

ASCENT, PROPOSITIONS AND OTHER FORMAL OBJECTS

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Summary

Consider “Sam is sad” and “Sam exemplifies the property of being sad”. The second sentence mentions a property and predicates the relation of exemplification. It belongs to a large class of sentences which mention such formal objects as *propositions, states of affairs, facts, concepts* and *sets* and predicate formal properties such as the *truth* of propositions, the *obtaining* of states of affairs and relations such as *falling under* concepts and *being members of* sets. The first sentence belongs to a distinct class of sentences in which only non-formal objects are mentioned and only non-formal properties and relations are predicated. We can, it seems, infer validly from the first sentence to the second. They are also equivalent. And Sam exemplifies the property of sadness because Sam is sad. What is the relation between inference, equivalence and explanation in the case of our two sentences and in analogous cases? What right have we to assume that there are formal objects?

§1 *Introduction*

On the one hand, there are all these humble, familiar objects—Sam, Erna, his kiss, their collision, her shape, his dreams, her salary, the snow and its whiteness, butter and its smell, tables, chairs and their respective positions. On the other hand, there are, or seem to be, a handful of much less familiar, much less humble, even sublime objects—*propositions, states of affairs, facts, concepts* and *sets*. Call these *formal objects*. Formal objects seem to have *formal properties* and to stand in *formal relations*: some propositions are *true*, some states of affairs *obtain*, objects *exemplify* properties, *fall under* concepts, and are *members of* sets.

How do we get from one type of object to the other, from non-formal objects to formal objects? How do we pass from talk about one type of object to talk about the other type? These are anthropological questions.

There is also a non-anthropological question—How do non-formal objects relate to formal objects?

Quine (1960, 271) called the transition from the use of an expression to mention thereof “semantic ascent”. I shall use the term “ascent” to refer to three types of transition: nominalisation, inferential transitions from mention of humble objects only to mention of formal objects, and explanatory transitions from explanations which mention only humble objects to *explananda* which mention formal objects. My goal is to understand what is involved in such transitions and the relations between them.

§2 *Ascent, Semantics and Syntax*

Nominalisations, inferential transitions and explanatory transitions may also be classified by reference to their results. We may then distinguish between *ordinary ascent*, *formal ascent* and what I shall call *material ascent*. Examples of ordinary ascent are the transitions from

(1) Sam is sad

to

- (2) That Sam is sad
- (3) Sam’s sadness
- (4) Sam’s being sad
- (5) Sad Sam.

The singular terms, (2)–(5), are nominalisations of (1). Nominalisation also takes us in a similar way from

(6) Sam resembles Erna

to

(7) The resemblance between Sam and Erna.

The transition from the nominal part of

(8) The Channel Islands are wonderful

to the first nominal part of

- (9) The Channel Islands, the Alps and the Pyrenees, are the three most popular tourist destinations

takes us from a name used in one way to the same name used in another way.

Among the main examples of *formal ascent* are the transitions which take us from (1) or parts of (1) to

- (10) The *proposition* that Sam is sad
- (11) The *state of affairs* that Sam is sad
- (12) The *fact (circumstance)* that Sam is sad
- (13) The *property* of sadness (being sad)
- (14) The *class* of the sad
- (15) The *concept* of sadness
- (16) The *extension of the concept* of sadness
- (17) The *content of the concept* of sadness
- (18) The *name* "Sam"
- (19) The *predicate* "is sad"
- (20) The *object* of "Sam"
- (21) The *sentence* "Sam is sad",

and from

- (22) Sam, Maria and Tom

to

- (23) The *set (group, class, manifold, plurality)* Sam, Maria, Tom.

Are the results of formal ascent the results of nominalisation? If so, they are the results of nominalisations which differ from the results of ordinary ascent. For (10)–(21) all mention formal objects.

There are transitions from (1) to other sentences which not only mention formal objects but also employ formal predicates, relational and monadic:

- (24) The *proposition* that Sam is sad *is true*

- (25) The *state of affairs* that Sam is sad *obtains*
- (26) Sam *exemplifies* the *property* of sadness
- (27) Sam *belongs* to the *class* of the sad.

The third type of ascent is material ascent: the transition from

- (28) Orange lies between yellow and red

to

- (29) The colour orange lies between the colour red and the colour yellow,

and from

- (30) Modesty is more important than chastity

to

- (31) The virtue of modesty is more important than the virtue of chastity.

By contrast, the transition from

- (32) 3 lies between 2 and 4

to

- (33) The number 3 lies between the number 2 and the number 4

is an example of formal ascent from a sentence which mentions three formal objects, 3, 2 and 4, to a sentence which mentions numbers. As we shall see, this example has one feature in common with material ascent.

What is the logical form of expressions such as

- The *proposition* that Sam is sad
- The *state of affairs* that Sam is sad
- The *fact (circumstance)* that Sam is sad
- The *property* of sadness (being sad)?

They certainly look like definite descriptions. But they are not ordinary (humble) definite descriptions. According to one interesting view,

The property of being sad

has the form

(34) $\exists x$ Property (x) & x = being sad.¹

If this view is plausible, it can presumably be generalised:

$\exists x$ Proposition (x) & x = that Sam is sad
 $\exists x$ State of affairs (x) & x = that Sam is sad.

One objection to this view goes back to Frege's claim that questions like "How many objects are there on the table?" and answers to this question such as "There are three objects on the table" are ill-formed. Similarly, it may be felt that bare quantification over formal entities of all sorts is ill-formed. The questions "Is there a property, a proposition, a state of affairs?" are as ill-formed as "There is a property, a state of affairs, a proposition".

As Husserl (2002, 131) points out, "Sentential expressions in subject position are ambiguous". Indeed, when nominalisations of sentences which preserve sentential structure, such as "that Sam is sad", flank the identity predicate they must be understood as elliptic. The following

That snow is white = Tarski's favourite thought
That vixens are female foxes = Lewy's favourite proposition
That there is a chair over there = the fact both José and Ludwig alluded to in their discussions of primitive certainty

might be elliptic for, respectively,

The thought that that snow is white = Tarski's favourite thought
The proposition that vixens are female foxes = Lewy's favourite proposition
The fact that there is a chair over there = the fact both José and Ludwig alluded to in their discussions of primitive certainty.

1. Cf. Schnieder (2004, 38), Künne (2003, 10), Neale (1990, 116 n. 55).

There are no true identities of the form

That p = that q

because instances thereof are ill-formed.

Instances of “that p ” do, however, seem to function as names which take monadic predicates:

That snow is white is surprising/certain/probable/possible.

But a proper account of such apparent names presupposes an account of the relation between predicates such as “—surprising/certain/probable/possible”, on the one hand, and the functorial expressions “It is surprising/certain/probable/possible that—”, on the other hand. Such an account itself presupposes an account of functorial expressions, in particular of the distinction between “pure” functorial expressions, which combine only with sentences, and “hybrid” functorial expression, which combine with a name and at least one sentence. I shall not attempt to pursue these questions here.

Suppose that expressions of the form “that p ” which flank the identity predicate are elliptic. What is the relation between the formal part (italicised) and the non-formal part of the descriptions in truths such as

The proposition that vixens are female foxes = Lewy’s favourite
proposition

The state of affairs that Tully is bald = *the state of affairs* that Cicero is
bald

and in falsities such as

The proposition that Tully is bald = *the proposition* that Cicero is bald?

I suggest that each of the two parts is unsaturated or in need of completion. Instances of “that p ” in such contexts require saturation, for example, by formal expressions such as “the proposition/state of affairs/probability/certainty ...” or by expressions of the same type as “Sam’s certainty/belief ...” or by expressions such as “the dogma”. These expressions in their turn require completion by instances of “that p ”.

Whether or not this is right, and whether or not bare quantification

over propositions and other formal objects is acceptable, some account must be given of the fact that grasp of the expressions

The property of being sad
The proposition that Sam is sad

involves understanding both the formal and the non-formal part of these descriptions and the relation between these. In this connexion many philosophers have suggested that what I have called the formal part of such descriptions is *specified by* or *categorises* the non-formal part and have argued that there is a relation of apposition between the formal and the non-formal part of our descriptions.²

Is this correct? In fact, it is very plausible for descriptions which are the result of what I called above material ascent and for descriptions which are the result of one kind of formal ascent. But the view is wrong about the type of formal ascent we are most interested in here.

Consider first the result of material ascent. There is sortal specification inside the three main nominal parts of

The colour orange lies between the colour red and the colour yellow.

The property of being a colour is a material or non-formal property. Orange is not a formal object. And orange is an instance of the material type or kind Colour, if such things exist. Using a terminology employed by Husserl and Wittgenstein, we may say that the sense of “orange” is a *materialisation* or specification, as opposed to a *formalisation*, of the sense of “colour”. And what holds of orange and colour holds, too, of chastity and virtue, of chagrin and emotion etc.

Then there is the result of one kind of formal ascent, which has already been mentioned:

The number 3 lies between the number 2 and the number 4.

The property of being a number is a formal property and 2 is a formal object. 2 is an instance of the formal kind Number, if such things exist.

2. Wiggins calls Material object, Event, Number, Fictional entity “sortal-schemas”—Wiggins (1967, Appendix 5.4, 63); cf. Stevenson (1975), Wolterstorff (1970, 70ff.), Levinson (1978, 9ff.), Wiggins (1984, 320), Teichmann (1992, 67ff.), and especially Schnieder (2004, ch. 1), Künne (2003, 258ff.). Jespersen (1937, 23) gives as an example of apposition, “The word ‘love’”.

The sense of “2” is a materialisation or specification of the sense of “number”.

But consider now the following descriptions, all the result of a distinct kind of formal ascent

The proposition *that Sam is sad*
The state of affairs *that Sam is sad*
The fact (circumstance) *that Sam is sad*
The property of *being sad*.

The senses of the italicised parts of these expressions are *not* specifications or materialisations of, nor are they categorised by, the parts which precede them. Here there are no determinable-determinate relations. The senses of “the proposition”, “the state of affairs” etc. are *formalisations* of the senses of the expressions which follow them. The relation between “the proposition” and “that Sam is sad” is *like* that between a sentential variable and an English sentence and like that between a nominal variable and a French proper name. A sentential variable is not specified by and does not categorise any English sentence, rather it is a formalisation of the sentence. In the same way, “the proposition” in “the proposition that Sam is sad” is a formalisation of “that Sam is sad”, and “the state of affairs” in “the state of affairs that Sam is sad” is a different formalisation of “that Sam is sad”.

§3 *Ascent, Explanation, Inference and Intentionality*

One might well think that there are valid inferences corresponding to many of the nominalisations already mentioned in which our starting point is a sentence and the result of nominalisation is another sentence. For example,

Sam is a dog

Sam has the property of being a dog

Schiffer calls inferences like this something-from-nothing transitions. And it seems that there are inferences of the same kind from (1) in § 1 to each of (24)–(27) in § 1. There are, of course, also valid inferences going in the other direction

Sam has the property of being a dog

Sam is a dog

And there are true equivalences such as

Sam is a dog iff Sam has the property of being a dog
Sam is sad iff the proposition that Sam is sad is true.

Using the terminology already introduced, we may say that a valid something-from-nothing inference takes us from sentences mentioning only humble, non-formal objects to sentences which mention formal objects or which employ formal predicates such as “is true”, “obtains”, “exemplifies”.

We can put more flesh on the idea of “something-from-nothing” by considering the relation between something-from-nothing inferences, on the one hand, and explanations, on the other hand. Consider

- (1) Sam is sad
 - (2) The proposition that Sam is sad is true
 - (3) If (1), then (2) because (1)
 - (4) Sam exemplifies the property of being sad
 - (5) If (1), then (4) because (1)
 - (6) The state of affairs that Sam is sad obtains
 - (7) If (1), then (6) because (1)
- etc.

(3), (5) and (7) assert the explanatory priority of (1), which mentions only Sam, with respect to each of (2), (4) and (6), which mention formal objects or employ formal predicates. The question then arises as to whether there are ties of explanatory priority between sentences all of which mention formal objects or ascribe formal predicates. Many philosophers have found the following plausible:

- (8) If (4) & Sam belongs to the class of the sad, then (Sam belongs to the class of the sad because (4))
- (9) If (2) & (6), then ((2) because (6)).

What is the force of the “because” in (3), (5), (7), (8) and (9)?

There are many types of “because”, certainly more than four. There is:

the because of the exasperated adult
 p because p !

—which is always false,

the causal because
Sam had a heart attack because he was terrified

the because of theoretical reduction
This is a water molecule because it consists of two hydrogen atoms
and one oxygen atom

the because of subjective reasons for actions (beliefs, desires, emotions)
Sally slapped Sam because she believed him to be a sexist

the because of objective reasons for actions (beliefs, desires, emotions)
Sally slapped Sam because he is a sexist

and

the normative because
This is intrinsically valuable because it is a state of pleasure.

There is also what I call the “*essential because*”, which is the “because” employed in (3), (5) and (7)–(9). Inspection reveals that the “because” employed in (3), (5), (7) and (9) is not any of the different types of “because” distinguished so far. But what exactly does the essential because amount to? Some illumination is provided by distinguishing yet another type of because and by considering its relation to the essential because. There is a “*because of essence*”. One example is

If x endures/occurs/obtains/is alive/enjoys intentional existence/ist-zum-Tode ..., then x endures/occurs/obtains/is alive/enjoys intentional existence/ist-zum-Tode ... because_{essence} of the essence of x .

Or, in slogan form, the modes of being of objects are determined by the essences, natures, kinds or types of objects (a truth denied by existential-

ists). Another example is:

If x and y are numerically distinct, then x and y are numerically distinct because_{essence} of the essences of x and y .

In each case, the “because” of essence is followed by a sentence which mentions the essence(s), nature(s) or kind(s) of object(s) mentioned in the sentence which precedes “because”. In other cases, as we shall see, the “because” of essence is followed by a sentence which mentions the essence or nature of something which is ascribed by the sentence preceding “because”.³

Now the essential “because” requires the “because” of essence. For example,

If the proposition that p is true because_{essential} the state of affairs that p obtains, then ((the proposition that p is true because_{essential} the state of affairs that p obtains) because_{essence} of the essence of truth and of propositions).⁴

Let us now return to the ties of explanatory priority between (1), on the one hand, and (2), (4) and (6), on the other hand. Clearly,

(10) If the proposition that Sam is sad is true because_{essential} Sam is sad then ((the proposition that Sam is sad is true because_{essential} Sam is sad) because_{essence} of the essence of Sam)

is false, and

(11) If the proposition that Sam is sad is true because_{essential} Sam is sad then ((the proposition that Sam is sad is true because_{essential} Sam is sad) because_{essence} of the essence of propositions and truth)

3. On the “because” of theoretical reduction, cf. Künne (2003, 154). The distinction between the “because” of subjective reasons and that of objective reasons goes back to Bolzano and is currently much discussed. The normative “because” is employed by Husserl and by Fine (in unpublished work). The essential “because” is related to what Künne (2003, 154, 229) calls the because of conceptual explanation. The because of essence belongs to the same family as Fine’s “ x makes p true in virtue of the essence of x ”.

4. On this view, cf. Mulligan (2006a), on its history, cf. Mulligan (2006).

is true, as is

- (12) If Sam exemplifies the property of being F because_{essential} Sam is sad then ((Sam exemplifies the property of being sad because_{essential} Sam is sad) because_{essence} of the essence of exemplification and properties).

We have considered the ties of explanatory priority between humble sentences, on the one hand, and sentences mentioning formal entities, on the other hand. We have also considered explanations of these ties. But, as (10) reminds us, neither Sam nor his essence gives us any reason to infer from

Sam is sad

to

Sam exemplifies the property of being sad.

Schiffer says that such a valid inference is “conceptually valid” (Schiffer 2003, 2; cf. below). But suppose the inference whose credentials we are examining is

Sam is sad

Sam falls under the concept of sadness.

This looks like a good something-from-nothing inference. But then it is not clear what is meant by calling such an inference “conceptually valid”.

Suppose we say that valid inferences are either formally or non-formally valid.⁵ If the following is a paradigm example of a valid inference which is not formally valid

This is red

This is coloured

5. Valid inferences which are not formally valid, like the following example, are often called “materially valid” inferences.

and if a formally valid inference is an inference which is valid in virtue, in part, of the logical form of its premisses, are valid something-from-nothing inferences formally valid or non-formally valid? I suggest that they are valid inferences which are not formally valid, the conclusions of which are formalisations of their premisses. In other words,

Sam is sad

Sam exemplifies the property of being sad,

Sam is sad

The proposition that Sam is sad is true,

and

Sam is sad

The state of affairs that Sam is sad obtains

belong to the same family as

Sam is sad

p,

Sam is sad

Is sad (a),

and

Sam is sad

F (Sam).

(The difference between the two branches of the family is that in one case, but not in the other, the conclusions are formulated entirely in English). The same cannot be said of the inference from “Orange lies between red

and yellow” to “The colour orange lies between the colour red and the colour yellow”, nor of the inference from “3 lies between 2 and 4” to “The number 3 lies between the number 2 and the number 4”.

But even if this characterisation of something-from-nothing inferences is correct, it still does not provide any answer to the question: What right have we to ascend? What right have we to formalise where the result of nominalisation mentions formal objects or employs formal predicates?

In this connexion, Schiffer raises an important question. Can we imagine speakers of English who lack the concepts expressed by “property”, “proposition”, “is true” etc., who lack the expressions for these concepts? The answer to these questions is surely: yes. Indeed a community could speak something resembling English and lack many or most devices of nominalizations (cf. Schiffer 2003, 52). There are good reasons for thinking that speakers who use the truth predicate (as opposed to the truth functor) must apply it to propositions but perhaps we can imagine a community which does without the truth predicate and the truth functor. Similarly, we can perhaps imagine linguistic communities which function perfectly well without such formal concepts as the concepts of class, value and ought.

Whether or not such communities are possible, there is no doubt that some philosophers have thought that, since there are neither propositions nor states of affairs, we cannot refer to them and that sentences dominated by axiological and deontic functors or predicates have no truth-values (“anticognitivism”). On this view, formal terms are semantically valueless.

How, then, if at all, can reference to formal objects and predications employing formal predicates be justified? As far as I can see, the only justification is to be found in the theory of intentionality. The relevant chapter of the theory of intentionality is one that is somewhat neglected, the theory of the *correctness conditions* for different mental acts, states and activities.

It is easy to see that the correctness conditions for some types of acts and states *require* that, in these conditions, we employ formal predicates. Consider desire (willing, not wishing):

- (13) x desires to F
- (14) x correctly desires to F
- (15) x ought to F.

The correctness condition of desire is:

(16) If (14), then (15)

Furthermore,

(17) If (14), then (14) because (15).

“Ought”, like “is true” and “obtains”, is a formal predicate; “ought” (here) takes an action-verb to make a predicate. Similarly,

(18) x prefers y to z

(19) x correctly prefers y to z

(20) y is better than z

(21) If (19), then (20)

(22) If (19), then (19) because (20).

“Better”, like “exemplifies”, is a formal relational expression.

Is there any type of intentionality which requires us to admit states of affairs? Elsewhere I have argued that coming to know that p , which has no conditions of correctness because it is already correct, is a relational state the second term of which is an obtaining state of affairs, that is, a fact.⁶ If this is correct and if the independent view that beliefs and convictions that p are reactions to knowledge that p or to apparent knowledge that p is plausible, then we have a good reason to accept

(23) If x correctly believes that p , then the state of affairs that p obtains

as well as

(24) If x correctly believes that p , then p .

There is also a good reason for thinking that specification of the correctness condition for beliefs requires us to mention propositions, that

(25) If x correctly believes that p , then the proposition that p is true.

Namely,

6. Mulligan (2006b).

(26) If x correctly believes that p , then (the content of x 's belief that p is an instance of the proposition that p & the proposition that p is true).

(26) makes use of the idea that there are token propositional contents which instantiate types, an idea defended by the young Husserl.⁷

Even if it is true that there are examples of formal and material ascent which are valid inferences, a theory of ascent should provide a principled way of ruling out invalid inferences. Schiffer discusses one part of this problem. He thinks that the inference from the claim that someone has used a proper name, "n", in a make-believe way, to the claim that that person has created a fictional character, n, is an example of a something-from-nothing transformation (see §4 below). He points out the following problem. Suppose a "wishdate" is defined as a person whose existence supervenes on a wish for a date. It does not follow from the definition that there are wishdates if there are wishes for dates. This would only follow if there were really wishdates. He says that there is a "crucial difference between the concept of a wishdate and the concept of a fictional entity (*or of any other kind of pleonastic entity*)" (Schiffer 2003, 54; my emphasis). Let us put on one side the topic of fictional entities and consider ascent from sentences mentioning humble objects only to sentences mentioning formal objects such as propositions and properties and to sentences mentioning material kinds such as virtues, emotions and colours. Here are two clearly invalid inferences

Sam is sad

The property Sam is sad,

Orange lies between red and yellow

The emotion orange lies between the emotion red and the emotion yellow.

The second inference is invalid simply because orange is not an instance of the kind Emotion. In the case of the first inference, and of the large family to which it belongs, no such simple explanation is available.

7. (26) has the interesting consequence that "correct" is not a normative predicate if "true" is not a normative predicate.

§4 Appendix—Transformations: Husserl and Schiffer

Two philosophers who have grappled with what I have called the problem of ascent, a hundred years apart, are Husserl and Schiffer. Much of what I have said above about explanatory ties is either also said by Husserl or is close to things he says.⁸ Let me therefore conclude by briefly considering some of the relations between what Schiffer and Husserl say about what I have called ascent.

Husserl calls the different types of ascent “modifications”, meaning-modifications. His account of modification seems to have been influenced by Bolzano’s theory of “redundant” (“überfüllte”) ideas or concepts and by some remarks of Brentano. Husserl attaches great importance to the theory of modifications because modifications provide the “*fundamental conceptual material*” for logic and formal ontology (Husserl 1950, § 119; my emphasis). Schiffer attaches almost the same degree of importance to ascent and argues for the existence of pleonastic entities, of which pleonastic propositions are one sub-category:

Pleonastic entities are entities whose existence is secured by *something-from-nothing transformations*, these being conceptually valid inferences that take one from a statement in which no reference is made to a thing of a certain kind to a statement in which there is a reference to a thing of that kind. For example, the property of being a dog is a pleonastic entity. From the statement

Lassie is a dog,

whose only singular term is ‘Lassie’, we can validly infer its pleonastic equivalent

Lassie has the property of being a dog,

which contains the new singular term ‘the property of being a dog’, whose referent is the property of being a dog. (Schiffer 2003, 2)

Modification, in particular the operation of nominalization, the “law of “nominalization” (Husserl 1950, § 119), involves a type of meaning-change, Husserl says:

It naturally happens ... that certain meaning-changes belong to the grammatical normal stock-in-trade of every language. (LI IV § 11 cf. tr. 513)

These are what Schiffer calls our “hypostatizing practices”.

The relevant “meaning-changes”, Husserl says, involve transformations:

8. Cf. Mulligan (2004) for details.

... we are here dealing with alterations in meaning or, more precisely, alterations in acts of meaning which are rooted in the ideal nature of the meaning-realm itself. They have their roots in meaning-modifications in a certain other sense of “meaning” which abstracts from expressions, but which is not unlike that of arithmetical talk of “transforming” arithmetical patterns. In the realm of meaning there are a priori laws allowing meanings to be transformed into new meanings while preserving an essential kernel. (LI IV § 11, cf. tr. 515)

Indeed Husserl understands “transformation” and the possibility of transformations in a very strong way:

The relevant possibilities are not to be understood

in an empirical-psychological, biological sense but as expressing a peculiar relation of essence grounded in the phenomenological content of the experiences. (LI V § 35, tr. 629)

The relevant sense of “possibility” is that in which

there is a possibility which is a priori grounded in the essence of a geometrical figure that “one” can turn it about in space, distort it into certain other figures etc. (LI V § 36, cf. tr. 633)

Husserl and Schiffer introduce the type of transformation they are interested in by considering fiction. Schiffer calls the inference from

1 Joyce wrote a novel in which he used ‘Buck Mulligan’ in the pretending way characteristic of fiction

to

2 Joyce created the fictional character Buck Mulligan

an example of a something-from-nothing transformation (Schiffer 2003, 51). Husserl, like Meinong and Schiffer, thinks that proper names in novels are examples of make-believe reference. Husserl begins with the case of fiction in order to introduce the idea that certain predicates (“is a fiction”, “is true”, “exists”) can only combine with expressions the meanings of which are modified meanings:

All expressions to which “modifying” rather than “determining” predicates attach, function abnormally in the above described or some similar sense: the normal sense of our utterance is to be replaced by another ... so that its

apparent subject (on a normal interpretation) is replaced by some sort of idea of itself, a logical idea [meaning] or an empirical-psychological idea ... E.g.

The centaur is a fiction of the poets

With a little circumlocution we can instead say

Our ideas (i.e subjective presentations with the meaning-content *centaur*) are poetic fictions.

The predicates

is, is not [exists, does not exist], is true, is false

modify meaning. They do not express properties of the apparent subjects, but properties of the corresponding subject-meaning. E.g.

that $2 \times 2 = 5$ is false

means that the thought is a false thought, the proposition is a false proposition. (LI IV §11, cf. tr. 514–5)⁹

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9. Thanks to Paolo Bonardi and Barry Smith for comments.

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