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### ON CONDITIONAL SENTENCES

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#### I. Controversies about conditional sentences

At the beginning of the 20<sup>th</sup> century it was a common view — expressed by e.g. W. Biegański (1903: 184, 1912: 281) — that the conditional sentence asserts, i.e. expresses (!), a succession or co-existence (in time or space) of states of things to which the antecedent and consequent clauses refer to, but does not assert (express) anything about each of these states of things separately. The introduction of LOGICAL MATERIAL IMPLICATION made its relation to the conditional sentence of common speech widespread — in fact, as J. Łukasiewicz (1934: 182-138) states, this issue was allegedly known in ancient times; it seems that the first Pole to notice the so called PARADOX OF IMPLICATION was T. Kotarbiński (1929: 168). The issue of this relation at once caused two opposite approaches to emerge. According to the one whose most prominent defender was R. Ingarden (1936), MATERIAL IMPLICATION is so semantically distant from the conditional sentence that the latter by no means can be reduced to it. According to the other approach, which was fully developed by K. Ajdukiewicz (1936), MATERIAL IMPLICATION and common speech conditional sentences have the same truth conditions, and the mentioned PARADOX can be eliminated by introducing the distinction: asserting — expressing, which became easier thanks to the earlier progress made by M. Ossowska (1928, 1931) in the area of ANALYSIS OF EXPRESSIVE FUNCTION of utterances.

Interruption of scientific life in Poland — in the form of destructive war, CULTURAL BARBARISM OF INVADERS, and later GROTESQUE POLITICAL RIGORS — unfortunately, meant that it was necessary to repeatedly return

to the origins of the controversy. First, the two past solutions were brought back in an extended form but without essential changes: Ingarden (1949) and Ajdukiewicz (1956b). Soon after — not to mention descriptive contributions of L. Borkowski (1964) and J. Kotarbińska (1964) — two new voices appeared: that of Z. Czerwiński (1958) and a little bit later of E. Grodziński (1969a, b). The latter (it seems to me unsuccessfully) aimed at proving that a sentence of the form “If  $p$ , then  $q$ ” (where  $p$  and  $q$  are sentences) is a (METALinguistic) sentence about sentences  $p$  and  $q$  — namely a sentence asserting a relation between LOGICAL values of these sentences (Grodziński 1969a: 64) — and moreover that if the sentence is true, then it expresses a correct (infallible) inference (Grodziński 1969a: 60). Whereas Czerwiński (it seems effectively) attempted to cast doubt on Ajdukiewicz’s ANALYSIS OF SEMANTIC FUNCTION of assertion which is characteristic of conditional sentences. He indicated that:

1. the notion of “assertion” is vague in Ajdukiewicz (Czerwiński 1958: 265);

2. within the solution presented by Ajdukiewicz it is possible to assume that if two sentences assert the same thing, then both of them are LOGICALLY equivalent (Czerwiński 1958: 265);

3. a common conditional sentence does not assert the same thing as LOGICAL MATERIAL IMPLICATION, for in common speech there may be conditional sentences which are not true, but which become true when the connective is changed into the FUNCTOR OF LOGICAL IMPLICATION (Czerwiński 1958: 265-266); an example of this is the sentence *If Kopernik had a son, Kopernik was not a father* and any sentence whose antecedent excludes the consequent (Czerwiński 1958: 266-267);

4. a common conditional sentence is true if there is a true FORMAL IMPLICATION which with appropriate substitution can give the sentence (Czerwiński 1958: 269).

After Ajdukiewicz’s death, the main advocate of his solution to the PARADOX OF IMPLICATION was B. Stanosz (1976, 1985). J. Kmita (1966) and L. Nowak (1970) made progress in analyzing the EXPRESSIVE FUNCTION of utterance, while Z. Kraszewski (1972) made an attempt to make the notion of “content connection” — that is the key notion of the opposite approach — more precisely. Also, J. Pelc (1982a-c) took a unique stance. First of all, he gave admissibility conditions, that is conditions for both truth and correct use

of the conditional sentence, but — similarly to I. Dąbska (1938: 248-250) — FORMULATED IN A PRAGMATICALLY ORIENTED VERSION. According to Pelc, language users regard the conditional sentence as admissible when:

1. they are convinced (they “perceive”) that there is a content connection between the antecedent and the consequent;
2. are not convinced that the component clauses are not true;
3. are not convinced (“sure”) that the component clauses are true;
4. are convinced that there is (they “look for”) a conditional connection (“conditional bond”) between the content of the antecedent (“subordinate clause”) and the content of the consequent (“main clause”) (Pelc 1982c: 264, 268).

Secondly, as can be seen above, Pelc included among the conditions not only the conviction that there is a substantial bond (“content connection”) between states of things asserted in the antecedent and the consequent, but also the conviction (“feeling”) that there is a relationship of consequence between the antecedent and the consequent (“conditional connection”) which, it seems, is founded on the former conviction.

The work by A. Bogusławski (1986) should be regarded as an approach ANTAGONISTIC to Ajdukiewicz’s approach. It is a sort of supplement to the work which was written a quarter of a century earlier by Z. Czerwiński. Bogusławski cast doubt on another essential keystone of Ajdukiewicz’s solution: the results of Ajdukiewicz’s ANALYSIS OF PRAGMATIC FUNCTION of expression which is performed by conditional sentences. If Bogusławski’s CRITICISM were completely legitimate, Ajdukiewicz’s approach could not be maintained even at the cost of far-reaching changes.

Below I shall try to prove that, at least in the part concerning the issue of expressing, Ajdukiewicz’s solution can be defended.

## II. Bogusławski’s views

### 1. Reconstruction of Ajdukiewicz’s attitude

According to Bogusławski, Ajdukiewicz’s attitude on expressing and asserting is as follows:

A1. “Expressing” means the same as “reference [of sentences] to [mental states].” “The relation [of expressing in Ajdukiewicz]” — writes Bogusławski — “concerns the mental state of the speaker” (Bogusławski 1986: 221).

A2. “Asserting” means the same as “reference [of sentences] to [extramental states.]”  
“According to Ajdukiewicz] it would be wrong to say «the speaker asserted that *S*», where *S* could be substituted with the factual mental state of the speaker” (Bogusławski 1986: 222).

A3. Extensions of the names “what is expressed by the given sentence” and “what is asserted by the same sentence” are mutually exclusive (more precisely: are opposite).  
“Ajdukiewicz radically opposes what conditional sentences «assert» with what they «express»” (Bogusławski 1986: 215). “What Ajdukiewicz’s considerations are about is OPPOSING what is asserted with what is expressed” (Bogusławski 1986: 221).

A4. Extensions of the names “expressing” and “asserting” are mutually exclusive (are opposite).

“[Ajdukiewicz introduces] a distinction of two «semiotic functions» of expressions” (Bogusławski 1986: 215): “semiotic distinction «asserting» — «expressing»” (Bogusławski 1986: 217). “In his work the opposition «asserting» and «expressing» has been drawn” (Bogusławski 1986: 223).

A5. Both A3 and A4 result from adopting both A1 and A2.

“In order to [...] distinguish the SPECIFIC relation [of expressing, which is opposite to asserting, and to distinguish what is expressed from what is asserted, Ajdukiewicz gives unique characteristics [of these relations]” (Bogusławski 1986: 221).

A6. Every (affirmative) sentence *p* expresses (what the sentence asserts):

a. the speaker knows that *p*.

“Ajdukiewicz includes among his expressed «elements» [...] the knowledge of the speaker that it is such and such [...]. This property is characteristic of ALL affirmative sentences alike” (Bogusławski 1986: 222). “Ajdukiewicz claims that the affirmative sentence «expresses» a conviction or judgment of the speaker that a particular state of things occurs” (Bogusławski 1986: 222, note 14).

In the matter of conditional sentences — according to Bogusławski — Ajdukiewicz has the following attitude:

A7. The distinction: “expressing” and “asserting” makes it possible to satisfactorily explain different (but all?) ways of using sentences — especially conditional sentences.

“The distinction of two «semiotic functions» of expressions [...] is supposed to be fundamental in Ajdukiewicz’s conception as regards interpreting language signs. Ajdukiewicz shows how to deal with [this] conceptual apparatus by using the example of certain troublesome phenomena in the domain of conditional sentences” (Bogusławski 1986: 215).

A8. Every conditional sentence of the form “If  $p$ , then  $q$ ” asserts exactly what (is asserted by) the material implication “ $p \rightarrow q$ ”.

“[Ajdukiewicz] identifies [the proper semantic content of the basic conditional sentence] with truth properties of the logical connective  $\rightarrow$ ” (Bogusławski 1986: 215), that is “with the content of material implication matrix” (Bogusławski 1986: 224).

A9. Every conditional sentence of the form “If  $p$ , then  $q$ ” expresses (i.a., what the following sentences together assert):

- a. the speaker does not know if  $p$ , and does not know if  $q$ ;
- b. the speaker is ready to infer sentence ‘ $q$ ’ from sentence ‘ $p$ ’.

“According to Ajdukiewicz the speaker’s non-knowledge is «expressed» and not «asserted» in basic conditional sentences” (Bogusławski 1986: 221).

“Ajdukiewicz sees [...] the readiness [to accept the consequent as true immediately after adopting that the antecedent is true] of one more mental state which is «expressed» by the conditional sentence, except for the speaker’s non-knowledge about the logical value of  $p$  and  $q$ ” (Bogusławski 1986: 222).

## 2. Assessment of Ajdukiewicz’s attitude

Having presented Ajdukiewicz’s views in such a way — in the part concerning conditional sentences called “the reductionist approach” (Bogusławski 1986: 224) — Bogusławski comments them as follows:

AB1. There are sentences which express and assert the same thing. “There are sentences which correspond to Ajdukiewicz’s definition of «expressing», but which certainly deserve to be regarded as «what is asserted» [...]; cf. the affirmative sentence [of the type] *I think he is sick*” (Bogusławski 1986: 221).

AB2. There is a property which is characteristic of both expressing and asserting. “What «expressing» and «asserting» share [...] is [...] the feature of conventionality” (Bogusławski 1986: 221).

AB3. A3 and A4 are wrong.

“In fact [Ajdukiewicz] does [not] distinguish [...] the relation [of expressing as different from that of asserting]” (Bogusławski 1986: 221). “[Ajdukiewicz’s] characteristics of «expressing» [does not determine] adequately [...] [the border] between [...] domains [...] of what is asserted, and what is expressed” (Bogusławski 1986: 221).

AB4. AB3 results from AB1 and AB2.

AB5. A5 is wrong.

“In order to really distinguish [expressing and asserting], Ajdukiewicz’s characteristics should be supplemented” (Bogusławski 1986: 221).

AB6. A correct distinction of notions of “expressing” and “asserting” requires that:

- a. the counterdomain of the relation of expressing — or the relation of asserting respectively — is homogeneous;
- b. “expressing” and “asserting” have clear and “absolute” content.

AB7. Condition AB6 is not met by A1 and A2.

“Ajdukiewicz’s category of «expressing» [...] is internally heterogeneous” (Bogusławski 1986: 217). “Ajdukiewicz’s notion of «expressing» is an unclear disjunction of heterogeneous and quite vaguely indicated situations in which real language conventions are confused with inference relations” (Bogusławski 1986: 223); “Ajdukiewicz’s conception [...] [confuses] phenomena which belong to fundamentally different categories or areas” (Bogusławski 1986: 217). “In Ajdukiewicz’s view «expressing» is based on a special group of ARGUMENTS, but not a truly relational character [...]” (Bogusławski 1986: 222).

AB8. A1 and A2 are incorrect.

AB9. AB8 results from AB6 and AB7.

AB10. A6 is wrong.

AB11. AB10 results from B8 (see below).

AB12. A7 is wrong.

“Ajdukiewicz’s category of «expressing» is *ad hoc* in nature” (Bogusławski 1986: 217); “is an *ad hoc* notion (in relation to the system of purely relational notions)” (Bogusławski 1986: 222).

AB13. AB12 results from B1 and B2 (see below).

AB14. A8 is wrong.

AB15. AB14 results from B3, B4 and B6 (see below).

AB16. A9 is wrong.

AB17. AB16 results from B5 and B7 (see below).

### 3. Presenting my own solution

And here follows the fundamental core of Bogusławski’s solution:

B1. What is regarded as improper is:

- i. uttering both the conditional sentence of the form “If  $p$ , then  $q$ ” and the negation of the sentence:
  - a. I do not know if  $p$ , and I do not know if  $q$ ;
  - ii. uttering the conditional sentence of the form “If  $p$ , then  $q$ ” in which  $p$  is the sentence of the form “I know that  $r$ .”

“The sentence [...] *If the front door is closed, you will go across the courtyard* [...] [in the case when we know] that the front door is closed [...] may be a bad joke at the most” (Bogusławski 1986: 220). “Sentences of the type [...] *If I know who he is, I will tell you* are deviant” (Bogusławski 1986: 220).



B2. In order to explain B1 it is necessary (and sufficient?) to introduce the notion of “saying” and differentiate what is said directly and what is said indirectly.

“It seems sufficiently clear that our notion [of cognitive convention] conveniently encompasses various elements of content [...], ALL interpretative aspects [of basic conditional sentences], [...] with the stipulation that *sayables* in the sentence may be characterized structurally either in a rhematic way [RHEMATIC DICTUM], or in a thematic way [THEMATIC DICTUM]” (Bogusławski 1986: 217 and 218).

B3. Every basic conditional sentence of the form “If  $p$ , then  $q$ ” directly states that:

- a. there is a connection between that  $p$  and that  $q$ .

“What is the rhematic component [...] in the semantic structure [...] of the basic conditional sentence [...] is the «dynamic connection» which occurs between the antecedent and the consequent” (Bogusławski 1986: 216 and 217).

B4. Some basic conditional sentences of the form “If  $p$ , then  $q$ ” directly state what is stated directly by the IDEAL (strict) IMPLICATION “ $p \Rightarrow q$ ”, that is it is impossible that  $p$  and at the same time it is not true that  $q$ .

“I am inclined [...] to adopt [...] the definition [of the content of the basic conditional sentence] which is based on the notion of contradiction, and which, in a certain sense, is close to Lewis’s definition of strict implication, but is not identical” (Bogusławski 1986: 216).

B5. Every basic conditional sentence of the form “If  $p$ , then  $q$ ” indirectly states that:

- a. the speaker does not know if  $p$ , nor if  $q$  (= aA9).

“[*This, that*] the speaker [...] [does not know] the logical value of the antecedent and the consequent” (Bogusławski 1986: 217) “[has] the status of thematic *sayable*” (Bogusławski 1986: 217). ”The speaker’s non-knowledge [...] should be included in [...] the category of «what can be said» [by the basic conditional sentence]” (Bogusławski 1986: 217), as its “THEMATIC DICTUM” (Bogusławski 1986: 220), “[semantic] convention” (Bogusławski 1986: 223).

B6. No basic conditional sentence of the form “If  $p$ , then  $q$ ” asserts exactly what is asserted by the MATERIAL (i.e. loose) IMPLICATION “ $p \rightarrow q$ .” “I stand on the side of those who reject treating conditional sentences and material implication equally [...] in whatever sense or mood” (Bogusławski 1986: 216).

B7. Each (proper) utterance of the basic conditional sentence of the form “If  $p$ , then  $q$ ” results in:

- a. the speaker is ready to infer sentence ‘ $q$ ’ from sentence ‘ $p$ ’ (= bA9).

“The speaker’s readiness [to] infer ‘ $q$ ’ from ‘ $p$ ’ is itself something that is inferred (from the assumption that the speaker seriously and fully consciously links [...] [the basic conditional sentence] with assertion” (Bogusławski 1986: 223), a “is [...] by no means linked to *if*” (Bogusławski 1986: 223). It is only “an inference relation” (Bogusławski 1986: 223).

B8. No (affirmative) sentence ‘ $p$ ’ states (neither directly, nor indirectly):

- a. the speaker knows that  $p$  (= aA6).

“The speaker’s knowledge which concerns the content of the affirmative sentence is not at the same level as the knowledge which concerns cognitive differences [...]” (Bogusławski 1986: 222).

### III Remarks on Bogusławski’s views

#### 1. Stipulations to Bogusławski’s attitude

I would like to consider the following stipulations to Bogusławski’s attitude:

BJ1. What results from AB1 is AB3, but AB1 is wrong — if CONJUNCTION SEQUENCES of the form “I do not know if  $p$ . But if  $p$ , then  $q$ ” are omitted. Anyway, a sentence of the form “I think that  $p$ ” asserts that the speaker thinks that  $p$ , but does not express that the speaker thinks that  $p$ . What it expresses, however, is the speaker’s conviction — hereafter I shall use the term: “utterer” — that the utterer thinks that  $p$ . Respectively, a sentence of the form “I thought that  $p$ ” expresses the conviction that (once, in the past) the utterer thought that  $p$ . Here, I do not take into consideration such an understanding of Bogusławski’s claim which would concern only

that there are states which can be both asserted and expressed (in particular by different sentences). That the utterer thinks (i.e. has a conviction) that  $p$  — which is asserted by the sentence “I think that  $p$ ” — is expressed e.g. by the sentence ‘ $p$ .’ It does not, however, justify AB3, although it is obviously enough to reject A2.

BJ2. AB2 is true, but AB3 does not result from AB2. If having no shared property by objects which belong to the extensions of two names was a necessary condition for extensional disjunction of these names, then two names would never be disjunctive.

BJ3. What follows from BJ1 and BJ2 is that AB3 remains unjustified in Bogusławski’s attitude. I myself would be inclined to accept A3. The view on the disjunction of “expressing” and “asserting” can already be found in Ossowska (1928: 124).

BJ4. AB8 results from AB5, but AB5 is wrong. The other thing is that A2 seems not to be Ajdukiewicz’s view at all. He states: The sentence *Paris is situated in Europe* uttered now by a person  $P$  states an objective state of things [...], and it expresses the speaker’s conviction that what is stated by the sentence is the case [...]. In order to learn from an utterance about the STATE OF AFFAIRS [emphasis mine — JJJ] referred to, it is necessary to believe that the uttered sentence is true; in order to learn from an utterance what subjective state of the speaker it expresses it is sufficient to hear and to understand it [...].” (Ajdukiewicz 1956a: 141-142; emphasis mine — JJJ). In my opinion this passage allows us to accept that what is expressed by a sentence is a subjective state of things; it does not allow us, however, to fully accept that what is asserted are an exclusively extrasubjective (i.e. OBJECTIVE) states of affairs.

BJ5. AB9 is true, but AB6 is wrong. In order to distinguish the notions of “expressing” and “asserting” it is sufficient to prove that the relations of expressing and asserting have different fields.

BJ6. What results from BJ5 is that AB8 is unjustified.

BJ7. B8 is true, but AB11 is wrong. The conviction that  $p$  — is not asserted by the sentence of the form ‘ $p$ .’ However, it is not an obstacle to accept that the conviction is expressed by the sentence.

BJ8. What results from BJ7 is that AB10 is unjustified.

BJ9. AB13 is true, but B2 is wrong. In order to explain B1 it is sufficient (and necessary) to distinguish: “expressing” — “asserting.”

i. The sentence

(9) *Yes, if the front door is closed, you will go across the courtyard* expresses (among other things) the (utterer’s) non-knowledge if the front door is closed; thus if (e.g.) the utterer knows that the front door is closed, then (uttering) (9) is improper. This is even clearer in the case of the sentence

(4) *If John visited Sacramento, which I know he did, then he murdered Peter*, which asserts (among other things) the (utterer’s) knowledge that John visited Sacramento, and which expresses (among other things) the (utterer’s) non-knowledge if John did. In the case when the speaker knows that John visited Sacramento, (uttering) (4) is improper; while if the utterer does not know if John did — (4) is not true.

ii. The sentence

(10) *If I know who he is, I will tell you*

expresses (among other things) the (utterer’s) non-knowledge if the utterer knows who somebody else is; thus if the utterer knows if the utterer knows who somebody else is, then uttering (10) is improper. Now, if it is not possible that the utterer does not know what the utterer knows, then no sentence which expresses non-knowledge about own knowledge cannot be proper (properly uttered).

It is worth noticing here that, firstly, Bogusławski also does not call all sentences which state something that does not take place “false sentences” Namely, he writes: “Sentence (9) [in the described circumstances is used inappropriately and] may be a bad joke at the most [...], [and] sentences such as type (10) are DEVIANT” (Bogusławski 1986: 220; emphasis mine — JJJ). Moreover, he admits that an analysis of sentences of type (4) “causes some difficulties but it seems that these difficulties can be eliminated by means of additional explanations” (Bogusławski 1986: 220). I think that in fact the distinction: asserting and expressing — completely removes these difficulties. Secondly, Bogusławski differentiates, besides indirect and direct speaking, a third way of informing. According to Bogusławski, “in the sentence [...] *John is bald* obviously assumes that John’s body consists of, i.a., the head [...]” (Bogusławski 1986: 218; emphasis mine — JJJ).

BJ10. What results from BJ9 is that AB12 is unjustified.

BJ11. AB15 is true, but B6 is wrong. I share Kotarbiński's view — although without his stipulations (Kotarbiński 1929: 168-169) — that conditional sentences of the type:

*If he keeps his word, I will grow hair on my palm* (i.e. *If he keeps his word, pigs might fly*) asserts (in Kotarbiński's words: "talks, i.a., about", "probably states"), that the former (i.e. that he keeps his word) will not take place without the latter (i.e. that I will grow hair on my palm), that is exactly what is stated by MATERIAL IMPLICATION: *He will keep his word*  $\rightarrow$  *I will grow hair on my palm*

*Ad usum exempli* I obviously assume that the quoted sentence is a basic conditional sentence (sometimes it is a sentence equivalent: *If he kept his word, then I would grow hair on my palm*). Here follow examples of this type of conditional sentences quoted from works of the best Polish writers:

Dźwięk słów wyborych uszy tylko pieści,  
Jeśli z nich zdatna nauka nie płynie.  
(The sound of excellent words only caresses the ears,  
If the words are not accompanied by suitable learning.)  
Ignacy Krasicki, *Myszeidos* (*Mouseiad*)

Jeśli nas dzisiaj zawiodą nadzieje,  
Szczęśliwsze jutro może wynagodzi.  
(If hopes fail us today,  
Perhaps a happier tomorrow will compensate it)  
Adam Mickiewicz, *Grażyna*

Jeśli dziewczęta malin nie dostaną,  
To nazbierają jagodek.  
(If girls do not reach raspberries,  
Then they will pick blueberries.)  
Juliusz Słowacki, *Balladyna*

BJ12. What results from BJ11 is that AB20 is not justified.

BJ13. AB17 is true, but B5 and B7 are false. Firstly, that the utterer does not know if  $p$ , and does not know if  $q$  (= aB5), is expressed by the basic conditional sentence of the form "If  $p$ , then  $q$ " (cf. below, J15). Secondly, the basic conditional sentence of the form "If  $p$ , then  $q$ " asserts: what is related to  $p$  is  $q$  (cf. below, J12). Thus, it expresses (i.a.) the (utterer's) conviction that what is related to  $p$  is  $q$ . In turn: the utterer is not ready

to deduce the sentence ‘*q*’ from ‘*p*’ without the conviction that what is related to *p* is *q*; and then uttering a sentence of the form “If *p*, then *q*” is improper. Hence since the basic conditional sentence of the form “If *p*, then *q*” expresses the (utterer’s) conviction of that what is related to *p* is *q*, it also expresses the (utterer’s) readiness to deduce the sentence ‘*q*’ from the sentence ‘*p*’. N.B. I do not know why expressing this readiness is called by Grodziński “wnioskowanie” (deduction) (1969b: 133). This readiness CAN BE in fact INFERRED from uttering (properly) the basic conditional sentence, by analogy to the (utterer’s) non-knowledge concerning the logical value of elements of the sentence.

BJ14. What results from BJ13 is that AB16 is not justified.

## 2. General assessment of Bogusławski’s views

Grasping some details of Bogusławski’s solution causes certain difficulties, especially to a non-linguist. For example the following is not completely clear to me.

B?1. What exactly underlies the TEST OF CONTRAST, NEGATION and REDUNDANCY (or the test of opposition, negation and surplus)? Why, say *bold* is contrasted with *long-haired* (cf. 1986: 218), and not, e.g., *hairy* or *mop-haired*?

B?2. What are the conditions for an independent method of establishing the properness or improperness of a given sentence (cf. 1986: 221)? In particular, what is wrong in assuming that absence of a certain mental state, and thus falsity of a sentence affirming this state, results in improperness of another sentence; for example the sentence:

Gdybym nie kochał śmiertelnej piękności [...],  
Byłbym się wyniósł nad głowy współbraci.  
(If I had never loved a mortal beauty [...],  
I would have raised above the heads of my comrades.)  
Zygmunt Krasiński, *Serce mi pęka* (*My heart breaks*)

is improper because the sentence: *Krasiński was convinced that he loved a mortal beauty* is false?

B?3. What is the domain and the codomain of the RELATION OF COGNITIVE CONVENTION (CONVENTIONAL COGNITIVE CORRELATION) and the RELATION OF COMMUNICATION (“saying”) (cf. 1986: 215, 217-219)? Is it so that when the connection between both RELATIONS is discussed, then what is meant is that the RELATIONS are linked by the equality relation (e.g.  $X$  knows that — that is realizes that —  $y$ , when  $X$  says — or can say — ‘ $y$ ’), or that both of them have identical counterdomains (e.g. what is realized is the same to that what can be said by someone)? What are the implications of the issue for the THEORY OF SEMIOTIC FUNCTIONS?

B?4. What does it mean that a certain RELATIONAL CATEGORY (that is a concept of a certain relation, in particular: the “concept of expressing”) as a concept based not on a RELATIONAL SPECIFICATION, hence DEFINED not purely RELATIONALLY (that is not through indicating the uniqueness, NATURE, appropriate relation?), but by means of a SPECIAL GROUP OF ARGUMENTS, TERMINAL SYMBOLS (that is through indicating the field of this relation?) is a result of the intersection of different CLASSIFICATIONS (cf. 1986: 222)?

Fortunately, the outlined difficulties concern — in my opinion — issues which are marginal and do not obscure the content of Bogusławski’s main theorems, among which the following seem true to me: B1, B3, B4 and B8. Moreover, I share some of Bogusławski’s general convictions, although I understand differently their value to the discussed problems.

JB1. Reading LOGICAL SYMBOLS by means of expressions of common language may sometimes be the source of alleged issues (which I expressed, i.a., in my paper published in 1980). Bogusławski straightforwardly writes: “[For example] the problem of [...] a reductionist approach to conditional sentences in a natural language would never exist if there were no custom to understand the logical arrow as *if... then...*” (Bogusławski 1986: 224).

JB2. An advantage of a solution to a certain problem is its generality. The more general rights occur in the solution and the more general concepts, the better account of a given problem. Bogusławski also writes: “The possibility of generalization of a higher degree [should not be neglected]” (Bogusławski 1986: 217). It is interesting that both Bogusławski and Stanosz (1985: 70-71) express concern about extending the applicability of adopted general theorems, however Stanosz, similarly to me, postulates extending applicability of THESES OF LOGIC which contain truth connectives, while

Bogusławski postulates that expressing and asserting have the same SEMANTIC FUNCTION, in the name of increasing the UNIVERSALITY OF THESESES OF LINGUISTICS.

JB3. What is asserted by a given sentence, and what the sentence expresses — are the things about which the speaker learns from (uttering) the sentence. Therefore, what is useful is a general concept of “what the sentence communicates” (cf. J9 below) which encompasses the whole content of the sentence. For Bogusławski such a concept is the concept of “what the sentence says”. Namely, Bogusławski writes: “Our concept captures various elements of content in a convenient way [...]; [it constitutes] a NON-DISJUNCTIVE formula which presents shared features of ALL interpretative aspects, which, as it seems, execute one general phenomenon [...].” (Bogusławski 1986: 218).

JB4. The subject content of sentences (all that is expressed by sentences) is not homogeneous. In my opinion it does not matter for the usefulness of the concept; according to Bogusławski it is the concept’s shortcoming. Thus, Bogusławski writes: “[It is unfavourable to place] among «expressed elements» [...] two types of «subjective states» [...]” (Bogusławski 1986: 222).

JB5. Conditional sentences of common language fall into many types which differ from one another in meaning. Accepting one of them as the basic is a matter of convention. Bogusławski writes only that: “The initial step in analyzing conditional sentences [...] is a distinction of a few construction types” (Bogusławski 1986: 216). N.B. similar recommendations are present in Kotarbiński (1929: 168) and Ingarden (1949: 291).

#### IV. An outline of my own attitude

##### 1. Informing

Bearing in mind restrictions discussed by A. Tarski (1933), I shall, for the sake of convenience, use ‘*X*’, ‘*Y*’, etc. for names of individuals *X*, *Y*, etc; and ‘*p*’, ‘*q*’, etc. for names of sentences: *p*, *q*, etc.

J1. The PRINCIPLE OF PRUDENCE.<sup>1</sup> If *X* is prudent, then if *X* rejects ‘*p*’, then it must not be accepted that *p*.

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<sup>1</sup>My principle of prudence is close to H.-P. Grice’s principle of quality (1975).



J2. If it must not be accepted that  $p$ , then “ $p$ ” is invalid or improper. What can be invalid (and improper) are affirmative sentences as well as interrogative sentences and imperative sentences. “An invalid affirmative sentence” is “a false (wrongly uttered) sentence”; “an invalid interrogative sentence” is “an unauthorized (wrongly posed) sentence”; finally, “an invalid imperative sentence” is “an inappropriate (wrongly given) sentence.”

J3. If ‘ $p$ ’ is valid, then if ‘ $p$ ’ asserts that  $q$ , then  $q$ . As it has already been emphasized — I think in recent times most forcefully by Pelc (cf. 1982: 227-233, 260-273) — strictly speaking it should not be said that ‘ $p$ ’ asserts (e.g.) that  $q$ , but  $X$ ’s utterance (the sentence uttered by  $X$ ):  $p$ . Similarly, sentences affirming that ‘ $p$ ’ affirms that  $q$ , and assumes that  $q$ , and expresses that  $q$ .

J4. If ‘ $p$ ’ asserts that  $q$ , and ‘ $q$ ’ is identical to ‘ $p$ ’, then ‘ $p$ ’ asserts that  $q$ .

J5. Every ‘ $p$ ’ asserts that  $p$ .

J6. If ‘ $p$ ’ asserts that  $q$ , and ‘ $q$ ’ is different than ‘ $p$ ’, then ‘ $p$ ’ assumes that  $q$ .<sup>2</sup>

J7. If ‘ $p$ ’ is proper, then if ‘ $p$ ’ expresses that  $q$ , then  $q$ .

N.B. Ajdukiewicz makes a mistake when he claims that if the subject state expressed in a sentence exists, then the sentence is used properly (1956b: 257). According to Ajdukiewicz, the ALTERNATIVE expresses our knowledge that one clause of the ALTERNATIVE is true, and non-knowledge about which clause is true. If Ajdukiewicz’s theorem about proper use of sentences were to be accepted, then knowing that one clause of a certain ALTERNATIVE is true, but not knowing which, and uttering the alternative, we would use the alternative properly, REGARDLESS whether we were ready or not to deduce — by negating one clause of the ALTERNATIVE — the other clause. In order to avoid such a consequence, the relationship which is meant should be presented in the form of J7. The same concerns ASSUMING (cf. J6).

J8. If ‘ $p$ ’ asserts that  $q$ , then ‘ $p$ ’ expresses the conviction that  $q$ .

J9. If ‘ $p$ ’ asserts that  $q$ , or if ‘ $p$ ’ expresses that  $q$ , then ‘ $p$ ’ communicates that  $q$ .

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<sup>2</sup>The distinction between assuming and asserting introduced here is similar to I. Dąmbska’s distinction of implicit and explicit expressing (1938: 256).

As can be seen, for the time being, I am in favor of distinguishing between SEMANTIC and PRAGMATIC FUNCTIONS. I believe that as long as the EPISTEMOLOGICAL DUALISM is not overcome, juxtaposing what is asserted and what is expressed (inter-subjectively inaccessible) is justified.

J10. The PRINCIPLE OF INTELLIGIBILITY. If  $X$  understands ‘ $p$ ’ then  $X$  knows the content of ‘ $p$ ’, i.e.  $X$  knows what is the set of states of things which ‘ $p$ ’ communicates.

## 2. Conditional sentences

J11. There are various types of conditional sentences which are mutually irreducible (cf. Table 1).

I realize that, on the one hand, some types of conditional sentences are sometimes uttered by means of different connectives, or even without them; on the other hand — the same connectives are used in conditional sentences of various types. Thus, I use here i.a. the set of connectives compiled by A. Łojasiewicz (1981) — instead of “Always when  $p$ , then  $q$ ” one says: “Whenever  $p$ , then  $q$ ”, “Whenever  $p$ , always  $q$ ”, “Whatever the number of  $p$ , the same number of  $q$ ”. Instead of “As  $p$ , then  $q$ ” one says: “ $p$ , and therefore  $q$ ”, “ $p$ , and thus  $q$ ”, “ $p$ , and hence  $q$ ”, “ $p$ , and so  $q$ ”, “ $p$ , so  $q$ ”, “ $p$ , therefore  $q$ ”, “ $p$ , thus  $q$ ”, “ $p$ , in that case  $q$ ”, “ $p$ , consequently  $q$ ”, “ $p$ , and in this connection  $q$ ”, “Because  $p$ , then  $q$ ”, “ $q$  because  $p$ ”, “ $q$  for  $p$ ”, “ $q$  because of  $p$ ”, “ $q$  thanks to  $p$ ”, “ $q$  since  $p$ ”, “ $q$  as a consequence of  $p$ ”, “ $q$  in the case of  $p$ ”, “ $q$  consequently of  $p$ ”, “ $q$  as a  $p$ ”, “ $p$  as a reason of  $q$ ” or “ $p$  as a cause of  $q$ ”. The same content as the sentence “If  $p$ , then  $q$ ” sometimes have the following utterances: “As  $p$ ,  $q$ ”, “As soon as  $p$ , then  $q$ ”, “When  $p$ , then  $q$ ”, “Provided that  $p$ , then  $q$ ”, “ $q$ , as  $p$ ”, finally, “ $q$ , on condition that  $p$ ”. The close synonyms of “When-hypothetically  $p$ , then-hypothetically  $q$ ” are sometimes: “As-soon-as-hypothetically  $p$ , then-hypothetically  $q$ ” and “If-hypothetically  $p$ , then-hypothetically  $q$ ”. Finally, instead of “Even-if-hypothetically  $p$ , then-hypothetically (it is not true that)  $q$ ” one says: “(It is not true that)  $q$ , even if  $p$ ”, “(It is not true that)  $q$ , even as soon as  $p$ ”, “(It is not true that)  $q$ , even if  $p$ ”, “(It is not true that)  $q$ , even provided that  $p$ ” and “(It is not true that)  $q$ , even though  $p$ ”. For simplicity, however, I have grouped mutually unambiguously selected connectives according to particular types of conditional sentences.

Types of conditional sentences:

A. common (NATURAL IMPLICATIONS);

1. general (NATURAL IMPLICATIONS): “Always when  $p$ , then  $q$ ” ( $p$  and  $q$  are open sentences); for example:

Jeśli [ktoś] będzie pocziwy, pod moskiewskim rządem  
Spotka się niezawodnie z kibitką i sądem.  
(If [someone] under Moscow's rule is kindly  
They shall encounter a kibitka and judgment unfailingly)  
Adam Mickiewicz, *Dziady* (*The Forfathers' Eve*)

2. single (INDIVIDUAL IMPLICATIONS): “(Even) if  $p$ , then (it is not true that)  $q$ ” (“ $p$ ” and “ $q$ ” are closed sentences);

a. distinguishing (DIFFERENTIATING IMPLICATIONS): “If  $p$ , then  $q$ ”;

- i. factual (REAL IMPLICATIONS): “As  $p$ , then  $q$ ” (“ $p$ ” and “ $q$ ” are in any GRAMMATICAL tense); for example:

Wolny [jest], bo nic mu nie ciąży na świecie.  
(He [is] free, because nothing in the world burdens him.)  
Maria Konopnicka, *Wolny najmity* (*The Free Day-Labourer*)

- ii. possible (POTENTIAL IMPLICATIONS): “If  $p$ , then  $q$ ” (“ $p$ ” and “ $q$ ” are in any GRAMMATICAL tense); for example:

Jeśli mieć mogę wieszczy ogień w łonie,  
Nigdy on w dymy pochlebne nie spłonie.  
(If I may have bard-like fire in my bosom,  
It will never burn like complimentary smoke.)  
Kazimierz Brodziński, *Niech o mnie...* (*About me let...*)

- iii. non-factual (IRREAL IMPLICATIONS): “If-hypothetically  $p$ , then-hypothetically  $q$ ” ( $p$  and  $q$  are in the past tense); for example:

Gdyby zwyczaj był taki, żeby przy muzyce  
Tańcem biec do kościoła wolno przez ulice,  
Więcej na nabożeństwie byłoby w kościele,  
Bo siła dudę lubi, a pacierz niewiele.  
(If it was customarily allowed to run to church

along streets in dance accompanied by music,  
More would attend the service in church,  
Because the force likes *duda*, but not prayer.)  
Mateusz I. Kuligowski, *Demokryt śmieszny* (*Humorous Democritus*)

- b. accepting (APROBATIVE IMPLICATIONS) — factual, possible, or non-factual: “Even if  $p$ , then  $q$ ”; for example:

Gdyby nawet sprawa twoja [żołnierzu] była przegrana — ona [poezja polska] ci wiary dochowa.  
(Even if your case [soldier] was lost — she [the Polish poetry] will be faithful to you.)  
Stanisław Żeromski, *Sen o szpadzie* (*Dream about the spade*)

- c. rejecting (REPULSIVE IMPLICATIONS) — factual, possible, or non-factual: “Even if  $p$ , then it is not true that  $q$ ”; for example:

Nie przeminieć, co minęło,  
Nie wydrzeć z pamięci;  
Choćby człowiek rad zapomnieć,  
Wraca mimo chęci.  
(Not to pass what has passed,  
Not to tear from memory;  
Even though one would be glad to forget,  
It comes despite the will.)  
Teofil Lenartowicz, *Bitwa racławicka* (*The Racławice battle*)

B. scientific (LOGICAL IMPLICATIONS);

1. loose (MATERIAL IMPLICATION): “ $p \rightarrow q$ ”; for example:

Jeśli nas nie wystraszą, to pewnie zaplują.  
(If they do not scare us, then probably they will spit us over)  
Wacław Potocki, *Wojna chocimska* (*The Chocim War*)

2. strict (IDEAL IMPLICATIONS): “ $p \Rightarrow q$ ”; for example:

Jeśli cię nie wspomogą te środki, nie zgubią.  
(If the measures do not support you, they will not be your undoing.)  
Franciszek Zabłocki, *Oddalenie się z Warszawy literata* (*A Man of Letters Leaving Warsaw*)

Conditional sentences — and certainly real and possible sentences — may sometimes be affirmative sentences, but also questions and orders. Here are the following examples:

Czymże są zamki, czym warowne grody,  
Jeśli nie mogą od hańby zasłonić  
Ducha wolności i synów swobody?  
(What are castles, what are fortified strongholds,  
If they cannot shield against shame  
The spirit of liberty and sons of freedom)  
Ryszard Berwiński, *Mysza wieża* (*Mouse Tower*)

Jeśli nie grzeszysz, jako mi powiadasz,  
Czemu się, miła, tak często spowiadasz?  
(If you do not sin, as you say,  
Why do you, dear, confess so often?)  
Jan Kochanowski, *Na nabożną* (*On a Pious Woman*)

Jeśli kto władzę cierpi, nie mów, że jej słucha.  
(If one suffers authority, do not say he listens to the authority)  
Adam Mickiewicz, *Dziady* (*The Forfathers' Eve*)

Jeśli nie chcesz mojej zguby,  
Krokodyla daj mi luby.  
(If you do not desire my doom,  
Darling, give me a crocodile.)  
Aleksander Fredro, *Zemsta* (*Revenge*)

Remarks on conditional sentences of this type are present in Dąmbska (1938: 260-267).

Below I shall focus only on analyzing affirmative conditional sentences.

J12. The conditional sentence of the form “If  $p$ , then  $q$ ” assumes (i.a.) that what is connected with  $p$ , is  $q$ .

If it is obvious that there is no such bond, then the appropriate conditional sentence is — to use Ingarden’s words — “utter nonsense” (Ingarden 1936: 266).

J13. The bond, whose occurrence is assumed by (possible) conditional sentences, may be of various types (see fig. 2).

Types of bonds:

1. the symptomatic bond; for example:

Jeszcze Polska nie umarła,  
Kiedy my żyjemy.  
(Poland has not yet perished,  
as long as we are alive.)  
Józef Wybicki, *Pieśń Legionów* (*Song of the Polish Legions*)

Jeżeli żebym cię dociekł, suszę myśl daremno —  
Lub ja tępo pojmuję, lub ty piszesz ciemno.  
(In order to understand you, I dry my thought in vain —  
Either I am dull in comprehension, or you write vaguely.)  
Franciszek Dmochowski, *Do ... Stanisława Augusta* (*To ... Stanisław August*)

Spełniłbym swoje życie,  
Tylko gdybym się zdobył na publiczną spowiedź.  
(I would fulfil my life,  
Only if I made an effort of public confession.)  
Czesław Miłosz, *Zadanie* (*The Task*)

Jeśli niebo się zaciągnęło, to nadszedł niż.<sup>3</sup>  
(If the sky has darkened, low-pressure zone is present.)

What is asserted in the last example is: darkening of the sky **REQUIRES** a low-pressure zone to be present. Here, in my opinion, also belong sentences of the form “If I am right, then  $q$ ,” which Bogusławski does not regard, it seems unfairly, as basic conditional sentences. N.B. only in the case of the sentence of the form “If  $p$ , then  $q$ ” which asserts the symptomatic bond, I would be inclined to say that  $q$  is a necessary condition for  $p$ .

Also, Z. Ziemiński (1974: 87) claims that a conditional sentence sometimes asserts the indication bond.

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<sup>3</sup>Here and below I indicate only what is asserted by the example sentences of my own creation. I hope that doing the same for the remaining examples will not be so much simpler as more rewarding.

2. the co-existence bond; for example:

I jeżeli Piotr był wielki, on krok ma nad Piotrem,  
Tamten brody ciął ludzkie — ten głowy tnie ludzi.  
(And if Peter was great, he is one step ahead of Peter,  
That one cut men's beard — this one cuts men's heads.)  
Stefan Garczyński, *Wacława dzieje* (*Wacław's Course of Life*)

Jeśliś ty tedy dureń, dobrzeć z tym, że żona przynajmniej  
mądra.  
(If you are a fool, it is good that at least your wife is wise.)  
Jan A. Żydowski, *Gorzka wolność młodzińska* (*Bitter Youthful Freedom*)

Gdybym był sobie królem, byłbym sprawiedliwym.  
(If I were a king, I would be fair.)  
Tomasz K. Węgierski, *Organy* (*Organs*)

If he broke his oath, the sky will darken.

The last sentence asserts: breaking the oath is ACCOMPANIED by the darkening of the sky.

That a conditional sentence sometimes asserts the co-existence bond (“the bond of permanent co-existence”, “the structural relation”, “temporal consequence or spatial arrangement”) is claimed in Biegański (1903: 184), Ingarden (1949: 273, 303), Ziemiński (1959: 87), Wolter & Lipczyńska (1973: 98).

3. the generic bond; for example:

Kiedy spojrzysz na ziemię strwożoną  
I ujrzysz szary o świtanu świat  
I na nim blasku łunę zamrożoną:  
To nie ślad walki; to [widzisz] twej pieśni ślad.  
(When you look at the frightened ground  
And you see the grey world at dawn  
And the glow of brightness frozen on the world:  
It is not a trace of fight, it is the trace of your song [that you see].)  
Jarosław Iwaszkiewicz, *Ciemne ścieżki* (*Dark Paths*)

Ludziom zdaje się, że [jeśli] kto gardzi ich przesądem, ten nimi samymi pogardza.

(People think that [if] one despises their superstitions, one despises them as well.)

Edmund Chojecki, *Alkhadar*

Gdyby ludzie nagle przestali kłamać, byłaby to największa i najpłodniejsza w skutki rewolucja.

(If people stopped lying all of a sudden, it would be the biggest and the most seminal revolution.)

Aleksander Świętochowski, *Twinko*

Jeśli nieprędko wrócił, to złamał przyrzeczenie.

(If it was a long time before he came back, he broke the oath.)

The last sentence assumes that a long time before the return CONSTITUTES breaking the oath.

That a conditional sentence sometimes asserts the generic bond (the relation resulting from the mere sense of words) is admitted in Dąmbska (1938: 249) and Ziemiński (1959: 87).

4. the sign bond; for example:

Ogromna zabrzmiała

Trąba; i w głośnie bębny uderzono,

Zaczem się wojsku ruszyć rozkazano.

(A huge horn

Sounded; and loud drums were struck,

Before the army was ordered to move.)

Piotr Kochanowski, *Gofred*

Jeśli, jak słyszę, przybyli posłowie,

Znać, żem na jego nie zwiedziony słowie.

(If, as I hear, envoys have come,

It is a sign that his word did not fail me.)

Adam Mickiewicz, *Grażyna*

Byłabym poczwara,

Niegodną twej ręki, ale piekła,



Gdybym się matki kochanej wyrzekła.  
(I would be hideous  
Not worthy of your hand, but hell,  
If I disowned my beloved mother.)  
Juliusz Słowacki, *Balladyna*

If he sent the letter, it will be a long time before he comes back.

The last sentence asserts that sending the letter is a SIGNIFIES that a long time will pass before the return.

That a conditional sentence sometimes asserts the sign bond (“that a certain circumstance is a symbol of another one”) is expressed in Czerwiński (1958: 269).

5. the consequence bond; for example:

Żaden pług polski cudzej nie pruł ziemi,  
Więc poczytani bedziem jak złodzieje.  
(No Polish plough has ever turned over somebody else’s soil,  
Thus we will be considered thieves.)  
Cyprian K. Norwid, *Klątwy (Courses)*

Jeżeli mi taką [drugą dziewczkę w Rzeczypospolitej] pokażesz,  
pozwolę ci się nazwać szołąką  
(If you show me another such [wench in Rzeczpospolita], I  
will let you call me a pig)  
Henryk Sienkiewicz, *Ogniem i mieczem (With Fire and  
Sword)*

Gdybym był rybą w Ukajali,  
To oczywiście wciąż bym śpiewał.  
(If I were a fish in the Ukajali,  
I would obviously still be singing.)  
Konstanty I. Gałczyński, *Ciche marzenie (Silent Dream)*

If the moisture maintains for some time, he will send the letter.

The last example assumes: maintaining the moisture for some time will RESULT in sending the letter.

That a conditional sentence sometimes asserts the consequence bond (certain resolutions, athetic relation resulting from someone's resolution, normative connection) is claimed in Czerwiński (1958: 269), Ziemiński (1959: 87), Wolter & Lipczyńska (1973: 98). What also belongs to this category are: orders, bans, promises and conditional threats.

6. the cause bond; for example:

Skoro go [dzban z winem] nachylisz, chłód na cię wypłynie.  
(As you tilt it [a jug with wine], chill will surround you.)  
Hieronim Morsztyn, *Krótkie zalecenie wina* (*A Short Recommendation of Wine*)

Gdy zginie prawo, wolność, zginiesz i ty.  
(When law, liberty dies, you will die as well.)  
Krzysztof Opaliński, *Satyry* (*Satires*)

Ucieczka w tym schronieniu daremną byłaby,  
Gdyby Boska Opatrzność nie była nad nami.  
(The escape in this shelter would be useless,  
If the Divine Providence were not with us.)  
Józef A. Załuski, *Przypadki... w Kałudze* (*Happenings... in Kaługa*)

If it was raining, the moisture will be maintained for some time.

The latter example asserts: raining CAUSES maintaining the moisture for some time. N.B. only in the case of assuming the cause bond in a conditional sentence, I would be inclined to say that the state of affairs affirmed by the antecedent of this sentence is the sufficient condition for the state of affairs affirmed by the consequent.

That a conditional sentence sometimes asserts the cause bond is admitted in: Borkowski (1964: 11), Grodziński (1969b: 133), Kraszewski (1971: 118), Ziemiński (1959: 87), Wolter & Lipczyńska (1973: 98).

7. the indispensable bond; for example:

Skoro która [żaba] wypływała,  
Kamieniem w łeb dostawała.  
(As any [frog] emerged,  
It was hit with a stone.)  
Ignacy Krasicki, *Dzieci i żaby* (*Children and frogs*)

Gdy siły są dostatecznie wielkie, społeczeństwo pozbywa się  
szkodliwych pierwiastków.  
(When strength is sufficiently great, the society frees itself  
from harmful elements.)  
Bolesław Prus, *Nasze grzechy* (*Our sins*)

Gdyby ci rodacy  
Co za ciebie giną,  
Wzięli się do pracy  
I po garstce ziemi  
Z Ojczyzny zabrali,  
Już by dłońmi swemi  
Polskę usypali.  
(If the compatriots  
Who die for you,  
Got down to work  
And a handful of soil  
Brought from the Motherland,  
They would already have built Poland  
With their hands.)  
Wincenty Pol, *Śpiew z mogiły* (*The Song from the Grave*)

If a low-pressure zone is present, rain will fall.

In the latter example it is assumed that the presence of a low-pressure zone **MAKES IT POSSIBLE** for rain to fall. N.B. only in this type of conditional sentence which are about the state of affairs to which the antecedent refers, I would say that the indispensable condition is (occurring of) the state of affairs which is affirmed by the consequent.

That a conditional sentence sometimes asserts the indispensable bond is allowed by Dąbmska (1938: 249).

Most of these variants of bonds are discussed in Kotarbiński (1929: 168-169).

It is clear that — contrary to Ajdukiewicz<sup>4</sup> — by accepting the occurrence of bonds of a certain type as a component of the subject content of the distinguishing of conditional sentences (that is as a component of the set of states of affairs asserted by the sentence), I do not accept as true (common) conditional sentences of the type *If the moon is a disc of cheese, I will die on the date of an even number*, because the states of things affirmed by the antecedent and the consequent of such sentences are not mutually connected in the way indicated above. N.B. also, contrary to Ajdukiewicz I do not think that it is an INTUITIVE PROCEDURE to deduce a sentence of the form ‘ $p$  or  $q$ ’ and an alternative sentence with the LOGICAL FUNCTOR OF ALTERNATIVE of the form “ $p \vee q$ ” from the consent to equivalence; it needs to be remembered that the common connective “or” is USED in both: LOGICAL ALTERNATIVE and LOGICAL DISJUNCTION.

A fierce advocate of Ajdukiewicz’s approach, Stanosz, refers to the view that the source of not accepting as true the conditional sentences of the form “If  $p$ , then  $q$ ” may be due to a lack of connection between  $p$  and  $q$ , as follows: In order for [...] the view to deserve to be called a solution to the problem of the truth conditions of a conditional, the notion of the content bond, which is to link components of a true conditional, needs to be made precise. [...] Whereas all proposed definitions of the notion are clearly inadequate: at most they correspond only to certain specific senses of the connective *if... then...* (Stanosz 1985: 75).

I cannot agree that an ALTERNATIVE FORMAL DEFINITION is INADEQUATE, since the *definiendum* (or *explicandum*) IS actually ambiguous. Also, I cannot accept that in the case of such sentences as the conditional sentence:

*If John receives his passport, he will leave the country.*

— “the notion of the content bond between the components of accepted conditionals [...] escapes any attempts of explication (Stanosz 1985: 75)”. It is true that there is no causality relation, but there IS a relation which I called “the cause bond” above. Contrary to Stanosz, I believe that the consequent of this sentence results from the antecedent, namely it is its ENTHYMEMATIC CONSEQUENCE on the basis of e.g. such “commonly known

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<sup>4</sup>Also W.V.O. Quine’s views are contrary to Ajdukiewicz’s views. It seems that Ajdukiewicz (1956b: 254) rejected Quine’s solution too hastily, as he neglected the following condition imposed on “worthy uttering” of the conditional sentence in the solution: “Thus only those conditionals are worth affirming which follow from some manner of relevance between antecedent and consequent — some manner of law, perhaps, connecting the matters which these two component statements describe. Such connection underlies the useful application of the truth-functional conditional without participating in the meaning of that notion.” (Quine 1979: 17).

truth”: “If somebody does not receive his PASSPORT, he will not (LEGALLY) leave the country, even if he is willing to. John is willing to leave the country, thus. . . .” Another thing is that the ENTAILMENT itself is by no means asserted by the conditional sentence above. Thus, those (e.g. Grodziński 1969a: 64, Wolter & Lipczyńska 1973: 98) who claim that the sentence of the form “If  $p$ , then  $q$ ” asserts that the sentence ‘ $p$ ’ results in sentence ‘ $q$ ’ are wrong. Indeed, if a sentence of the form “If  $p$ , then  $q$ ” is true — that is asserts i.a. that  $p$  (the state of things affirmed by ‘ $p$ ’) is linked to  $q$  (the state of things affirmed by ‘ $q$ ’) — then, obviously, the antecedent results in the consequent.

N.B. what proves that the conditional sentence of the type *If he comes, I will chide him* assumes something more than MATERIAL IMPLICATION is that reversing the negated components in this case is unacceptable. The sentence *If I do not chide him, he will not come* has a completely different subject content than the initial sentence; namely it assumes that not chiding will result in somebody’s not coming.

J14. The material implication “ $p \rightarrow q$ ” assumes (i.a.) that there is no ‘ $p$ ’ without ‘ $q$ ’.

J15. What results from each conditional sentence of the form “If  $p$ , then  $q$ ” is the material implication “ $p \rightarrow q$ ”.

A similar claim may be found in Czerwiński (1958: 269, 271)<sup>5</sup>. Similarly to Stanosz I think that the possibility of using LOGIC — in this case PROPOSITIONAL LOGIC — to analyze common language has a significant advantage for a theory (Stanosz 1985: 70-71). However, I am satisfied with the approach in which LOGICAL THESES may serve as auxiliary NEGATIVE CRITERIA in discovering truth. And this is actually the solution to the issue of conditional sentences I have adopted.

J16. The conditional sentence of the form “If  $p$ , then  $q$ ” expresses (i.a.):

a. the non-knowledge (of the utterer) if  $p$ ;

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<sup>5</sup>Perhaps this is what W.V.O Quine had in mind when he wrote: “Indeed, since usage conforms to the third line of the table, and usage lapses as soon as a case is precisely located elsewhere in the table, there is no clear conflict between the table and the indicative conditional of ordinary usage” (Quine 1979: 17). “The case is analogous to that of conditional statements: discovery of the falsity of the antecedent of a conditional in the indicative mood seems from the standpoint of ordinary usage to dispose of the question of the truth value of the conditional without answering it” (Quine 1953: 165). However, it is likely that what he meant was a stronger independence of the conditional sentence and MATERIAL IMPLICATION, since he thinks that with other values ordinary conditional sentences are “idle or senseless” (Quine 1979: 17).

N.B. the non-knowledge if  $p$  is also expressed by the question “ $p?$ ”. Initially, the potential of the expression “jeśli  $p$ ...” (if  $p$ ...) to ask questions was more visible in Polish; etymologically, the connective “jeśli” (if) originated from the question-form “jest-li to, że” (is it so that). In 18<sup>th</sup> century the word “jeśli” (if) was still used as an alternative to “czy” (auxiliary BE, DO, HAVE, ...). Cf. for example:

A przecie człowiek nie ma w tym pewności,  
Jeśli [= czy] niełaski godzien, czy miłości.  
(But a man cannot be sure,  
If he is worthy of disgrace or love.)  
(Stanisław H. Lubomirski, *Ecclesiastes*...)

ROMANTIC POETS often put a question mark after the antecedent. Cf. for example:

Jeśli usłyszą ludy, że lew ryczy? żyje?  
Ludy przypomną, żem ja winien żyć w koronie.  
(When people hear that the lion roars? is alive?  
People will recall that I ought to have the crown.)  
Juliusz Słowacki, *Kordian*)

- b. the non-knowledge (of the utterer) if  $q$ ;
- c. the readiness (of the utterer) to infer the sentence ‘ $q$ ’ from the sentence ‘ $p$ ’ (cf. fig. 3). N.B. this latter readiness is directly indicated by the word “then”.

\*  
\*     \*

“Despite the fact that many works were devoted to conditional sentences, their characteristics have not yet been completely achieved in an entirely satisfactory manner [...]” (Bogusławski 1986: 215). Moreover I am deeply convinced that nothing helps to reach the ultimate solution as much as a common exchange of views. I was once invited by Bogusławski to such a *danse polemique*, and I would like to express the hope\* that my pass (resignation) will not be followed by a response *à la Edviser*:

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\*Here, for the sake of clarity, I should write: ASSERT...

Mój panie, ja nie tańczę z nikim, Kto ma tak niski czyn.\*  
 (My dear Sir, I do not dance with anybody,  
 Who is of such low rank.)  
 Adam Mickiewicz, *Dziady* (*The Forfathers' Eve*)

\*  
 \*      \*

1. Some components of the content of conditional sentences of various types

Types of conditional sentences		EXTENSION, that is (i.a.) the object content	CONTENT, that is (i.a.) the subject content	
Always when $p$ , then $q$		the bond of the fact that $q$ with the fact that $p$		
As $p$ , then $q$		the bond of the fact that $q$ with the fact that $q$	<ul style="list-style-type: none"> <li>● the fact that <math>p</math></li> <li>● the fact that <math>q</math></li> </ul>	
If $p$ , then $q$	If $p$ , then per- haps $q$		the fact that $q$ is less probable than the fact that $p$	<ul style="list-style-type: none"> <li>● the non-knowledge if <math>p</math></li> <li>● the non-knowledge if <math>q</math></li> </ul>
	If $p$ , then also $q$		the fact that $q$ is as probable as the fact that $p$	
	If $p$ , then even more $q$		the fact that $q$ is more probable than the fact that $p$	
As-hypothetically $p$ , then- hypothetically $q$		<ul style="list-style-type: none"> <li>● the fact that it is not true that <math>p</math></li> <li>● the fact that it is not true that <math>q</math></li> </ul>		
Even as $p$ , then $q$		the lack of a bond of the fact that $q$ with the fact that $p$	<ul style="list-style-type: none"> <li>● the fact that <math>p</math></li> <li>● the fact that <math>q</math></li> </ul>	
Even if $p$ , then $q$			the fact that $q$	the non-knowledge if $p$
Even as-hypothetically $p$ , then-hypothetically $q$			<ul style="list-style-type: none"> <li>● the fact that it is not true that <math>p</math></li> <li>● the fact that <math>q</math></li> </ul>	

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\*It is a general conditional sentence...

Even as $p$ , it is not true that $q$		<ul style="list-style-type: none"> <li>• the fact that <math>p</math></li> <li>• the fact that it is not true that <math>q</math></li> </ul>	
Even if $p$ , then it is not true that $q$	no bond between $p$ and $q$	the fact that it is not true that $q$	the non-knowledge if $p$
Even if hypothetically $p$ , then it is not true that $q$		<ul style="list-style-type: none"> <li>• the fact that it is not true that <math>p</math></li> <li>• the fact that it is not true that <math>q</math></li> </ul>	
$p \rightarrow q$	the fact that it is not true that ( $p$ and it is not true that $q$ )		-
$p \Rightarrow q$	the fact that it is not possible that ( $p$ and it is not true that $q$ )		-

Remark 1. According to Ajdukiewicz, the factual conditional sentence “As  $p$ , then  $q$ ” - which he calls “inferential utterance” (Ajdukiewicz 1936: 263) — also expresses a fulfilled inference, except for the knowledge that  $p$  and that  $q$ .

Remark 2. According to Ajdukiewicz, the potential conditional sentence “If  $p$ , then  $q$ ” — which he calls in accordance with common convention “factual conditional sentence” (Ajdukiewicz 1936: 262) — expresses the non-knowledge that ‘ $p$ ’ is not true, but does not express the non-knowledge that ‘ $p$ ’ is true.<sup>6</sup> The non-knowledge whether ‘ $p$ ’ is not true or true, is expressed by the so called possible conditional sentence — of the form “If-hypothetically  $p$ , then-hypothetically  $q$ ”. It does not seem convincing to me.

Remark 3. What is assumed by the non-factual conditional sentence “When-hypothetically  $p$ , then  $q$ ” is sometimes directly affirmed before or after the sentence. Cf. for example:

Nie jestem bocian, lecz gdybym nim była,  
 Polskę [bym] z zalęgłych gadów wyczyściła.  
 (I am not a stork, but if I were,  
 I would clean Poland of hatched reptiles)  
 Elżbieta Drużbacka, *Punkta...* (*Points...*)

Gdyby rannym słońkiem wzlecieć mi skowronkiem,  
 Gdyby jaskółeczką bujać mi po niebie!

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<sup>6</sup>In W.V.O. Quine the matter is not clear. Sometimes he claims that conditional sentences of this type are used when the speaker “is ordinarily uncertain as to the truth values of both antecedent and consequent” (Quine, 1979: 17).



Gdyby rybką w rzece — płynąć tu po ciebie.

[...]

Ani ja w Wisłę płasająca rybka,

Ani ja skowronek, ni jaskółka chybka.

(If in the morning sun I flew like a lark,

If in the sky I floated like a swallow!

If like a fish in a river I swam here for you,

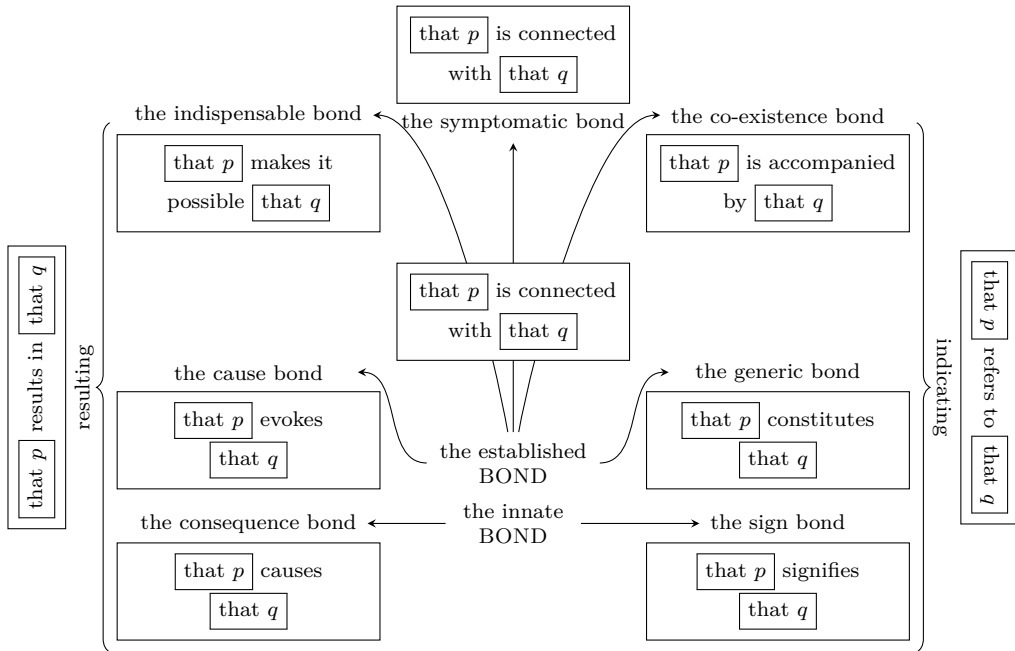
[...]

I am neither a frolicking fish in the dear Vistula,

Neither a lark, nor a nimble swallow.)

(Włodzimierz Wolski, *Halka*)

## 2. Types of bonds assumed by conditional sentences



Remark. The presented division into innate (NATURAL) bonds and constituted (CONVENTIONAL) bonds should be accompanied by lengthy explanations, which cannot be added here. For more details refer to Pelc (1982a).

### 3. A comparison of extensions of some sentences

Components of extensions					Neither the value of 'p', nor the value of 'q' is asserted
	<ul style="list-style-type: none"> <li>• the fact that p</li> <li>• the fact that q</li> </ul>	<ul style="list-style-type: none"> <li>• the fact that p</li> <li>• the fact that it is not true that q</li> </ul>	<ul style="list-style-type: none"> <li>• the fact that it is not true p</li> <li>• the fact that q</li> </ul>	<ul style="list-style-type: none"> <li>• the fact that it is not true that p</li> <li>• the fact that it is not true that q</li> </ul>	
the bond between p and q	As p, then q	?	Although it is not true that p, still q	When hypothetically p, then hypothetically q	If p, then q
the lack of bond of the fact that p with the fact that q	Because not p, (then) q	p, and still it is not true that q	?	Even when hypothetically p, then hypothetically it is not true that q	It is not true that of p, then q
Neither the bond, nor the lack of bond is asserted	p and q	Indeed p, but it is not true that q	It is not true that p, but indeed q	It is neither not true that p, nor it is not true that q	?

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