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CAUSAL AND FUNCTIONAL DETERMINATION VS. FOREKNOWLEDGE ABOUT THE FUTURE

1. The essential points of the paper “The Antinomy of Future Contingent Events”, opening the current volume of *Roczniki Filozoficzne*, are based on *Futura contingentia* (Lublin: Wydawnictwo KUL, 2015), Prof. Marcin Tkaczyk’s earlier book. Since I have already debated his position in my paper “O antynomii zdarzeń przyszłych” (On the antinomy of future events) published in *Przegląd Filozoficzny* (JADACKI 2016), I am going to make use of the large fragments of the previous one in the following text.

The core of Prof. Tkaczyk’s book is a quasi-theory of future contingents (*futura contingentia*, *PFC*). It is a quasi-theory for the reason that, even though the theses (“axioms”) comprising it may seem true, it is in fact impossible—also according to Prof. Tkaczyk himself—to acknowledge all of them to be simultaneously true.

The quasi-theory in question has two versions—the semantic one and theological one—and, in the initial formulation of both versions, consists of two theses. The two versions differ by the last thesis: the semantic version contains thesis (3), while the theological one has (4) in its place.

In the book, these take the following form:

- (1) The past and future cannot be changed.
- (2) The future can be influenced at least partially.
- (3) Every proposition is true or false.
- (4) God has indefectible knowledge about the future.

Thesis (1) concerns the closeness (irreversibility/being determined or pre-ordained) of the past and present, (2) asserts the openness (not being de-

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terminated) of the future, while (3) is the principle of bivalence and (4) states that God has foreknowledge.

In Prof. Tkaczyk's paper, the theses (1)–(4) have been reformulated as follows:

- (1*) Every past state of affairs is determined.
- (2*) At least some future states of affairs are contingent.
- (3*) Every state of affairs can be represented at any time.
- (4*) There is an omniscient subject, i.e. a subject possessing the foreknowledge of all events.

Three modifications can be seen here. The first one consists of incorporating within theses (1), (2) and (4) the names of relations which gave the theses their names (“determination”, “contingency”—an equivalent of “openness”—and foreknowledge). The second modification—to simplify a bit—consists of paraphrasing the term “(true) proposition” by means of the term “representation of the (real) state of affairs”. The third modification, in turn, consists of replacing the term “God” with a neutral, epistemological term “omniscient subject”. (I pass over the fact that Prof. Tkaczyk also allows a weaker version of (4*), which concerns only the existence of a cognitive subject having the foreknowledge of at least some contingent events.)

2. Theses (1)–(4), so formulated, require explication. (1) and (2) need to be explicated because, firstly, they are terminologically heterogeneous (which makes juxtaposing them difficult), and, secondly, they contain occasionalisms (which I consider unacceptable in a language of a scientific theory).

Prof. Tkaczyk takes into consideration only three versions of compatibilism—i.e. three objections against considering *PFC* to be an antinomy (TKACZYK 2015, 189):

- (a) “an objection from the fallacy of the antinomy's self-refutation”
- (b) “an objection from a modal-logical fallacy”
- (c) “an objection from an atemporal eternity”

The deficiency of objection (a) has been proven using the example of a clear interpretation of St. Augustine's argument (TKACZYK 2015, 190–98), while the deficiency of (b)—on the basis of an equally clear reading of the arguments of St. Thomas (TKACZYK 2015, 198–204). When it comes to the historical aspect, Prof. Tkaczyk's criticism is unassailable. In addition to that, I agree with Prof. Tkaczyk's opinion concerning the objection (c)—namely, that “an escape from the past to the eternity does not constitute a solution of the problem of future contingents” (TKACZYK 2015, 219), even

though, in my opinion, the reason for that is different than he believes: namely, it is because the notion of eternity used there (“quasi-presence”, the metaphor of a table (3) (TKACZYK 2015, 218) or Łukasiewicz’s metaphor of a movie) is not operative that the strategy in question does not lead to a successful solution. At the same time, “eternity” makes perfect sense when it is understood temporally, i.e. as the sum of moments (see below, par. 4).

3. Prof. Tkaczyk provides the same formalization of both *PFC* versions in the book and in the paper, so my objections towards the *PFC* system, which I had expressed in my paper (JADACKI 2016), remain in force; but I am going to skip them now, since, at the moment, we are not concerned with the formal version but with its interpretation as explicitly given by Prof. Tkaczyk.

In particular, I am concerned with the following question: do the arguments of St. Augustine and St. Thomas really pertain to *PFC*?

I have serious doubts about it. For that reason, I am going to provide my own explication of the theses comprising *PFC*,¹ in light of which, my doubts will become understandable.

My proposed explication of the theses comprising *PFC* begins with the remark that, in my opinion, time is the set of all moments (completely) ordered by the relation of being earlier (or its converse, i.e. being later). “Presence”, “past” and “future” are occasionalisms relativized to some distinguished moments or periods (i.e. sequences of moments) in which there occurs a distinguished event (or a sequence of events; further shortened to event) or object. Of course, any moment or period of time can be distinguished as the present.²

I consider other notions of the presence, past and future to be not operative (JADACKI 2007, 47–51).

4. Now I am going to move to the term “determination”, used by Prof. Tkaczyk in his book in the NAME of the thesis (1), and in the paper, as I have already noted, within thesis (1*).

Using the term in question requires special wariness, since it is the Archimedean point of the conceptual apparatus of the book and paper. Prof. Tkaczyk seems to assume that determination can be identified with causal

¹ My position on time and its qualities have been decisively influenced by my discussions with Prof. Zdzisław Augustynek—the best Polish specialist, in my opinion, on the philosophical problems associated with time; cf e.g. AUGUSTYNEK 1991.

² Because of that, presentism—the view (e.g. held by prior) that “there exists all and only that which exists now” (TKACZYK 2015, 283) is only a paradoxically sounding equivalent of a trivial thesis that there exists all and only that which occurs at some moment.

connection. I consider such an assumption false, and its falsity influences the material and formal value of Prof. Tkaczyk's argument in an essential way.

Thus, I claim that causal connection is a specific case of determination, since we can, for example, talk about determination in the following context:

- (5) A quality Q is determined by a quality P provided that, if during some period t_1 , an object x has the quality P , then during some period t_2 , the object x also has the quality Q (JADACKI 2007, 67).

It is easy to formulate (5) in such a way that it mentions sets, relations or states of affairs instead of qualities. The point is that the occurrence which does the determining is always a sufficient condition for what is being determined by the occurrence.

I distinguish three kinds of determination: prospective, retrospective and functional determination. Thus, within the limits of the universe of qualities and on the assumption that the situation described in the definiens of (5) occurs, we conclude:

- (6) A quality Q is prospectively determined by a quality P , if a period t_1 is earlier than a period t_2 .
 (7) A quality Q is retrospectively determined by a quality P , if a period t_1 is later than a period t_2 .
 (8) A quality Q is functionally determined by a quality P , if t_1 is the same period as t_2 .

The formula (8) is also applicable to eternity: it is enough to replace the existential quantifier in the definiens of (5) with the universal quantifier; if the temporal parameter is removed altogether, we are allowed to talk about the functional determination in the case of extratemporal states of affairs.

I repeat: causal connection is a specific case of determination, or, more precisely, of prospective determination. Because of that, instead of causal connection, I will talk about causal determination. The latter is the relation between one object's impacting another and the change in that other object:

- (9) An object x 's impacting an object y is the cause of the change in an object y if, whenever x impacts y , y changes.

A weakened form of the relation of being a cause is the relation of influence:

- (1) An object x 's impacting an object y influences the change in the object y if x 's impacting y is an element of the cause of the change in y .

We need to explain the nature of impact. I am going to do that in two steps:

- (11) An object z comes from an object x to an object y if z stops being a part of x and becomes a part of y .
- (12) An object x impacts an object y if some object z —the medium of impact—comes from x to y .

Now I assume that:

- (13) Impact is a temporal event (or a sequence of events): it has its beginning at a moment t_1 and its end at a moment t_2 which is later than t_1 .
- (14) A moment t_2 , which we consider the end of impact mentioned in (13), is the moment at which the change in y occurs.

On the ground of these assumptions, it is obvious that:

- (15) An object y , changing under the impact of an object x , exists only at a moment t_2 (i.e. it cannot exist only before t_1 or after t_2 and cannot not exist at all).
- (16) No impact is later than the change whose necessary condition it is.

Now we can see why causal determination is a prospective determination. I do not rule out that retrospective determination may occur between some states of affairs, but I do exclude the possibility that, out of the two states of affairs occurring at different times, the later state of affairs causally determines the earlier one.

5. After these explications, let us return to the theses of *PFC*. The thesis (1) is concerned not with the immutability of the past and presence, but with past and present events or objects (TKACZYK 2015, 37). The question is whether the expression “cannot be changed” from (1) should be understood as stating that nothing (or, more precisely, nothing later than the objects in question) can change them, or only that it cannot be done by a human (more precisely: with an action later than them). Since the thesis (1*) from the paper implies the more general interpretation, we are going to limit ourselves to the latter here. This results in the following:

- (17) Nothing which occurs only at a moment t_2 changes anything which occurs or exists only at t_2 or at a moment t_1 earlier than t_2 .

On the interpretation involving events and objects we would have:

- (18) No event occurring only at a moment t_2 changes any object existing only at t_2 or at a moment t_1 earlier than t_2 .

Prof. Tkaczyk calls the impact whose occurrence is negated in the thesis (18) “retroactive (i.e. backward) impact”. Thus, (18) negates the occurrence of such impacts, and, *a fortiori*, the existence of retroactive causal connections.

In case of the thesis (2), in turn, we have (within the limits of the interpretation involving events and objects) the following:

- (19) There are events occurring at a moment t_1 which change some objects existing only at a moment t_2 later than t_1 .

At the moment, let us pass over (3).

When it comes to (4), “indefectibility”, mentioned in it (on the interpretation involving events and objects), should be understood, so that

- (20) For every event or object a and every moment t_2 , it is the case that if a occurs or exists only at t_2 , then, at every moment t_1 earlier than t_2 , God knows that a occurs or exists at t_2 .

The thesis about divine omniscience can have at least two interpretations:

- (21) For every event or object a occurring or existing at a moment t , there is a moment at which God knows that a occurs or exists at t .
 (22) For every event or object a occurring or existing at a moment t , God always knows that a occurs or exists at t .

On the interpretation (22), the thesis about divine omniscience implies the thesis (20).

That is the way it works in the version of *PFC* appearing in the book. Let us remember that, in his paper, Prof. Tkaczyk is remains content with the subject having only the foreknowledge of some future events.

6. Let us now consider the problem of the truthfulness (or validity) of the theses comprising *PFC*.

Let us begin from the thesis (18). Prof. Tkaczyk claims that he “can prove” the negation of it (TKACZYK 2015, 359), i.e. in particular, to justify the thesis that

- (23) There are events occurring only at a moment t_2 , changing some object existing only at a moment t_1 , earlier than t_2 .

The only way to justify a positive existential thesis is by pointing out the event or object the occurrence or existence of which is stated by that thesis. In this sense, if the thesis (23) was true, it would be “consistent with experience” (TKACZYK 2015, 360).

Initially, Prof. Tkaczyk cautiously says that “the development of science [...] seems to negate the existence of retroactive causes” (TKACZYK 2015, 384). Later, however, he refers to some experiments which are supposed to confirm that such causes exist. I consider such experiments to be so-called thought experiments, which are quasi-experiments to which I am not willing to ascribe a justifying value—even though, of course, they can be valuable in the heuristic or didactic-explanatory context (BROŻEK & JADACKI, 2012a; 2012b). To me (as to the philosophers mentioned by Prof. Tkaczyk on page 383), the thesis (36) is not just non-obvious, but it is obviously false (just like the notions of branching time or temporal anisotropy, which stand in connection to it, seem to me highly mysterious). I humbly accept the possible objection that it is non-obvious or that it seems false only on the grounds of the commonsensical (and thus false) vision of the world.

7. Thus, we are left with ostensive argumentation.

Prof. Tkaczyk gives the inauguration of an academic year at KUL by the rector of the university as an example of retroactive impact (TKACZYK 2015, 395). The inauguration of an academic year at KUL never takes place on the first day of the academic year. Thus, the situation is meant to be the one in which certain gestures and words of the rector ESTABLISH something that has begun to exist before these actions take place.

I do not think that is a good example.

That the academic year at KUL begins on the 1st of October is established by the *Regulamin studiów KUL* (KUL’s study rules). The first point of the paragraph 3 reads: “The academic year begins on the 1st of October and lasts until the 30th of September of the next calendar year.” What takes place on the third Sunday of October is only a so-called solemn inauguration. The expression “SOLEMN inauguration” refers to a ceremony and is not synonymous to the expression “the real beginning of the academic year”. Thus, it would be hard to say that it is only certain symbolic words and gestures made by the rector during the ceremony which initiate the academic year.

When it comes to the examples of so-called retroactive legal norms, I tend to consider them examples of functional retroactivity. Let us assume that an action of a person o done at a moment t_1 is called “crime” only on the grounds of the norm n established at a moment t_2 earlier than t_1 . In my opinion, issuing the norm n would have results in the past only if establishing n at t_2 made it the case that the action x of the person o could be called “crime” already at t_1 . But that is impossible in principle. The difficulties accompanying the legislators, who—as noted by Prof. Tkaczyk not without

irony—are always “led by the common good”, do not concern the problem of the acceptability of the retroactivity of norms but only the question whether it is permissible to PUNISH the actions which, only after they took place, were called “crimes” in light of a later norm. The naming object’s impact on the named one is not a necessary condition of naming it, so (in light of the comments from the paragraph 5) there is no causal connection here. Speaking metaphorically, retroactive legal norms do not change the past; at most, they can change the PICTURE of the past.

The picture of the world is not something with which the thesis (23) is concerned.

The thesis about the closeness (being determined, irreversibility, being preordained) of the past and presence—at least on the interpretation (18)—does not concern the closeness of the picture of the past and present but the closeness of the past and present themselves.

8. Let us stop for a while at the thesis (19).

Prof. Tkaczyk considers the validity of the strengthened form of this thesis. For the sake of clarity, let us consider the semantic consequence of (19), having the following form:

(24) There are objects which, changing at a moment t_2 , are changed by some events occurring at a moment t_1 not later than t_2 .

Strengthening of (24) would mean generalizing it in the following way:

(25) All objects which do not change at a moment t_2 are changed by some events occurring at a moment t_2 not later than t_2 .

Prof. Tkaczyk considers such generalization to be fatalism (i.e. unlimited determinism), since, if (25) is true, then all the changes occurring at a given moment are determined (preordained) by some events occurring BEFORE that moment.

If my explications are accurate, fatalism rules out the thesis that changes occur under the influence of retrospective impact, and thus implies the closeness of the past on the interpretation (18).

9. The way in which Prof. Tkaczyk discusses the notions of possibility, necessity and determination, as well as their negations, is not always clear (Jadacki 2016). Nonetheless, let us assume that we know what it means that the occurrence or non-occurrence of some event is possible. Then:

(26) An event is possible if it is possible that it occurs.

- (27) An event is impossible if it is impossible that it occurs.
- (28) An event is necessary if it is impossible that it does not occur.
- (29) An event is unnecessary if it is possible that it does not occur.
- (30) An event is contingent (i.e. non-determined, bilaterally possible) if it is possible but unnecessary.
- (31) An event is non-contingent (i.e. determined) if it is impossible or necessary.

10. Now, let us return to the meaning of the expression “It is possible for some event to occur or not occur.” Let us introduce as its equivalent the expression “It is possible that p ,” where a proposition asserting that some event occurs or does not occur can be substituted for ‘ p .’

According to me—but, as it seems, not according to Prof. Tkaczyk—we can only talk about the possibility of p with reference to some regularities. Let us consider the regularity asserted by the law having the following scheme:

- (32) If α , then β .

Let us assume that q exemplifies α 's being the case, while p exemplifies β 's being the case:

- (33) If (32) is a law and the fact that q occurs, the fact that p occurs is necessary (i.e. the fact that p does not occur is impossible).

Correspondingly, we could say the fact that p occurs is possible in two cases (on the same assumptions concerning the substitution).

The first case is the situation wherein there is no regularity by which the expression would be the law of the following form:

- (34) If α , then not- β .

The second case is when, even though a regularity asserted in the law (i) exists, the fact that q never occurs (let us remember the fact that q is an exemplification of the fact that α).

I consider other notions of possibility, etc.—especially possibilities, etc. not relativized to some regularity—to be non-operative (BROŹEK & JADACKI, 2008).

11. Contingency, defined in thesis (30), is characterized by Prof. Tkaczyk also in terms of causal connection. I should note here that describing contingent propositions as the ones which “are not induced by any other events”

(TKACZYK 2015, 51) is problematic, since it suggests that contingent events induce themselves. (There is, by the way, a long theological tradition centered around the God who causes himself.) In my opinion, it only makes sense to talk about inducing as a relation occurring between different events.

12. Before we move to the thesis (3), belonging to the quasi-theory *PFC*, let us consider the following consequence of thesis (2), expressed in terms of determination:

(35) There are non-determined events.

Let us stress that determination-by, characterized above, is different from the determination mentioned in (35). Thus:

(36) A state of affairs x is determined at a moment t , if a condition sufficient for the occurrence of a state of affairs x occurs at t .

Now let us add the following thesis, accepted by Prof. Tkaczyk, to the thesis (35):

(37) Every event is determined by the proposition which asserts the occurrence of that event.

In particular:

(a) If a proposition s , asserting the occurrence of an event z , is true, then the event z occurs.

(b) If a proposition s , asserting the occurrence of an event z , is false, then the event z does not occur.

Thus, (37) implies that

(38) Every event is determined.

(35) and (38) are contradictory propositions, and it is not possible to accept (35) and (38) without falling into contradiction.

Since I believe that we could accept thesis (38) only if it concerned functional determination, it does not pose a danger to (35). It is true that that the KNOWLEDGE of some person o about the truthfulness of a proposition ' p ' (and thus about the occurrence of the fact that p) can causally determine some events different from the fact of p (e.g. the knowledge of a person o that a person x harmed a person y sometimes causes o 's attempting to punish x for the harm incurred on y).

13. Now let us return to the principle of bivalence. The principle in question states what follows:

(3) Every proposition is true or false.

The thesis (3) is probably intended to be understood as a disjunctive and not ordinary alternative. Thus, I tend to paraphrase (3) in the following way:

(39) Every proposition is either true or false.

14. The paraphrases of the quasi-theory *PFC* which I have discussed so far mentioned only the thesis (3)—but (1) and (2) can probably also be paraphrased so that they will concern propositions. The paraphrases in question would talk about the propositions describing the past, present or future events rather than about the past, present and future.

Prof. Tkaczyk asks: “Are propositions describing future events already true or false now?” (TKACZYK 2015, 6.) The question assumes that the truthfulness or falsity of a proposition is a temporal quality of the latter. Instead of saying

(4) A proposition *s* is a true (or false) proposition,

one says

(41) A proposition *s* is a true (or false) proposition at a moment *t*.

The following possibility is allowed:

(42) It is possible that a proposition *s* is a true proposition at a moment t_1 and a false proposition at a moment t_2 different from t_1 .

Prof. Tkaczyk, just as Prior and Łoś, allows for it,³ although Borkowski held a critical position, which I share. I consider the predicate “is true” to be a one-place predicate⁴—and in this sense it is extratemporal, just as the

³ Prof. Tkaczyk writes: “We treat the question of the relativity of logical values in the sense described above as a matter of choice, a convention, which should be assessed on the basis of its convenience or usefulness. [...] We can make an agreement that the proposition “Cassio is the officer of Othello” has a stable meaning but a changing logical value. [...] We can as well agree that the proposition ‘Cassio is the officer of Othello’ has a stable logical value but a changing meaning.” (TKACZYK 2015, 31) This cannot be approved. What does it mean that the proposition “Cassio is the officer of Othello” means that Cassio is the officer of Othello? Apparently, only that, at some moment, Cassio is the officer of Othello; that proposition would be true if there was such a moment, and false if there was not, but it is not simultaneously true (at some moment) and false (at some other one). It cannot be ruled out that Prof. Tkaczyk goes even further and does not allow truthfulness, which is not relativized temporally, since, having considered the argument from the atemporality of truthfulness (TKACZYK 2015, 215 ff), he acknowledges it to be faulty.

⁴ Prof. Anna Brożek pointed out to me that one needs, strictly speaking, to take into consideration two cases: in the first one, we have one two-place predicate “is-true-in” and ‘*t*’ is a va-

predicates ascribed to geometrical objects, for example (“A square has four equal sides”). It is interesting that Prof. Tkaczyk ascribes extratemporal status to the latter, assuming that they can be described without taking into consideration “the moment of change” (TKACZYK 2015, 343).

I would be willing to take the propositions similar to (41) as meaningful if they belonged to a language with the following semantic directive in force:

(43) If a proposition s is true (or false) at a moment t , it is always true (or false).

I would also be willing to acknowledge that the so-called temporal logic (e.g. of Łoś) not as much relativizes the truthfulness of propositions to time as makes the temporal parameter in the description of events explicit. But Prof. Tkaczyk clearly realizes that, since he writes:

Łoś assumed [...] that propositions describing empirical states of affairs always contain spatio-temporal coordinates [...] and showed in detail how such a conception of proposition can be formalized. (TKACZYK 2015, 287).

Because of that, at least in the case of so-called linear logics, temporal conjunctions (F , P , G and H) can be interpreted as referring to temporal parameters of states of affairs (at some point it will be the case that φ ; at some point it was the case that φ ; it will always be the case that φ ; it was always the case that φ) (TKACZYK 2015, 297).

15. Let us assume, however, that I am mistaken, and that Prof. Tkaczyk is right.

Letting go of the principle of bivalence has so far occurred in two main versions. It was based either on replacing the two-valued logic with the many-valued one or on accepting some kind of temporal (tense-based) logic. Prof. Tkaczyk considers both strategies in detail, discussing the first one in Chapter V and the second in Chapter VI of his book. When it comes to the first strategy, especially in Łukasiewicz’s version, he convincingly argues for the position that:

Łukasiewicz’s three-valued logic is not fit to be the logic of future contingent events, as shown by its absurd consequences. (TKACZYK 2015, 250).

Adding to the classical propositional calculus a third logical value, which would be ascribed to the expressions describing future contingent events, is not the right solution. (TKACZYK 2015, 251).

riable constituting its right argument, and in the second one there are (infinitely?) many one-place predicates “is-true-in- t ”, differing by the “internal” constant ‘ t .’

That is a position I share.

I also share Prof. Tkaczyk's general thesis:

When it comes to the problem of future contingent events, classical propositional calculus does not have any drawbacks. (TKACZYK 2015, 357).

Neither the problem [of future contingents] nor its solution lie in the area of logic. (TKACZYK 2015, 358).

That is the ultimate answer to “one of the main questions” of the book: “what logic is required to solve the problem of future contingents” (TKACZYK 2015, 24).

No wonder, then, that Prof. Tkaczyk proposes a third strategy—namely (to use his expressions) weakening the principle of bivalence to the form which he calls “diachronic principle of bivalence”, i.e. the conjunction of the following propositions (formulas (160a)–(160d) from the page 344 of the book):

(44) “No proposition is and will ever be simultaneously true and false.”

(45) “Every proposition is or will be true or false.”

(46) “No proposition which is or will be true will ever stop being true.”

(47) “No proposition which is or will be false will ever stop being false.”

Let us set aside the objections raised above with reference to the notion of being true-at. But let us assume that

(48) At a moment t_1 , INFINITELY later than a moment t , an event z will occur.

On this assumption, on the grounds of the “regular” principle of bivalence, the proposition (48) is simply true (that no one is going to know about it is another matter). On the grounds of the diachronic (weakened) principle of bivalence, one would have to say that it “will be true at some point” and “will forever be what it came to be” (TKACZYK 2015, 344). But are such expressions meaningful in this case?

16. Let us remember that the principle of bivalence is a part of the semantic version of the quasi-theory *PFC*. This is because Prof. Tkaczyk is convinced that:

The principle of bivalence seems to not have ontological formulations; it is a typical semantic principle. (TKACZYK 2015, 21).

In my opinion, it HAS such formulation. The formulation in question is as follows:

(49) Every state of affairs occurs or does not occur.

Or, more precisely:

(50) Every state of affairs either occurs or does not occur.

The existence of such an ontological version of the principle of bivalence has significant consequences. It is hard to deny that the following statement is meaningful:

(51) A state of affairs s occurs at a time t .

The expression “occurs at a time t ,” as opposed to the expression “is true at a time t ,” makes perfect sense.

17. Finally, let us consider the thesis (4), concerning God’s foreknowledge.

Does God know the future? In particular, does He know our future choices, made on free will? (TKACZYK 2015, 6).

The thesis (4) is a consequence of a stronger thesis: the one about God’s omniscience. Prof. Tkaczyk defines omniscience as follows:

“A subject x is omniscient if and only if the knowledge of x encompasses exactly all true propositions (judgments)” (TKACZYK 2015, 63).⁵

Let us take a look at the following theses:

(52) If a person o believes that p , then the proposition ‘ p ’ is true.

(53) If a person o knows that p , then the proposition ‘ p ’ is true.

(54) If a person o knows that p , then o believes that p .

(55) If a proposition ‘ p ’ is true, then God believes that p .

(56) If God believes that p , then the proposition ‘ p ’ is true.

(57) A proposition ‘ p ’ is true if God believes that p .

(58) A proposition ‘ p ’ is true if God knows that p .

(59) If God knows that p , then the proposition ‘ p ’ is true.

(60) If God knows that p , then God believes that the proposition ‘ p ’ is true.

At first sight, it could seem that the expression “proposition ‘ p ’ is true”, which is a part of the theses (52), (53) and (55)–(60), can be replaced simply with ‘ p .’ That would be the case if Prof. Tkaczyk was right in saying that:

⁵ I am ashamed to admit that I do not understand the argumentation concerning the so-called disquotational concept of omniscience, even though, according to Prof. Tkaczyk, acknowledging it to be a complete (i.e. equivalential) definition of knowledge “would lead to a contradiction in a well-known way, as can be shown by means of basic logic” (TKACZYK 2015, 66).

[The proposition “A proposition φ is equivalent to a proposition asserting that the proposition φ is true”] means [...] precisely that the proposition asserting that φ and the proposition asserting that φ is true have exactly the same deterministic consequences. (TKACZYK 2015, 221).

In my opinion, that is not the case. Let us assume that the causal consequence of the fact that p is the fact that q . What I mean by that is that the occurrence of the fact that p causally implies the occurrence of q . It seems to me that this does not allow for the conclusion of the fact that q is causally implied by the proposition ‘ p ’ being true (JADACKI 2002).

Now let us note that the thesis (52)—at least in the set of humans—is false. The thesis (54), and thus (59) and (54)—and thus also (60)—are analytical truths (being true and being a belief are parts of the connotation of “knowledge”). The thesis (57) is a consequence of the conjunction of (55) and (56). Since (59) and (60) are (analytical) truths, we can limit our considerations of the problem of divine omniscience to (57), even though the latter is concerned only with God’s beliefs.

The question arises why, in the thesis (4), there is no quantification relating to time. Without the assumption that God holds the belief that p at all moments—also at the moments preceding the moment of the occurrence of the state of affairs described by ‘ p ’—the paraphrase (57) would not be adequate. However, Prof. Tkaczyk does not explicitly mention such quantification in his book—though it may be implicitly contained in the thesis about God’s immutability.

Nonetheless, it is only on such an assumption that “the thesis about the opened future and the thesis about the existence of the subject possessing unlimited about future events lead to a contradiction.” (TKACZYK 2015, 63).

18. We should add that acceptance of the abovementioned assumption is a necessary but not sufficient condition of the occurrence of the contradiction in question. Let us recall the distinction between functional and causal determination. According to my reasoning, in order to discover that the thesis about the opened future and the thesis about divine omniscience lead to contradiction, one has to acknowledge that the fact that the proposition ‘ p ’ is true causally determines the fact that p .

That is also the belief of Prof. Tkaczyk, who says, among other things:

Let us assume that a proposition φ is true. The truthfulness of φ is a present event, so it is not contingent but determined. If that is the case, no future event can lead to φ ’s not being true, because such an event would change the past. (TKACZYK 2015, 163).

In my opinion, such determination does not take place: as I have said before, the truthfulness of a proposition asserting a particular state of affairs and the occurrence of that state of affairs determine each other only functionally.

19. Lastly, I am going to make a remark on the status of the thesis about divine omniscience and about the freedom of will within Catholicism.

I believe—the belief I have expressed in my published texts—that the Catholic does not “need” an omniscient God or even an omnipotent and immutable God.⁶ I do not know why some Catholic theologians—the “classical” ones, to use the expression of Prof. Tkaczyk (TKACZYK 2015, 85)—so strongly insist on such a God (though I have my guess concerning the motives for such insistence on the part of the promoters of Mosaism).⁷ The Catholic’s problem is that there are people who have not been punished for morally bad deeds in this life. In order to justly punish someone, one has to possess adequate power (but not necessarily omnipotence) and adequate knowledge about the motives underlying that person’s deeds (but not necessarily omniscience). In order to punish evil people, God has to know their motivational past and be powerful enough to impose the punishment.

What is more, the Catholic does not “need” free will in the sense which interests Prof. Tkaczyk, i.e. in the sense of being able to make a choice which is not determined by anything other than a non-determined (“free”) act of the will of the person making the choice (TKACZYK 2015, 48). To assess someone justly in view of their deeds it is enough to know that the latter really are THAT PERSON’S deeds, done WITHOUT an external COMPULSION—so, the freedom “of the certainty type” (TKACZYK 2015, 49)—is enough.

Translated by Sylwia Wilczewska

⁶ Cf. e.g. JADACKI 2008, 161. The thesis about God’s immutability—if it concerned immutability in every respect—cannot be explicated without getting mixed up in contradiction.

⁷ It is characteristic that Prof. Tkaczyk provides only two examples from the New Testament as testimony for the claim that the Evangelists ascribed foreknowledge to Christ: his announcement of his future death and of the destruction of the Jerusalem Temple. Both of them—from the viewpoint of Catholic ETHICS—are meaningless. Though not mentioned by the Author, it is much more important that, during the Last Supper, Christ announced his future betrayal by one of his followers (“Truly I tell you, one of you will betray me.”—e.g. Matthew 26:21) and that Christ did not expect many of the events described in the New Testament (so he did not have the knowledge about them before they came to pass). What is more, would Christ’s moving prayer in the Garden of Gethsemane be possible, if he knew-for-certain that he would be crucified? Another characteristic thing is the fact that the prophecies of the Old Testament, which have been fulfilled according to the New Testament, were expressed in a metaphorical language (“Because it is said...” followed by a metaphor).

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CAUSAL AND FUNCTIONAL DETERMINATION
VS. FOREKNOWLEDGE ABOUT THE FUTURE

Summary

The author of the paper critically analyzes a quasi-theory of future contingents (*PFC*) given by Marcin Tkaczyk and proposes his own explication of its theses and terms. The author makes it by introducing operational definitions of temporal and modal concepts, distinguishing between the causal and functional determination, discussing the status of the principle of bivalence, and replacing Tkaczyk's theses by their new formulations. As a result, the author states, among other things, that (contrary to Tkaczyk) there is no contradiction between the thesis about the opened future and the thesis about divine omniscience, because it requires the causal (but not functional as it is a case) determination between a true proposition and its determined fact. The author also shows that Tkaczyk's examples of the retroactive causes are not an accurate solution of the antinomy because they are, at most, the examples of the factors which change the picture of the past but not the past itself.

DETERMINACJA KAUZALNA I FUNKCJONALNA
VS. PRZEDWIEDZA O PRZYSZŁOŚCI

Streszczenie

Autor artykułu krytycznie analizuje sformułowaną przez Marcina Tkaczyka pseudoteorię przyszłych zdarzeń przygodnych (*PFC*) oraz proponuje własną eksplikację jej tez i terminów. Czyni to poprzez wprowadzenie operacyjnych definicji pojęć temporalnych i modalnych, rozróżnienie między determinacją kauzalną a determinacją funkcjonalną, rozważenie statusu zasady dwuwartościowości oraz zastąpienie tez Tkaczyka ich nowymi sformułowaniami. W rezultacie autor (przeciwnie niż jego Adwersarz) stwierdza, między innymi, że nie zachodzi sprzeczność między tezą o otwartości przyszłości a tezą o wszechmocy Boga, ponieważ sprzeczność ta zacho-

dziłaby wyłącznie w przypadku kauzalnej, a nie (jak faktycznie jest) funkcjonalnej determinacji między prawdziwym zdaniem a faktem, którego ono dotyczy. Autor pokazuje również, że podawane przez Tkaczyka przykłady retroaktywnej przyczynowości nie stanowią właściwego rozwiązania tytułowej antynomii, ponieważ są one przykładami czynników, które co najwyżej zmieniają obraz przeszłości, a nie przeszłość samą.

Słowa kluczowe: antynomia; futura contingencia; formalizacja; semantyka formalna; ontologia.

Key words: antinomy; future contingents; formalization; classical predicate calculus; formal semantics; ontology.

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