “Socrates is a philosopher.” The proposition contains an element of reality. Russell said that when one believes “Socrates is a philosopher,” the belief has an object. If the object does not exist, one believes nothing, but false propositions can be found everywhere.

To avoid absurdity, Russell said that if beliefs always have an object, then there are objective non-facts (Russell, 1907) that have the same status as facts. Both true and false propositions are structured complex entities, and both conform to Russell’s description of the unity of propositions. Take “Socrates is a calligrapher” as an example. Propositional verbs guarantee the unity, verbs assert Socrates’ exemplary relation to properties of being a calligrapher, and so propositions are true. But Socrates was not a calligrapher. These contradictions posed a challenge to Russell’s account of the unity of propositions.

To explain the unity problem clearly, Russell abolished the unity of propositions and replaced it with the unity of propositional attitude. In the propositional attitude complex (Russell, 2009a: pp. 147-151), in addition to a series of relations between the mind and the constituent components of facts, there is also a relation connecting the mind and all these components into a unity. In this case, the unity of propositional attitude is the bearer of truth. This solution allowed Russell to avoid the false proposition difficulty, but he still faced many challenges, and without propositional unity, Russell’s theory allows the judgment of such meaningless things as “this desk pen holder this book.” To this end, Russell introduced logical forms to limit this, but he also faced the problem of order. These problems make it impossible for Russell to fully explain the unity problem of propositions. Wittgenstein saw Russell’s dilemma and put forward his different understanding of the problem. In Wittgenstein’s view, the problem above can be easily avoided.

### **3. The Unity Problem in Wittgenstein’s Early Philosophy**

Wittgenstein thought deeply about the problems faced by Frege and Russell and stated that Frege’s view that propositions are names and Russell’s view that propositions are complexes are incorrect. Wittgenstein believed that a proposi-

tion is not a mixture of words, and the object represented by a proposition is not a Platonic objective abstract compound entity, but a linguistic picture entity (Wittgenstein, 1961, 2021). Wittgenstein changed people's understanding of the nature of atomic propositions from the examination of Platonic objective abstract entity to the examination of the representational form and content of atomic propositions. He also solved the contradiction faced by Frege and Russell, and put forward a different understanding of the nature of atomic propositions.

Wittgenstein's view of atomic propositions cannot be separated from the understanding of his worldview: "Wittgenstein's worldview is not an objective worldview, but a factual worldview." (Du, 2019: p. 79) Wittgenstein believed that "the world is all that the case" (Wittgenstein, 1961, 2021: p. 56) and that "the world is the totality of facts, not of things (1.1)." Things that happen are facts. For Wittgenstein, the world, language and thought all three have the same logical structure, they are isomorphic. The totality of facts is the world, thoughts are the logical picture of facts, and the totality of propositions is language.

What actually happens is fact, the existence of state of affairs. State of affairs is the combination of objects (things), in which objects and things are connected to each other like the links of a chain (2, 2.01, 2.03). According to Wittgenstein, the fact that objects and things can appear in fundamental states means that such a possibility must have existed in them from the beginning. To know an object is to know all its possibilities in the fundamental state. Every possibility must be in the nature of the object, logic deals with every possibility, and all possibilities are logical facts. If it is possible to imagine objects and things combined in state of affairs, then they cannot be imagined without the possibility of such a combination. In order to know an object, one does not need to know its external properties, but one must know all its internal properties. The form of an object is its probability of appearing in state of affairs (2.0121, 2.01231). The possibility that the object can be combined with other objects into a state of affairs is its form, its essential property.

They are simple, they constitute the substance of the world, and cannot be compound (2.02). Wittgenstein holds that substance remains the same in all possibilities, is a common form, and substance is both form and content. The possibility that the object contains all events (2.014) can have a form only if the object exists. If there are no entities, then the meaning of one proposition depends on the truth of another, and no picture of the world can be formed (2.0211, 2.0212).

The way in which objects are connected in a state of affairs is the structure of that state of affair, and the form is the possibility of the structure. The form of the elementary state of affairs is the possibility of the existence of some facts; the form of the elementary state of affairs is carried in the form of the object, and as the object exists, the elementary state has content. The object is fixed, but it is also the source of change (2.0271). The object, as a simple object, also contains

the relation itself.

A proposition is a picture of reality, a model of reality as one imagines it, in which the elements of the picture correspond to the object, represent the object, and relate to each other in a certain way. Such relations are the structure of the picture, and the possibility of the structure is the form of the picture, and the form of the picture is this possibility. It is possible for things to be connected with each other in the same way as the picture elements, and thus the picture is connected with reality. The picture touches reality directly (2.13, 2.131, 2.14, 2.15). This can be seen more clearly through Wittgenstein's analogy: "The world is put together experimentally in propositions (as a car accident is shown in a Parisian courtroom with a borrowed model car, etc.)." (Wittgenstein, 1961: p. 7) The model and reality have a common form, and so the model cars in the courtroom can be moved to reconstruct the actual accident so that those in the courtroom can know what happened at the scene of the accident. Wittgenstein said that the model car corresponds one-to-one to the actual car, the model car represents the actual car, the actual car can be configured like the car in the model, and the configuration possibility series between the model is the same as the configuration possibility series in reality. Wittgenstein cited Hertz's model of theoretical dynamics to show that the same number of elements in two systems means that they have the same series of combinatorial possibilities.

A picture form is a logical form, and a picture is a logical picture (2.181). The logical picture of fact is thought; a state of affairs is conceivable, showing that one can draw it for oneself; and the totality of true thoughts is a picture of the world (3-3.01). Thoughts in propositions are expressed in such a way that they can be perceived by the senses.

Atomic propositions assert the existence of a state of affairs that cannot be contradicted by any other atomic proposition. Atomic propositions consist of names, which are a combination of names, a link (4.21-4.22). A name appears in a proposition only when it is associated with an atomic proposition. A proposition is an expression that agrees or disagrees with the truth possibility of an atomic proposition, a proposition is the truth function of a proposition (the atomic proposition is its own truth function), and in a proposition the idea is expressed by the element of the object of the thought corresponding to the sign of the proposition. These elements are the "simple signifiers," and the proposition is fully analytical (4.23, 4.4, 5, 3.2, 3.201).

The simple indication used in the proposition is called A name, the name refers to the object, the object is the reference of the name ("A" and "a" are the same sign), and the configuration of the simple sign in the propositional sign corresponds to the configuration of the object in the case (3.202, 3.203, 3.21). Names represent objects in propositions. A proposition can only say how things are, not what they are (3.221). Propositions refer to elements that are combined in some definite way, and propositions refer to facts. Imagining that propositional signs are made of spatial objects (tables, chairs, and books) rather than written ones makes their nature clearer, so that the spatial arrangement of these

things expresses propositional meaning (3.1431). Events in propositions are experimentally combined, and the way names in atomic propositions are arranged in sentences corresponds one-to-one to the way objects are arranged in atomic facts, and they have a common form.

Frege argues that a fundamentally different type of unsaturated component is needed to achieve the unity of the proposition. Russell, on the other hand, believed that the unity of proposition cannot be achieved without an external non-constituent element that actually relates the propositional components. Wittgenstein showed that no such thing is needed, and propositions do not arise from such a process of connection. So what should be said about the unity of propositions? Wittgenstein believes that it is the form and content that guarantee the unity of propositions.

If section 2.03 is the starting point for this view, Wittgenstein points out that the objects of the state of affairs are connected to each other like the links of a chain. Wittgenstein further illustrates this point by commenting on his translation of section 2.03 in a letter to Ogden (Wittgenstein, 1973: p. 23). Wittgenstein points out that no external third party is needed to connect the objects. The chain itself is already connected. In the context principle set out in section 3.3, Wittgenstein shows that only propositions have meaning; names have meaning only in the context of propositions.

Names do not appear to Wittgenstein as elements that need to be connected in a proposition. He goes on to say that each part of a proposition that represents its meaning is called an “expression” (word or symbol) and that the proposition itself is an expression. Anything that can be shared by all propositions and contributes substantially to the meaning of a proposition is an expression.

An expression marks a form and a content. It is the characteristic mark common to a class of propositions. The expression is presented as a variable whose value is the proposition containing the expression (3.31-3.313). The idea above reflects Wittgenstein’s response to the problem of the unity of propositions. Propositions do not arise from the process of combining some simple parts and do not require an additional third party to undertake the task of relating. The unity of propositions is in itself, and it is not a combination of these features that propositions share.

As part of a sentence that needs to be connected, there are words of the following form:

“Plato”

“Wise”

According to the discussion above, if the words above are used as an expression, then

“... Plato ...”

“... Wise...”

“Plato” stands for Plato the man, from the variable “... Plato ...” to present or

to write this variant is to list the whole series of sentences. If expressed as “*f Plato*,” then it is a propositional variable, the value of which is all the sentences containing “*f Plato*.” If one continues to replace propositional components with variables until one has replaced all the signals given meaning with variables, one has a logical prototype (3.315). The logical prototype of all propositions that contain a name is “... *x* ...,” the subject-predicate form is “*f(x)*,” and the relative form is “*xRy*.” One can then have

“... *a* ...” “... *b* ...” “... *c* ...” ...  
 “*f(a)*,” “*f(b)*,” “*f(c)*,” ...  
 “*aRb*,” “*cRb*,” “*dRc*,” “*aRc*,” ...

Sign is the part of the symbol that is perceptible to the senses. In propositions, thoughts are expressed in a way that is perceptible to the senses. In propositions, sign (audible or written sign, etc.) perceptible to the senses is used as a projection of possible situations (3.32, 3.1, 3.11). However, the same sign may belong to different symbols. For example, Wittgenstein points out that in “Green is green,” the first green is a proper name, representing a person named green, and the second green is an adjective. This appears to be the same sign, but it is a different symbol. It shows that everyday language is imprecise.

The example above shows that one cannot read the symbol directly from the sign, in order to be able to recognize the symbol from the sign, one must consider its meaningful use and observe it in use. A sign can only specify a logical form when combined with its logical syntactic use (3.326, 3.327). Propositions have essential and contingent properties, and the essential property of a proposition is common to all propositions capable of expressing the same meaning (3.34, 3.341). A proposition determines one place in logical space, and only one place, while the entire logical space has been given. The existence of a meaningful proposition guarantees the existence of a logical space. A logical space is the possibility that something exists (3.4-3.42). A propositional sign being used and thought out is a thought (3.5).

It is only in conjunction with its use of logical syntax that a logical form is prescribed, in which thoughts are expressed in a way that can be perceived by the senses, in which one uses sense-perceivable signs (audible or written signs, etc.) as projections of possible situations, by imagining the meaning of the proposition. Signs that express thoughts are propositional signs. A proposition is a propositional sign that is in its projective relation to the world. A proposition contains the possibility of the projectee, but not the projectee itself. So the proposition does not contain the meaning of the proposition, but contains the possibility of expressing the meaning of the proposition. “Propositional content” refers to the content of a proposition that makes sense. A proposition contains the form of propositional meaning, not its content. One must understand the meaning of a proposition before one can know whether it is true or false.

Wittgenstein’s understanding of atomic propositions can be examined through

the following example sentences:

(11) Aristotle respects Plato

Wittgenstein shows that one does not say compound sign “*aRb*,” by meaning that *a* and *b* are in relation *R*; rather the fact that ‘*a*’ and ‘*b*’ are in some particular relation speaks of the fact that “*aRb*” (3.1432). This sentence can be expressed as *aRb*, where *a* and *b* are in some definite relation *R*, and *aRb* speaks of the fact that *a* and *b* are in that relation. The process begins with name ‘*a*’ referring to the person Aristotle, and name ‘*b*’ referring to the person Plato; the structure in which the two names are in such a relation *R* is then used to indicate that the referent of name *a* is respected by Aristotle as the referent of name *b* is Plato. Form and content guarantee the unity of the proposition.

Consider the following examples:

(12) red socks

Socks have meaning only in the context of the proposition, because different languages use different symbols for socks, which is arbitrary, but the possibility of a combination between red and socks is the same; that is, the “use” is the same. The elements of the sentence are in the vast web of use, and the atomic proposition is itself an organic unity of form and content.

For Frege, the unity of atomic propositions is the realization of the saturation process, which requires a fundamental distinction between saturated and unsaturated components. The components of Russell’s proposition are all saturated, and the unity of the saturated objects, properties, and relations is realized through the process of relating the propositional components to external relations. By contrast, Wittgenstein’s propositional components are all unsaturated. His atomic propositional unity is achieved through the unity of form and content. The expression of atomic propositions of the three philosophers is similar:  $f(x)$ ;  $f(x,y)$ . But they are already very different in senses from each other.

**Table 1** shows how Frege, Russell, and Wittgenstein differ on the unity of atomic propositions:

**Table 1.** Frege, Russell and Wittgenstein’s list of atomic propositions.

Atomic propositions	Frege	Russell	Wittgenstein
Category	Platonic abstract entities	Platonic abstract entities	Linguistic pictorial entity
Ingredients	The mode of presentation of object; The mode of presentation of concept	Objects, properties, relationships	Expressions
Unity	saturation process	Non-item verb (relation) relates proposition component	Unified realization of form and content

Wittgenstein solved the false proposition problem and the concept paradox that Frege and Russell faced when explaining the unity of atomic proposition. The meaning of a sentence does not depend on whether it is true or not, and the picture can represent the possible state of affairs. To understand a proposition, Wittgenstein said, is to know what would happen if it were true. In his early thinking, Russell's unity of propositions, the meaning of a sentence, depends entirely on its being true. To understand the meaning of a sentence, all one needs is to know what its elements relate to in reality. If the sentence is true, then one of the possible combinations is real. If the sentence is false, then the combination is only possible. This advances the process of understanding the nature of atomic propositions. Wittgenstein also faced some challenges, but at the same time more of his profound insight to inherit and repair.

#### **4. The Nature of Atomic Propositions**

The atomic proposition is the most basic unit of thought and is essential to the understanding of language and thought. To explain the atomic proposition requires an explanation of its nature, and in order to do so, one must begin with the unity of propositions. Frege, Russell, and Wittgenstein devoted themselves to the exploration of this problem.

Since Wittgenstein, the proposition is no longer the Platonic abstract entity, which was once considered to have the ability of representation in nature, but it is faced with contradictions and dilemmas. Wittgenstein believed that the object of propositional representation is the linguistic picture entity, which moves the problem to language. Wittgenstein believed that form and content together realize the unity of atomic propositions. Propositions are truth bearers, because they are used to show that things have properties or relations, rather than the inherent properties of an abstract proposition.

But Wittgenstein ensures that the object in the form and content of the propositional unity is the basis of all possibilities, and that the existence of the object ensures that the picture of the world is formed. Since the object has such a fundamental role, one cannot say what the object is like, one can only speak of the manner in which it is connected. This mystery presents a challenge to the explanation of atomic propositions. Even so, Wittgenstein's ideas are of profound significance and have shown wisdom throughout history. Is it possible to revise them conceptually?

Soames inherited Wittgenstein's view on atomic propositions and retained Wittgenstein's important insights into new ideas. His view of propositions is very close to the traditional view of propositions. The difference is that Soames proposes that propositions are cognitive acts, and predication is Soames' central concept on which his view of propositions depends. Soames states that "to have a proposition is to perform some act of predication". (Soames, 2010: p. 106) Soames agrees with Wittgenstein that propositions are representational, not because they are abstract entities and intrinsically representational, but because of

the way they are used. Propositions are truth bearers, because they are used to indicate that things have certain properties and are in certain relationships. The truth conditions of atomic propositions are inherited from the representational properties of the proposition. As the representative of the cognitive act type theory, Soames revises the concept of atomic proposition as a linguistic picture entity. He also revises the concept that the representational power of a proposition can be attributed to the sign of syntactic use.

In regard to sentence (11) “Aristotle respects Plato,” it was noted that name ‘a’ refers to the person Aristotle and name ‘b’ refers to the person Plato. The structure of the two names in such a relation R is used to indicate that the reference to name ‘a’ is respected by Aristotle as the reference to name ‘b’ is Plato. The proposition “Aristotle respects Plato” is used in this way as a propositional sign. Soames argues that the use here can be repaired with the cognitive “doing,” a cognitive act:

- (1) Use the name ‘a’ to refer to Aristotle and the name ‘b’ to refer to Plato (act).
- (2) Use relation R to represent the reference of name ‘a’ to respect the reference of name ‘b’ (action).

To perform this type of act is to represent the subject in such a way. Soames shows that because of the fact that Aristotle respects Plato, the use of this sentence is true. Soames begins with a predicative cognitive act in which the subject perceives an object O to be red, and thus has a perceptual experience that characterizes O as red, and the subject predicates redness of O. Similarly, if the subject perceives O to be red, the subject may form a non-verbal perceptual belief that O is red. A predicative act is a cognitive token act, and each act is an event-specific case, perceiving O to be red, believing O to be red, and so on.

In the token act, the subject predicate a property of something, and the token act is essentially representational, which is originally unsayable. The representational power of the cognitive act type, or proposition, is derived from the representational power of the token act. The token acts are primary, and the representation of propositions needs to appeal to predicative token act. Consider the sentence “The flower is red.” This sentence can be an event that happened at a specific time and place, or it can be an example of a sentence type.

The sentence as an event type can occur multiple times, just as the musical “Cats” that is performed at regular sessions of musicals type at different times and places. A particular example of a sentence is a sentence example of a sentence spoken at a particular time and place. If one sees a flower at a particular place at a particular time and thinks that the flower is red, this is also an example of an event in which one refers to red as the flower. As in the above case, the proposition “the flower is red” can also be an event type, and the statement “the red is red” to the flower at a particular time and place is an example of this event type. The event type of a proposition can then be regarded as a truth-bearer, and can thus have a truth condition.

## 5. Conclusion

Propositions occupy an important position in the study of the philosophy of language. The nature of atomic propositions is an important topic that Frege, Russell, and Wittgenstein paid close attention to. To define atomic propositions, one must give a clear explanation of the unity of atomic propositions in order to clarify their nature. From the objective view of the world, Frege and Russell believed that the atomic proposition is the most basic unit of thought. This basic unit is the Platonic objective abstract entity, which essentially possesses the ability to represent the world. Frege believed that the propositional component is the mode of presentation of proper names and concepts, and that the unity of the proposition lies in the saturation process between the two components that are fundamentally different. Russell, on the other hand, believed that the components of a proposition are all saturated; they are substantive objects, properties, and relations, and the unity of propositions relies on non-term verbs as the components of external relations to connect the components of propositions. But this kind of understanding raises a contradiction, meaning that one cannot give a clear explanation of the atomic proposition.

Wittgenstein gave a different answer. Starting from his unique worldview, Wittgenstein agreed that atomic propositions are the basic unit of thought, but he rejected the proposition as an objective abstract entity. Propositions are not abstract entities, but linguistic image entities. The representational power of a proposition does not come from the inherent representational power of the proposition itself, but is supported by its form and content. Wittgenstein advanced the understanding of atomic propositions, which has had a profound influence on the later generations.

On the basis of Wittgenstein's, Frege's, and Russell's views on atomic propositions, Soames believes that the unity of a proposition comes from the cognitive act of the subject. Atomic propositions are the basic unit formed by the cognitive subject in the activity of representing the world, and its nature is the unity of the transcendental intentionality of the cognitive subject and the experiential activity.

## Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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