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TRUTH as a Relation (in the Predicate–Argument Model)

Abstract

The paper proposes that the TRUTH predicate is a relation (two-place predicate) and not a property (one-place predicate). It links a linguistic entity: a sentence that p', and an extra-linguistic entity: a unit of reality/fact. Issues concerning the impact of truth values on classification of sentences are also addressed.
Keywords: The Polish school of semantic syntax; TRUTH; intensional position; extensional position; analytic philosophy

1 Introduction

This paper focuses on complex and highly theoretical issues. Its merit lies in a radical reinterpretation of the TRUTH predicate and a postulate to re-introduce the terms intensional and extensional with a meaning based on logic instead of Polish linguistics. Large parts of text are cited instead of being paraphrased because I doubt that could formulate the matters discussed in a clearer way. I have translated the citations but opted to provide the original fragments, because (if possible) the readers should read the original versions.

2 Semantic Grammar and Analytic Philosophy

The Polish school of semantic syntax (cf. Kiklewicz & Szumska, 2023) (and semantic [contrastive] grammar) is deeply rooted in analytic philosophy. T. Szubka (2019) points out that such inspirations in Polish semiotics can be traced back to the anthology *Logika i język: studia z semiotyki logicznej* [Logic and Language: Studies in Logical Semiotics] (Pelc, 1967). S. Karolak (one of the foundational figures of semantic syntax in Poland) was also clearly acquainted with the paper *Semantyka aspektu czasownikowego* [*Semantics of the verbal aspect*] (Antinucci & Gebert, 1977). Although the paper is devoted to the category of aspect, it covers some general issues as well. Among others, the authors describe the main goal of (analytic) linguistics:

> Uważamy bowiem, że zadaniem językoznawstwa, tak jak i każdej innej dyscypliny aspirującej do miana naukowej, jest nie proste opisywanie i katalogowanie zjawisk, lecz wyjaśnianie. Termin *wyjaśniać* oznacza sprowadzanie elementów złożonych do poziomu elementów prostych, różnorodnych do jednolitych poprzez formułowanie ogólnych hipotez syntetyzujących, z których można następnie wyprowadzić dające się zaobserwować fakty.
>
> [This is because we believe that the remit of linguistics, as well as any other discipline aspiring to the status of a science, is not to simply describe and catalogue phenomena, but to explain. The term *explain* means to reduce complex elements to the level of simple elements, diverse to uniform elements by formulating general synthesizing hypotheses, from which observable facts can then be drawn.] (Antinucci & Gebert, 1977, p. 7)

Considering what was stated above, one could hope that S. Karolak would draw inspirations from Polish analytic philosophy (the works of Alfred Tarski to be more precise) (Tarski, 1944) when defining truth, but that is not the case. In his book entitled *Od semantyki do gramatyki* [*From semantics to grammar*] S. Karolak does not explicate the notion of TRUTH but he notes that the notion of KNOWLEDGE is imperfective and that some linguists define it using the notion of TRUTH (Karolak, 2001; see also Wierzbicka, 1972). In *Podstawowe struktury składniowe języka polskiego* [*Basic Syntactic Structures of the Polish Language*] Karolak notes that the basic predicate of epistemic modality is the predicate of TRUTH (Karolak, 2002, p. 225).

> Modalność rozumiana jest węziej lub szerzej. My zajmiemy się modalnością w jej węższej interpretacji, czyli modalnością epistemiczną. Oznacza ona prawdziwościowy stosunek mówiącego do treści dictum, tzn. czy dane dictum jest orzekane o czymś zgodnie z prawdą, lub inaczej czy treść dictum czemuś przysługuje. Podstawowym predykatem paradygmatu modalności asertorycznej jest predykat prawdy, a sądy logiczne i zdania je zawierające są określane jako zdania asertoryczne. Asercja to wyraz przekonania mówiącego o tym, że dane dictum jest prawdziwie o czymś orzekane, że prawdziwie czemuś przysługuje. Treść tę można by wyrazić explicite w sposób następujący: Jestem przekonany, że prawdą jest, iż p, np. Jestem przekonany, że prawdą jest to, iż ten człowiek jest niewinny.
>
> [Modality is understood more narrowly or more broadly. We will deal with modality in its narrower interpretation, that is, epistemic modality. It denotes the speaker's relation in terms of truthfulness to the content of the dictum, i.e., whether the given dictum is asserted about something truthfully, or, in other words, whether the content of the dictum is asserted about something. The basic predicate of the assertoric modality paradigm is the predicate of truth, and logical judgments and sentences containing them are referred to as assertoric sentences. Assertion is the expression of a belief of the speaker that a given dictum is truthful about something, that it truly can be assigned to something. This content could be expressed explicitly as follows: I am convinced that it is true that p, e.g., I am convinced that it is true that this man is innocent.] (Karolak, 2002, p. 225)

Karolak highlights that:

> argumentem osobowym predykatu konstytuującego myśl i wykładnika tę myśl reprezentującego nie może być osoba inna niż nadawca komunikatu […], por:
> *Jestem przekonany, że prawdą jest to, iż ten człowiek jest niewinny.*
> *Obrońca jest przekonany, (że prawdą jest to), iż ten człowiek jest niewinny.*
> *Jestem przekonany, że prawdą jest to, że obrońca jest przekonany, (że prawdą jest to), iż ten człowiek jest niewinny.*
>
> [the personal argument of the predicate constituting the thought and the exponent representing this thought cannot be a person other than the sender of the message […], cf.:
> *I am convinced that it is true that this man is innocent.*
> *The defence attorney is convinced (that it is true) that this man is innocent.*
> *I am convinced that it is true that the defence attorney is convinced (that the truth is) that this man is innocent.*] (Karolak, 2002, pp. 225–226)

3 Conceptions of Truth from a Predicate Argument Point of View

It is quite puzzling that Tarski's semantic conception of truth did not influence the works of Karolak. Proponents of Polish semantic syntax were clearly acquainted with the works of other members of the Lvov–Warsaw school. According to Woleński, its most famous members were Tadeusz Kotarbiński, Stanisław Leśniewski, Jan Łukasiewicz and Alfred Tarski (Woleński, 2023). Karolak was also clearly acquainted with the works of B. Russell (since a lot of his works were devoted to the so-called definite descriptions).

Tarski's conception of truth is highly language-oriented (Nowaczyk, 2009). He starts his deliberations with a clear statement that the problem is semantic in nature (Tarski, 1933, p. 11). According to Tarski,

in order to define the notion of truth one needs to define the term *truthful sentence*. The problem is metalinguistic since "Tarski's own conclusion was that a truth definition for a language L has to be given in a metalanguage which is essentially stronger than L." (Hodges, 2022). As Woleński points out, philosophically Tarski's conception of truth "is a version of Aristotle's idea that truth consists in saying that what is, is and what is not, is not (it is related to the idea of correspondence)" (Woleński, 2023). Tarski strongly rejects the possibility to define truth in everyday language (pl. język potoczny) (Tarski, 1933, p. 2). However, his definition is supposed "to do justice to the intuitions which adhere to the classical Aristotelian conception" (Tarski, 1944, p. 342). According to him, such a conception could be expressed by the formula "The truth of a sentence consists in its agreement with (or correspondence to) reality." (Tarski, 1944, p. 343). The link between truth and existence is also present in his deliberations. Having extended the popular usage of the term designate by applying it to sentences (and not only names), the author claimed that sentences designate states of affairs and that such a conception could be phrased as: "A sentence is true if it designates an existing state of affairs." (Tarski, 1944, p. 343). An interesting link between truth and existence also arises in the case of nominalisations (viewed as a kind of lexical nomination) (Kiklewicz, 2014). Karolak's interpretation of EXISTENCE as a metapredicate in his paper *O kwantyfikaroach i metazdaniach* [*On quantifiers and metasentences*] (Karolak, 2001, pp. 209–232) also comes to mind as an attempt to analyse a systematically misleading expression (i.e., the verb *to exist*). According to Karolak, the notion of EXISTENCE consists of two simpler notions, TRUTH and POSSIBILITY. The author proposes the following explication:

> Pojęcie P można prawdziwie orzekać (o czymś przynajmniej jednym).
> [The notion P *can* be truthfully asserted (about at least one thing).] (Karolak, 2001, p. 215)

It is now quite clear that there is a relational component embedded in existence. Both EXISTENCE and TRUTH can be viewed as relatively closely linked to the predicate of MEANING (for more on the links between TRUTH and MEANING see Kiklewicz, 2014, pp. 126–131).

4 TRUTH (Property vs Relation)

W. James claims that "Truth, as any dictionary will tell you, is a property of certain of our ideas." (*Pragmatism's Conception of Truth, by William James*, n.d.). Unfortunately, Karolak basically leaves it at that. In my opinion, treating the predicate TRUTH as a property (one place, higher order predicate) (Karolak, 2002, pp. 225–226; Kiklewicz, 2014, p. 131) makes it virtually impossible to analyse and gives it the magical value of being something beyond our comprehension. However, could we dare to treat the expression pl. *prawdą jest, że p* [*it is true that p*] as a systematically misleading expression?

If we want to achieve the goal of analytic linguistics, we should consider a certain possibility. Perhaps the predicate TRUTH is a relation and not a property? The predicate TRUTH clearly opens one argument position for a linguistic entity: an assertoric sentence (said, written or just thought). The character of this position makes TRUTH a metapredicate. The second position is formally locked out, because it is beyond language and cannot be filled with a linguistic entity. This position is open to an extralinguistic entity: a fact / state of affairs. That makes the predicate TRUTH a metapragmatic relation between a sentence and a fact. Such a reading is better suited to explain the common-sense Aristotelian view on truth. The meaning of *prawdą jest, że p* [*it is true that p*] is hard to grasp because it consists of a predicate with an embedded argument position. But the fact that there are two positions needed to explain truth seems obvious if we take into account sentences constructed by Tarski (see above) or Russell, to explain the meaning of TRUTH: "truth consists in some form of correspondence between belief and fact" (Russell, 2017, p. 108).

4.1 On the Relational Etymology of Slavic *Истина*

M. Korytkowska points out that in the Bulgarian language there are two words naming TRUTH, *правда* and *истина*. Although the first one is identical with the Polish lexeme *prawda*, it is quite problematic as a "header" for investigations since the form is homonymous with another unit meaning 'justice'. The

lexical unit *истина* is very interesting on the other hand, because of its etymology analysed by P. Sobotka (2023, pp. 162–167), cf.:

> Pierwotne znaczenie *jьst- odnosi się przede wszystkim do relacji między ‘tym, co właśnie/dokładnie/aktualnie jest (tym, co rzeczywiste)’ a ‘tym, co (dokładnie) można pokazać, wyodrębnić z szeregu obiektów’ oraz ‘tym, co zostało powiedziane o przedmiocie poznania’. Prasłowiański rdzeń lub jego bezpośredni poprzednik miał z jednej strony wartość ostensywną, z drugiej zaś – wartość wiążącą ostensję z działaniem na zbiorze, z wyszczególnianiem i w dalszej kolejności z mówieniem. Pierwotny sens tego złożenia można zrekonstruować jako ‘ten właśnie (o którym mowa)’. W tym kontekście znaczenia ‘prawdziwy’ i inne należałoby uznać za innowacyjne – użycie wyrażenia *jьst- w mowie, przy proponowanej tu interpretacji, wymaga porównania jednego obiektu z drugim (co najmniej jednym) lub – ostatecznie – z tym, co zostało powiedziane na temat tego obiektu. W ten właśnie sposób wypowiadamy się nie tylko o samym świecie, lecz również o tym, co o nim w jakikolwiek sposób mówimy. Złożenie *jьst- należy zatem rozumieć jako połączenie deixis i elementu emfatycznego oraz związanego z nim kontrastywnego komponentu mówienia.
>
> [The original meaning of *jьst- refers primarily to the relationship between ‘what just/accurately/currently is (what is real)’ and ‘what (exactly) can be shown, singled out from a set of objects’ and ‘what was said about the object of cognition.’ The Proto-Slavic stem or its immediate predecessor had an ostensive value on the one hand, and on the other, a value linking the ostensive value with an action performed on a set, with singling out and, further, with speaking. The original sense of the phrase can be reconstructed as ‘this one (that has just been referred to)’. In this context, the meaning of ‘true’ and other meanings would have to be considered innovative – using the expression *jьst- in speech, with the interpretation proposed here, requires comparing one object with another (at least one) or – ultimately – with what has been said about that object. This is how we make statements not only about the world itself, but also about what we say about it in any way. The compound *jьst- is thus to be understood as a combination of deixis and the emphatic element and the related contrastive component of speaking.] (Sobotka, 2023, p. 166)

P. Sobotka’s etymological analysis seems to support the claim that TRUTH can be viewed as a relation.

4.2 Relations with Blocked Argument Positions

There are in fact similar cases when only one argument of a relation is expressed on the surface. Such is the case of non-relative tenses which situate the expressed argument in relation to a formally absent (as a syntactic position) point of reference (the moment of speaking), cf.

(1) pl. *Rozmawiałem z tobą.* [*I talked to you.*] (the talking takes place before the act of communication)

(2) pl. *Mówię do ciebie.* [*I am talking to you.*] (the talking takes place during the act of communication)

(3) pl. *Porozmawiam z tobą.* [*I will talk to you.*] (the talking takes place after the act of communication).

5 Intensional and Extensional Argument Positions

Even if we consider TRUTH as something that cannot be defined, a property rather than a relation, it still remains relevant and useful in semantic syntax. The fact that certain syntactic–semantic positions behave differently in how they influence the truth value of compound sentences is well known (cf. “Truth-value | Truth-function, validity & soundness”, n.d.). The focus of this paper now shifts towards the fact that in some cases Polish semantic syntax was influenced not by logic (as one would hope and could expect) but other incompatible linguistic schools in its treatment of certain types of sentences.

5.1 K. Polański's Intensional vs Extensional Distinction

K. Polański introduces the terms intensional clause and extensional clause to Polish linguistics in his groundbreaking monograph *Składnia zdania złożonego w języku górnołużyckim* [*Syntax of a compound sentence in Upper Sorbian*] (Polański, 1967). Both terms are known and applied by various linguists from the Polish school of semantic syntax. However, they are not strictly semantic notions, as Polański was a generative linguist. The author clearly states that these terms were borrowed from logic. However, Polański notes that "Należy tu jednak podkreślić, że w logice termin ten jest stosowany w nieco odmiennym znaczeniu." [It should be emphasised, however, that in logic the term is used in a slightly different meaning.] (Polański, 1999, p. 676).

The author of the entry "zdanie intensjonalne" ["intensional clause"] defines it as:

> Zdanie podrzędne alternujące w strukturach matrycowych z odpowiednimi formami rzeczowników abstrakcyjnych bądź też elementów prosentencjalnych, por. np.:
> *Janek zapowiedział, że przyjedzie* / *swój przyjazd.*
> *Komisja wykryła, że popełniono nadużycia* / *nadużycia*.
> Podobnie zatem jak formy rzeczownikowe w zdaniu pojedynczym zdania intensjonalne względem nadrzędnego mogą pełnić funkcje rozmaite: podmiotu, różnych dopełnień, różnych przydawek, por. np. w funkcji podmiotu: Nie ulega wątpliwości, że to on zrobił; w funkcji dopełnienia bliższego: Powiedział jej, że wkrótce wróci; w funkcji przydawki: Przykro mu się zrobiło na myśl, że znów będzie musiał zaczynać od nowa. […] Występowanie zdań intensjonalnych nie jest zatem uwarunkowane jakąś określoną pozycją składniową. Dystrybucję pozycji w których mogą występować zdania intensjonalne należałoby więc określać nie za pomocą takich pojęć jak, podmiot, dopełnienie, itp., lecz raczej wyliczając jednostki leksykalne, które je otwierają: wykryć, zapowiedzieć, myśl, wiedzieć, strach itp. […]. Istnieją także zbieżności w dystrybucji zdań intensjonalnych i konstrukcji bezokolicznikowych, por. np. *Jak dobrze, że nie zapomniałeś o tym. – Jak dobrze siedzieć tu w cieniu.*".
>
> [A subordinate clause alternating in matrix structures with appropriate forms of abstract nouns or prosentential elements, cf. e.g.:
> *Janek announced that he would come* / *his arrival.*
> *The Commission has detected that abuses have been committed* / *abuses*.
> Thus, just like noun forms in a simple sentence, intensional clauses can perform various functions in relation to the main clause: subject, various objects, various modifiers, cf. e.g., in the function of the subject: *There is no doubt that it was he who did it*; in the function of the direct object: *He told her that he would be back soon*; in the function of the modifier: *He was sorry at the thought that he would have to start over again*. […] The occurrence of intensional sentences is therefore not conditioned by any specific syntactic position. The distribution of positions in which intensional sentences may occur should therefore be determined not by such concepts as subject, object, etc., but rather by enumerating the lexical units that open them: *detect*, *announce*, *thought*, *know*, *fear*, etc. […]. There are also similarities in the distribution of intensional sentences and infinitive constructions, cf. e.g. *How good that you have not forgotten about it. It's good to sit here in the shade*.] (Polański, 1999, p. 676)

Polański's classification of sentences is heterogenous, based on formal and semantic principles, as noted by Petrov (cf. Petrov, 2007, pp. 22–23). He distinguishes several types of hypotactic constructions (the adjective hypotactic is used here as "relating to a grammatical structure that contains a dependent clause (= a clause that cannot form a separate sentence but can form a sentence when joined with a main clause) […]" ("Hypotactic", n.d.):

1. relative structures (introduced in most cases by a relative pronoun), cf. pl. *Chłopiec, który jest obok krzesła śpi.* [*The boy who is next to the chair is sleeping.*]
2. non-relative structures:
3. intensional, cf. pl. *Myślę, że to zrobił*. [*I think he did it*.]

4. extensional (divided on a semantic basis into containing clauses of cause, result, condition etc.) (Banasiak, 2020, p. 33; Polański, 1967, p. 43), cf. pl. *Nie mogę nic zrobić z powodu strachu*. [*I cannot do anything because of fear*].

6 M. Grochowski's Model and Its Adoption in Polish Semantic Syntax

A serious development in syntax theory was introduced by M. Gorochowski, who rejected the parataxis vs hypotaxis opposition, as noted by Petrov (2007, p. 26). However, the author of *Składnia wyrażeń polipredykatywnych. Zarys problematyki* [*Syntax of polypredicative expressions. An outline of the problems*] (Grochowski et al., 1984) introduces the notion of implication understood as a formal (non-semantic) phenomenon. Polypredicative are constructions with a non-implicated clause (including relative clauses and "extensional" clauses). This formal take was later adopted in Polish semantic syntax, for example by M. Korytkowska, who states:

> Podjęta w tym tekście problematyka w szczególności dotyczy tych trudnych przypadków, kiedy rozstrzygnięcia, dotyczące funkcji pewnych członów zdania jako pozycji implikowanej przez czasownik (predykat) lub dodanej, ekstensjonalnej, nasuwają wątpliwości.
>
> ["The issues considered in this text concern in particular those difficult cases when the resolutions concerning the function of certain parts of a sentence as an implied position by the verb (predicate) or an added, extensional position, raise doubts."] (Korytkowska, 2017, p. 306)

It is quite puzzling that Korytkowska seems to be mixing the plane of expressions (formal implication, verb) with the semantic plane (semantic implication, predicate). A *predicate* is not synonymous with a *verb*. The term *verb* should therefore not be substituted by the term *predicate* (which seems to be the case, when placing it in parentheses). This distinction is paramount in semantic syntax, but Korytkowska in her paper focuses on constructions founded on verbs, which makes such a statement more plausible, especially if it was motivated by the need to make the text less hermetic. There is a certain tendency to focus on verbs in the Polish school of semantic syntax, and I personally consider it to be problematic (see below).

V. Maldjieva defines sentences with a polypredicative structure in the following way:

> […] zdanie, w którego skład struktury semantycznej wchodzą co najmniej dwa predykaty i implikowane przez nie argumenty, czyli co najmniej dwie struktury predykatowo-argumentowe, przy czym żadna z nich nie jest implikowana, tj. nie zajmuje pozycji argumentowej […] implikowanej przez predykat drugiej […].
>
> [a sentence whose semantic structure consists of at least two predicates and the arguments they imply, i.e. at least two predicate–argument structures, neither of which is implied, i.e. does not occupy the argument position […] implied by the predicate of the other […]] (Maldjieva, 1999, p. 126)

Further classification of polypredicative structures proceeds according to whether one of the predicate–argument structures is:

> dodana do któregoś z argumentów drugiej. W takim wypadku ta druga struktura predykatowo-argumentowa jest strukturą podstawową.
>
> [added to any of the arguments of the other. In such a case, this second predicate–argument structure is the basic structure.] (Maldjieva, 1999, p. 126)

In polypredicative structures when none of the propositions is added to one of the arguments of the other, both structures are basic, but there is one more predicative component, namely:

> predykat denotujący relację między składowymi strukturami predykatowo-argumentowymi. Jest to predykat relacyjny dwuargumentowy, którego argumentami są implikowane struktury predykatowo-argumentowe.
>
> [a predicate denoting the relationship between the constituent predicate–argument structures. It is a two-argument relational predicate, whose arguments are the constituent predicate–argument structures.] (Maldjieva, 1999, p. 126)

This allows the author to study the synonymy of formally different structures, such as:

(4) *pl. Wrócił z powodu spotkania z nauczycielką → Wrócił, ponieważ spotkał się z nauczycielką. vs. Wrócił, ponieważ ma się spotkać z nauczycielką.*
[*He returned due to his meeting with the teacher → He (had) returned because he was to meet the teacher. He (has) returned because he is to meet the teacher*.]

Maldijeva notes that the actualisation of the propositional structure in the case of nominalisations may require context to be properly interpreted. Having returned to Maldijeva's paper after several years I am greatly impressed by the fact that she included even such constructions as:

(5) pl. *Wynikiem wydania uchwały było to, że Jan dostał nagrodę*.
[*The result of the resolution was that Jan received the award.*] (Maldjieva, 1999, p. 125)

Korytkowska interprets structures founded on verbal exponents of relational predicates as intensional (monopredicative) in contrast to polypredicative structures with conjunctions or prepositions:

> Strukturę kauzatywną można zilustrować za pomocą zdania języka naturalnego, które stanowi strukturę standardową, zawierająca wypełnione pozycje P' (jako zdanie intensjonalne w pozycji podmiotowej – S') i P" (jako zdanie intensjonalne w pozycji dopełnieniowej – S") oraz verbum wyrażające kauzację bez dodatkowych nadwyżek semantycznych ("czystą kauzację"), por.: *To, że padało cały tydzień, sprawiło* (*/spowodowało*) (*to*), *że łąka jest zalana*.
>
> [A causative structure can be illustrated by a natural language sentence, which is a standard structure, containing the filled positions P' (as an intensional clause in the subject position – S') and P" (as an intensional clause in the object position – S") and a verb expressing causation without additional semantic surpluses ("pure causation"), cf.: *The fact that it rained all week caused the meadow to be flooded.*] (Kiklewicz & Korytkowska, 2010, p. 405)

6.1 Intensional vs Extensional Distinction and Synonymity

Intensional structures are said to be monopredicative while extensional ones – polypredicative. If these terms (*intensional* vs *extensional* and *monopredicative* vs *polypredicative*) were to be expressing relevant semantic differences (as should be the case in semantic syntax) there should not exist synonymous relations between "intensional" ("monopredicative") structures and "extensional" ("polypredicative") structures.

All these problems stem from the fact that these notions are based on non-semantic (or heterogenous) theories from schools that are not compatible with semantic syntax. Semantic syntax needs to be truly based on semantic principles rather than other non-semantic works (no matter how good or revolutionary they were at the time of their introduction). In fact, semantics is a lot simpler than the above interpretations.

Sometimes the term *predicate* is used to describe propositional arguments (especially as "internal predicate"), and the independent notion is described as the "main predicate". I doubt this tradition can be changed but would like to point out that words do have meanings and they influence the way we think. Reserving the term *predicate* for main predicates only and using the term *propositional argument* for "internal predicates" would probably allow for a clearer picture of poly- vs monopredicativity in the semantic sense (which should differentiate between the number of predicates as opposed to the number of propositional arguments). In semantic terms we should claim that polypredicative are only structures with more than one independent (non-implied) proposition (more than one true predicate), i.e., sentences with relative clauses or their equivalents. Monopredicative (and yet polypropositional) are all structures that contain at least one predicate and at least one dependent proposition (propositional argument). The notions of *intensional* and *extensional positions* could be re-introduced into semantic syntax based on (a simplified) view of their meaning in logic. Intensional positions do not influence the truthfulness of the sentence as a whole:

(6) pl. *Myślę, że on to zrobił celowo*.
bg. *Мисля, че той го направи нарочно*.
[I think he did it on purpose.]

can be truthful even if the proposition ‘he did it’ is false and/or if it ‘wasn’t on purpose’.

Extensional positions must be truthful for the sentence as a whole to be truthful:

(7) pl. *Wiem, że to powiedział*.
bg. *Зная, че той го е казал*.
[I know he said it.]

In the case of other non-assertoric types of relations, the modality of extensional positions remains relevant:

(8) pl. *Gdyby był młodszy, uciekłby z Kamaza*.
bg. *Ако беше по-млад, щеше да избяга от КАМАЗ-а*.
[If he were younger, he would have escaped from the Kamaz.]

The above relation can be truthfully asserted clearly only if “he wasn’t younger” and he “did not escape from the Kamaz”.

The traditional distinction between “monopredicative” (intensional) and “polypredicative” (extensional) sentences cannot be semantic if both kinds of sentences are synonymous. Such is clearly the case with different (verbal vs non-verbal) exponents of the causative relation:

(9) pl. *Powiedziałem to, bo byłem młody. = Powiedziałem to z powodu mojej młodości. = Moja młodość spowodowała, że to powiedziałem*.
bg. *Казах това, защото бях млад. = Казах това заради моята младост. = Младостта ми предизвика, че казах това*.
[*I said it because I was young. = I said it out of youngness. = My youngness caused me to say that.*]

(10) pl. *Niestety została wybrana do misji, ponieważ była przyjazna i posłuszna. = Niestety została wybrana do misji ze względu na swoje przyjazne i posłuszne zachowanie. = Niestety jej przyjazne i posłuszne zachowanie sprawiło, że została wybrana do misji.*
bg. *За съжаление тя беше избрана за мисията, понеже имаше приятелско и послушно поведение. = За съжаление тя беше избрана за мисията поради нейното приятелско и послушно поведение. = Нейното приятелско и послушно поведение за съжаление доведе до това, че беше избрана за мисията.*
[*Unfortunately, she was chosen for the mission because she was friendly and obedient. = Unfortunately, she was chosen for the mission because of her friendly and obedient behaviour. = Unfortunately, her friendly and obedient behaviour caused that she was selected for the mission*.]

In all the above examples the truthfulness of the sentence as a whole relies on the truthfulness of its propositional arguments and the relation itself. There is nothing semantically complex here, these positions are the same predicate–argument positions. We are so used to treating them as something radically different (because of tradition) that their obvious property of being extensional in the logical sense eludes us. The above three examples each contain one predicate and two propositional arguments. If the term *polypredicative* would be used in accordance with the number of predicates (independent notions) they should be treated as monopredicative polypropositional constructions.

7 Conclusion

The predicate of TRUTH has not been properly analysed in Karolak’s works. Explicating its meaning by simple repetition is no explication at all. Such a take is in accordance with traditional linguistic views that treat it as undefinable, but it fails to address the philosophical and logical interpretations which should be well known especially in Poland. The predicate TRUTH could be viewed as a two-place relational metapragmatic predicate, opening one position for a sentence and one for a fact. The second position cannot be filled for obvious reasons, so the structure of the proposition can be expressed by the following formula: P(p,ϕ). The Polish school of semantic syntax is only partially rooted in analytic philosophy.

In my view (even just for consistency), some notions should be re-analysed in accordance with analytic principles. The issues surrounding truthfulness and syntactic positions are introduced via non-semantic or heterogenous classifications. This leads to unexpected results as some synonymic constructions are viewed as separate distinct "semantic" classes. Basing the classification of syntactic structures on logic is a lot easier and would allow for a more comprehensible picture of syntactic structures. Intensional and extensional positions should be understood as they are in logic. Basing the distinction solely on the type of predicative expression opening the positions (with verbs opening intensional positions and conjunctions and prepositions opening extensional ones) is a very simplified view. There is nothing semantic in such a statement.

References

Antinucci, F., & Gebert, L. (1977). Semantyka aspektu czasownikowego. In S. Urbańczyk, J. Basara, & K. Rymut (Eds.), *Studia gramatyczne I* (pp. 7–43). Wydawnictwo Polskiej Akademii Nauk.

Banasiak, J. L. (2020). *Procesy nominalizacyjne w zdaniach wyrażających relację przyczynowo-skutkową (na materiale języka polskiego i bułgarskiego)*. Instytut Slawistyki Polskiej Akademii Nauk; Fundacja Slawistyczna. https://hdl.handle.net/20.500.12528/1524

Grochowski, M., Karolak, S., Topolińska, Z., & Urbańczyk, S. (Eds.). (1984). *Składnia*. Państwowe Wydawnictwo Naukowe.

Hodges, W. (2022, Winter). Tarski's truth definitions. In E. N. Zalta & U. Nodelman (Eds.), *The Stanford encyclopedia of philosophy*. Metaphysics Research Lab, Stanford University. https://plato.stanford.edu/entries/tarski-truth/

Hypotactic. (n.d.). In *Cambridge dictionary*. Retrieved May 21, 2025, from https://dictionary.cambridge.org/es/diccionario/ingles/hypotactic

Karolak, S. (2001). *Od semantyki do gramatyki: Wybór rozpraw*. Instytut Slawistyki Polskiej Akademii Nauk (Slawistyczny Ośrodek Wydawniczy).

Karolak, S. (2002). *Podstawowe struktury składniowe języka polskiego*. Instytut Slawistyki Polskiej Akademii Nauk (Slawistyczny Ośrodek Wydawniczy).

Kiklewicz, A. (2014). Koncert wiolonczelowy Beethovena… Prawda a nominacja leksykalna. In A. Kiklewicz & E. Starzyńska-Kościuszko (Eds.), *Oblicza prawdy w filozofii, kulturze, języku* (pp. 125–148). Instytut Filozofii Uniwersytetu Warmińsko-Mazurskiego.

Kiklewicz, A., & Korytkowska, M. (Eds.). (2010). *Podstawowe struktury zdaniowe współczesnych języków słowiańskich: Białoruski, bułgarski, polski*. Centrum Badań Europy Wschodniej Uniwersytetu Warmińsko-Mazurskiego.

Kiklewicz, A., & Szumska, D. (2023). Moskiewska szkoła semantyczna a polska szkoła składni semantycznej: Rekonesans metalingwistyczny. *Przegląd Wschodnioeuropejski*, *14*(1), 285–318. https://doi.org/10.31648/pw.9038

Korytkowska, M. (2017). Intensja czy ekstensja? O pewnych dylematach przy analizie struktur predykatowo-argumentowych. *Prace Filologiczne*, *70*, 305–316.

Maldjieva, V. (1999). Warunki synonimiczności zdań o strukturze semantycznej polipredykatywnej. In Z. Greń & V. Koseska-Toszewa (Eds.), *Semantyka a konfrontacja językowa* (Vol. 2, pp. 123–128). Instytut Slawistyki Polskiej Akademii Nauk (Slawistyczny Ośrodek Wydawniczy).

Nowaczyk, A. (2009). Tarskiego pojęcie prawdy zrelatywizowane do języka. *Filozofia Nauki*, *17*(1), 5–12.

Pelc, J. (Selection & Trans.). (1967). *Logika i język: Studia z semiotyki logicznej*. Państwowe Wydawnictwo Naukowe. https://www.scribd.com/document/8336903/Logika-i-J%C4%99zyk-Studia-z-Semiotyki-Logicznej

Petrov, I. N. (2007). *Wyrażanie struktur polipredykatywnych w rozwoju języka bułgarskiego*. Wydawnictwo Uniwersytetu Łódzkiego.

Polański, K. (1967). *Składnia zdania złożonego w języku górnołużyckim*. Zakład Narodowy im. Ossolińskich, Wydawnictwo PAN.

Polański, K. (Ed.). (1999). *Encyklopedia językoznawstwa ogólnego* (2nd ed.). Zakład Narodowy im. Ossolińskich.

Pragmatism's conception of truth, by William James. (n.d.). Retrieved June 2, 2025, from https://monadnock.net/james/pragmatism-6.html

Russell, B. (2017). On truth and falsehood. In J. McLaughlin (Ed.), *The originals: Classic readings in Western philosophy*. Thompson Rivers University, BCcampus. https://pressbooks.bccampus.ca/classicreadings/chapter/bertrand-russell-on-truth-and-falsehood/

Sobotka, P. (2023). *Etymologia a gramatyka. Perspektywa funkcjonalna w rekonstrukcji dziejów słów*. Instytut Slawistyki Polskiej Akademii Nauk. https://hdl.handle.net/20.500.12528/1971

Szubka, T. (2019). *Logika i język* pół wieku później. *Semiotic Studies*, *33*(2), 157–165. http://pts2.home.pl/studiaojs/index.php/Studiasemiotyczne/article/view/135

Tarski, A. (1933). *Pojęcie prawdy w językach nauk dedukcyjnych*. Nakładem Towarzystwa Naukowego Warszawskiego. https://digital.fides.org.pl/dlibra/publication/3187/edition/2989

Tarski, A. (1944). The semantic conception of truth and the foundations of semantics. *Philosophy and Phenomenological Research*, *4*(3), 341–376. https://doi.org/10.2307/2102968

Truth-value | Truth-function, validity & soundness. (n.d.). In *Britannica*. Retrieved June 1, 2025, from https://www.britannica.com/topic/truth-value

Wierzbicka, A. (1972). *Semantic primitives* (A. Wierzbicka & J. Besemeres, Trans.). Athenäum-Verlag. http://archive.org/details/semanticprimitiv0022wier

Woleński, J. (2023, Winter). Lvov–Warsaw School. In E. N. Zalta & U. Nodelman (Eds.), *The Stanford encyclopedia of philosophy*. Metaphysics Research Lab, Stanford University. https://plato.stanford.edu/archives/win2023/entries/lvov-warsaw/

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