STUDIA SEMIOTYCZNE—ENGLISH SUPPLEMENT, vol. XXVIII (2016), 150–172
ISSN 2451-2745
DOI: 10.26333/stsen.xxviii.06

Michał R. Węsierski[1]

The Hermes Effect. An Analytical Study in Theoretical Semiotics

Abstract This paper is an attempt to show the basic relations between the content of the given announcement by the prognosticator and its subsequent receivers. The article presents semiotic qualities of the cognitive operations, and the process of receiving and interpreting the final results of such operations, as well as the qualities crucial to the effectiveness of the communicative act between the sender and the actual and potential receivers of the prognosis.

The aim of the paper is to explore the semiotic specification of semantic-pragmatic phenomenon called by the author the "Hermes effect". The article presents the relation between the sender of the prognosis and the primary prognosis conceived as a text (book, article etc.), the specific type of reasoning (inference, i.e. prognostic argumentation) and the conclusion of the reasoning, as well as the relation between the prognosis and its subsequent receivers. The aforementioned Hermes effect concerns the relation between the way of transferring the content of the prognoses (understood threefold) and the reaction of the addressees, and what happens with the prognosis when it is beyond the first degree sender's control.

Keywords prognosticating, notions of prognosis, communication process, communication strategies, text, message, encoding, decoding, interpretation

1. Introduction

For at least several decades, the literature on logical and empirical methodologies of real sciences has proved that the final results of research operation

[1] Department of Sociology, Warsaw University of Life Sciences.
E-mail: michalrwesierski@wp.pl

of prognosticating, influences the future states of events, i. e. the subject of that operation. This peculiar phenomenon is referred to as the Oedipus effect. Moreover, it is not the only aspect accompanying prognosticating worthy of methodological-semiotic analyses. The prognosticator – prognosis – receiver of the prognosis relation, conditioning the aforementioned effect, often ceases to exist in research. Therefore, the question arises: what are the basic relations between the content of the given announcement by the prognosticator and its subsequent receivers? The subject of the considerations at hand are certain semiotic qualities of the cognitive operations, and the process of receiving and interpreting the final results of such operations, as well as the qualities crucial to the effectiveness of the communicative act between the sender and the actual and potential receivers of the prognosis (message). The aim of the present article is to explore the semiotic specification of this phenomenon emphasised and analysed by the author. The work does not discuss all of the problems exhaustively, but should be understood as a comment upon the subject. Nevertheless, it constitutes a conceptual framework for complementary, empirical research.

While constructing the discussed communication model characterising the relations between the prognosticator, understood as the primary sender of the prognosis, and the receivers (and their individual types) of the prognosis, the author adapts the idealization method which meets the requirements of the semiotic analyses presented.

2. The notions of prognosticating and prognosis

Proper considerations should be preceded by semantic remarks which elucidate the terminological framework of the presented procedure. Prevision, that is previdistic reasoning (the ability to foresee future events), mistakenly identified with prognosticating, is a thought process in which, based on certain object knowledge, particular (not always *explicite*) and auxiliary assumptions, one can formulate propositions on the past, present (but not yet manifested) and future states of events. Henceforth, previsions can be divided into prospections, conspections and retrospections. I will focus on prospections – inferences about future states of affairs based on the knowledge of past and present events. The premises comprise of factual and theoretical knowledge. However, a conclusion, being a single proposition or a set of them, informs us what will happen in the future.

It should be noted that prognosticating is one of the two basic kinds of thought processes qualified as prospective reasoning. The second are prophe-

cies. The difference between the two stems from their formal-logical structure and epistemological status. Prognosticating is a conditioned reasoning of the "if A then B" structure. On the contrary, prophesying is unconditioned: a considered future state of affairs "B" does not give the grounds for sentence "B", or premises of argumentation are not creditable epistemologically or they simply remain unverifiable. I shall note that a set of propositions constituting premises in previdistic reasoning is usually referred to as *preadicans* (PS). Concomitantly, these premises form a prognostic argument, based on which the *preadicantum* (PM), i.e. conclusion of the reasoning, in the form of a set of propositions, is formulated.

The term "prognosis" has multiple meanings. In a narrow sense it is a conclusion of prognostic thinking – a certain type of sentence referring to the future. Furthermore, it is the prognostic argument and its result. Broadly speaking, it designates a text in which the prognosis (in first and second meaning) is expressed and made public by such media as books, scientific journals, or websites. Therefore, three types of prognosis (senses of the term) can be established: a prognosis understood as a text (prognosis T), a prognosis understood as a procedure – a certain inference including PS and PM (prognosis P), and a prognosis understood as a conclusion of reasoning (prognosis C), here: PM only. It can be presented by means of the following simple graph (Scheme 2):

$$\begin{array}{l} \textit{Prognosis } T \\ \quad | \\ \textit{Prognosis } P \end{array} \quad = \quad \frac{PS}{PM} \quad = \quad \textit{Prognosis } C$$

Scheme 1

For example, such works as *The Limits to Growth* (1972) or *Mankind at the Turning Point* (1974), being the First and the Second Report issued by the Club of Rome, are the prognosis T as they present the complex statistical models reflecting the PS of the prognosis P. The conclusions drawn from these reports, concerning the consequences of population explosion and the shrinking of some natural resources, based on the mathematical model, are the prognoses C (*Cf.* Meadows, Meadows, Randers, Behrens 1972; Mesarović, Pestel 1974).

The semantic correlate of propositions being the result of prospective reasoning, here: prognostic reasoning and shall be further referred to as "prospective image" (PI). The prospective image is the conclusion of reasoning (prognosticating): in other words, the PI is the future state of events denoted by the PM and based on the PS.

3. The Oedipus and Hermes effects

The question of the difference between the Hermes effect and the Oedipus effect should not be left unanswered. The second effect concerns the relation between the prognosis P, implicitly also C – their addressees and the prognosticated reality that can be influenced by those addressees (by their acting or passiveness). However, the Hermes effect covers the relation between the sender of the prognosis and the primary prognosis (here in meaning: T, P, and C) being the result of the sender's cognitive operations, as well as the relation between the prognosis and its subsequent receivers. It is, therefore, a phenomenon semiotically much more complex than the Oedipus effect. The Hermes effect should be identified with a distortion or far-reaching change of the initial content of the prognosis T, P, or C, or inappropriate interpretation of the content of the prognosis T, P or C. The subsequent receivers, both direct and indirect, having no contact with the original source of the prognosis T, become the senders (in a various scale and scope) of a primary prognosis. These modifications can be of qualitative and quantitative character. Furthermore, the changes on the part of the receivers may concern the PS – the prognostic argument, or the PM – the result of the prognostic reasoning. Henceforth, the changes affect not only the prognosis *per se*, but also the text being the vehicle for the PS and the PM.

As far as the Oedipus effect is a semantic-ontological phenomenon concerning the limits of prognosticating as the methodological function, the Hermes effect – as it has been defined for the purpose of the present analyses – is above all a semantic-pragmatic phenomenon supressing the informative functions of an utterance.[2] The Oedipus effect concerns people's reactions to the content of the prognoses and the way it influences the reality of the prognosis. The aforementioned Hermes effect concerns the relation between the way of transferring the content of the prognoses (understood threefold)

[2] Initially, the term "Hermes effect" was introduced in an unpublished dissertation; where the inability of the prognostic to anticipate the interpretation of the prognoses by the receivers was considered. This observation pointed to the lack of control over the message of prognosis after its transfer (Węsierski 2004: 312).

and the reaction of the addressees, and what happens with the prognosis when it is beyond the first sender's control. In other words: how the sender (model and empirical one) of message (prognosis T, P and C) can influence the receiver (model and empirical one) of the prognosis, including the means of expression used, and the link between the event and the subsequent receivers who become senders of a modified message.

The sketches show that the Hermes effect is potentially primary: it has a genetic and logical primacy over the Oedipus effect. Therefore, the attention should not be directed towards the prognosticated reality showed in the PI, but rather to what happens with the PI, describing the prognosticated reality denoted by the PM, as well as the PS which has facilitated both the presentation of the PI and the formulation of the PM. In simple terms: whoever is baffled by the Oedipus effect, will think of the influence of the content of the prognosis on its subject. Personally, I am interested in the influence the sender and the receiver have on the prognoses T, P and C.

It should be kept in mind that the mythological Hermes, whose name is used to designate the phenomenon, is both an Olympic god and the divine messenger of rhetorical skills. He could perform the work entrusted to him in Hades due to these attributes.[3] Therefore, the Hermes effect is the problem of the messenger – the transfer of information incorporated in a particular kind of message.

4. The structure of the communicative process: general characteristics

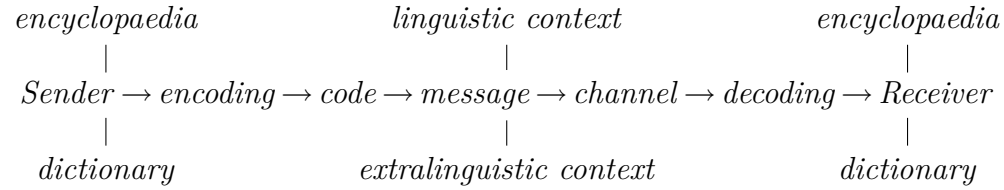
The standard model of communication (Eco 1976: 141; Lyons 1984: 38–43), reflecting the process discussed, includes several constituents. They can be present in the order corresponding to the transfer of information from the sender to the receiver (Scheme 2):

Sender ⟶ *code* ⟶ *message* ⟶ *channel* ⟶ *context* ⟶ *Receiver*

Scheme 2

[3] In the context of the further semiotic characteristics of the Hermes effect, in detail: the prognosis of the semantic content synthesised by the receivers, it may be crucial to mention that Hermes and Aphrodite were the parents of Hermaphrodite – the androgynous god.

The presented simple model is not, obviously, complete. Therefore, it will be successfully extended and factualised until it reflects the Hermes effect. The components that have to be replenished in the first place are the semiosic competencies of the sender and the receiver, embracing their individual encyclopaedia and dictionary. Another element, closely connected to semiosis, which must be considered is the process of encoding and decoding the message transferred. The first mechanism is granted by the sender, the second – by the receiver of the massage. However, the linguistic and extralinguistic context of the message transfer is present in both participants of the interaction. An extended initial model characterizes this communicative act (Scheme 3):



Scheme 3

The sender (prognostic) uses a certain encyclopaedia (whole knowledge possessed by the cognitive subject) and a dictionary (system of words and and meanings assigned to them) used in context and directed towards the receiver of the message (here: prognosis understood as text, PS and PM) transferred by means of a code (a sequence of signs and rules of their assignment to elements of the given message) and within a channel (medium of the message). On the other hand, the receiver, also having a specific encyclopaedia and a certain dictionary, perceives the message in a specific context and interprets the message. From the praxeological and informational points of view, the encyclopaedia and the dictionary of the sender and the receiver should at least partially overlap with each other. The code of the sender (prognostic) must be at least partially understandable to the receiver. In other words, the communication is effective, if the sender and receiver have a certain common scope of knowledge.

The encyclopaedia and dictionary of the receiver, or the context of the communicative situation alone, are not enough to decode the prognosis properly. The condition that allows for the effectiveness of every communicative act is the adequacy of en- and decoding of a message transferred via certain code. The other elementary condition is an unobstructed channel of communication and the understandability of the message carrier. (The

channel and carrier of message transfer can be used interchangeably, but in the age of modern technology, *vide* personal computers, laptops, notebooks, tablets or smartphones, it is not advisable. For example, the Internet can be the channel run on a smartphone, and the scan of an article including prognosis T and placed on a website – the carrier.) Barriers and technical limitations come to play a role when the channel or carrier is damaged: yellowed or crumbled paper, blurry print, typesetting errors or limited access to the Web and the server which sends information to the computer or another electronic device that enables the access to the WWW – a crash of the operation system that is used while reading the message.

5. Between the prognostic, prognosis and the addressees

The research procedure and its outcome – the prognosis W, described in the present work, has a creator. The creator is a primary sender – the first-degree sender (1°). However, the consecutive receivers may differ not only in their abilities (encyclopaedia and dictionary), but also in their intentions towards the message they became acquainted with and their reaction to it. Two key conditions are observed here: the first, "initial situation" (starting position), concerns the transfer of a source message (prognosis T, P and C) by the 1° sender to a 1° receiver; the second, the "derivative situation" concerns what happens to the T, P, or C prognosis when it reaches the 1° receiver and is transferred further on. The former idea shall be considered first – this will facilitate the analyses of the latter, processed in much more complex internal and external circumstances of a communicative act.

5.1. The initial situation: the 1° sender and the 1° receiver

In the initial situation, the prognostic is the creator and the 1° sender of a written message which is a graphic representation of the prognosis P; and the 1° receiver – the individual who has contact with the original text. The text is either entirely or partially a monologue referring to written forms of language (Głowiński 1973: 107), the carrier of which is, for example, a paper book, a periodical or a website. Moreover, the text should not be identified with the PM. The 1° receiver has contact with the original text and therefore the 1° receiver is the original text user (OTU). The prognostic, if his or her cognitive attempts should be recognised as scientific, presents an entire prognostic reasoning (prognosis P) in a text (prognosis T). The prognostic reasoning P should comprise of the prognostic premises (PS) and

their result, i.e. conclusion (PM), constituting the prognosis C. The entire prognostic reasoning, conclusion, some fragments or aspects of the text can be of interest to the 1° receiver. The intentions of the receiver interested in the text vary: a technically qualified receiver's expectations are different from a receiver who is layperson. The use of the text is manifold: the OTU user may get acquainted with, or operate on, a text as a whole or on its fragments, it can be done for pleasure or professionally etc. Furthermore, the intentions of prognostics are not homogenous either.

The prognostic as the 1° sender, and the 1° receiver as the OTU, play the roles of participants of an utterance, literally: the author and the reader. A text must be decoded by the receiver for it to be updated. In a scientific text, unlike in a literary text, the external author (the real entity, the speaker) is the same person as the narrator (the speaking subject, the "I") of the text (Markiewicz 1984: 73–76). The physical, empirical author (E) assumes a model-reader (M reader) to be a competent addressee of certain skills, able to update the text properly (for more, see Eco 1994: 87–96). Thinking of the reader M, the author E selects concepts, uses a lexical and stylistic practice, and presupposes the receiver's knowledge (the encyclopaedia and the dictionary). On the other hand, an empirical reader (E) assumes the model-author (M) independently of the author's E actual intentions. (The image of the author M depends on the clues incorporated in the text). The reader M and the author M are textual strategists (Eco 1994: 89–90). The reader M is a textually-established collection of fortunate conditions which should be met to update a text in its prospective content entirely (Eco 1994: 90). A complementary note should be made here: in the event of communication between the prognostic (the primary sender), and the 1° receiver (the OTU), so at the initial stage, it is recommended to use the already-established notions, created by the literary theorists and linguistically-oriented semiologists, to analyse the narratives. The notional apparatus complies with the semiotic attributes of the relations between the 1° sender and the 1° receiver.

It has already been mentioned that the sender's and the receiver's competence may differ If the language of the author E is e.g. an idiolect – a language of an individual user, the receiver (the reader E) will lose the ability to understand the content of the message properly. For example, an individual code of the sender is reflected in some stylistic habit or linguistic mannerism, circumscribing an individualistic idiolect to a piece of work (*Cf.* Eco 1996: 85–86). When the code is unknown to the receiver, the information transferred remains unknown as well. It may also happen that

the message of the sender is unclear (vague) and ambiguous, although the sender and the receiver have the same code at their disposal. When the message is vague, and hence difficult to understand, the proper interpretation of it remains unknown. There may be plenty of interpretations, but they do not have to carry a cognitive value. A scientific prognosis, in both its broad and narrow understanding and if it has some cognitive and practical functions to perform, cannot be as ambiguous and indefinite as a piece of art *ex definitione*. These conditions concern the senders and receivers of various degrees.

The reception of a message does not happen in a semiotic "void". Attention should be paid to the role of the context: a linguistics and extralinguistic context should be distinguished from a co-text. The co-text is comprised of all texts corresponding to the source text (prognosis T), e.g. works mentioned directly in the main part of the prognosis T, or cited. (Their role is crucial as they justify the premises constituting the PS of the prognosis P). The sender is unable to control the entire extralinguistic context. He or she can, however, arrange or adapt some facts e.g. by specifying the date of publication, but they have no influence on social, political, economic circumstances, or cognitive situation. Neither do they have influence on the circumstances in which the addressee will use the prognosis T – let it be physical (environmental) or physiological (metheoropathic *casus*); or a very prognosticating event.

The prognosis T is a complex semantic and syntactic structure the decoding of which (paradigmatic aspect of communicative act) happens at an individual level. It is also important that a linguistic context – determined by the structure – embraces the aforementioned co-text. To decode the prognosis T, P and C properly, the 1° receiver must have some additional intertextual competence. While reading, the 1° receiver interprets or misinterprets the message, and inscribes some intentions to the author M. There may be many interpretations, but even though there are no guidelines (rules) indicating the best (the most appropriate) interpretation, the "bad" (Eco 1996: 51–52) ones can be detected. The receiver assesses the text as a whole according to his or her own criteria. For example, for the reader E who has an extensive encyclopaedia, broad dictionary and is intertextually very competent, a prognostic argumentation (PS) may be unconvincing or even wrong, but to another reader, of lower intellectual skills and less knowledge, the same line of argumentation may be correct and justified. Some readers E may be offended by resignation (although not always absolute) from usage of a scientific apparatus (quotations, references) in the prognosis T.

Obviously, the prognostic may take the role of a direct sender i.e. transferring the message – the content of the already-published prognosis – without any external, written text. For example, the sender as the prognostic may be interviewed for the radio or the TV, or put information forward by means of the Internet or through software. Then, the direct message becomes a de facto new prognosis. The message is only seemingly the same – independently of the efforts the prognostic will take to remain consistent with his or her own text – the selectiveness of the transfer becomes his or her part as well.

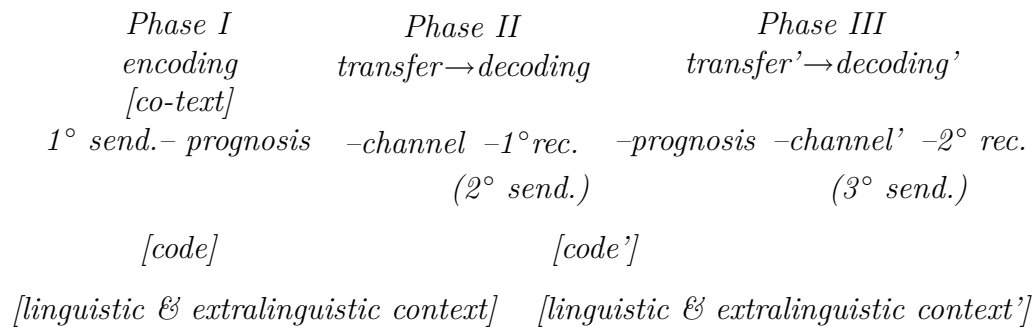
5.2. The $N + 1^{\circ}$ sender and the $N + 1^{\circ}$ degree receiver

The 1° receiver is not the only subject who may have contact with the message of interest. Apart from the 1° receiver, there are also second-degree and higher-degree receivers. The $n + 1^{\circ}$ receiver has only a limited "contact" with the text – he or she knows it from the second and the next hand due to the gradual transfer from the higher degree senders. On the whole this, somewhat cascading, process and the contact with the initial text is indirect. I shall analyse the communicative process and the relations between the prognostic (1° sender) and the receivers of the prognosis, from a broader perspective – taking into consideration the axes of the prognosis T, P and C respectively, as it reaches the 1° receiver.

Even though the prognostic – author E – can try to influence the 1° receiver in different ways, the influence on the 2° receiver is limited. The 2° receiver must rely on the 1° receiver. The 1° receiver becomes the 2° sender only after his or her message is transferred. Moreover, since the selectiveness and overinterpretation are not strange to the 1° receivers, a proper transfer of the content of the prognosis T, P or C becomes a challenge. It is impossible to anticipate the interpretation of the prognosis by the 1° receiver and to anticipate the reaction of the 2° receiver to information obtained from the 1° receiver.

Taking into consideration the already-established evidence, the communicative act between the prognostic as the 1° sender, the 1° receiver as the *OTU* becoming the 2° sender, and the consecutive receivers of higher degrees, can be divided into three basic phases and presented as a graph (Scheme 4). Nevertheless, the presentation requires some further explanation.

The message is encoded in the phase I by the prognostic (1° send.) in a system of signs. The message as a whole, i.e. prognosis T, prepared and transferred in specific linguistic and extralinguistic context, and conditioned by the co-text. In phase II, the same message reaches the 1° receivers group



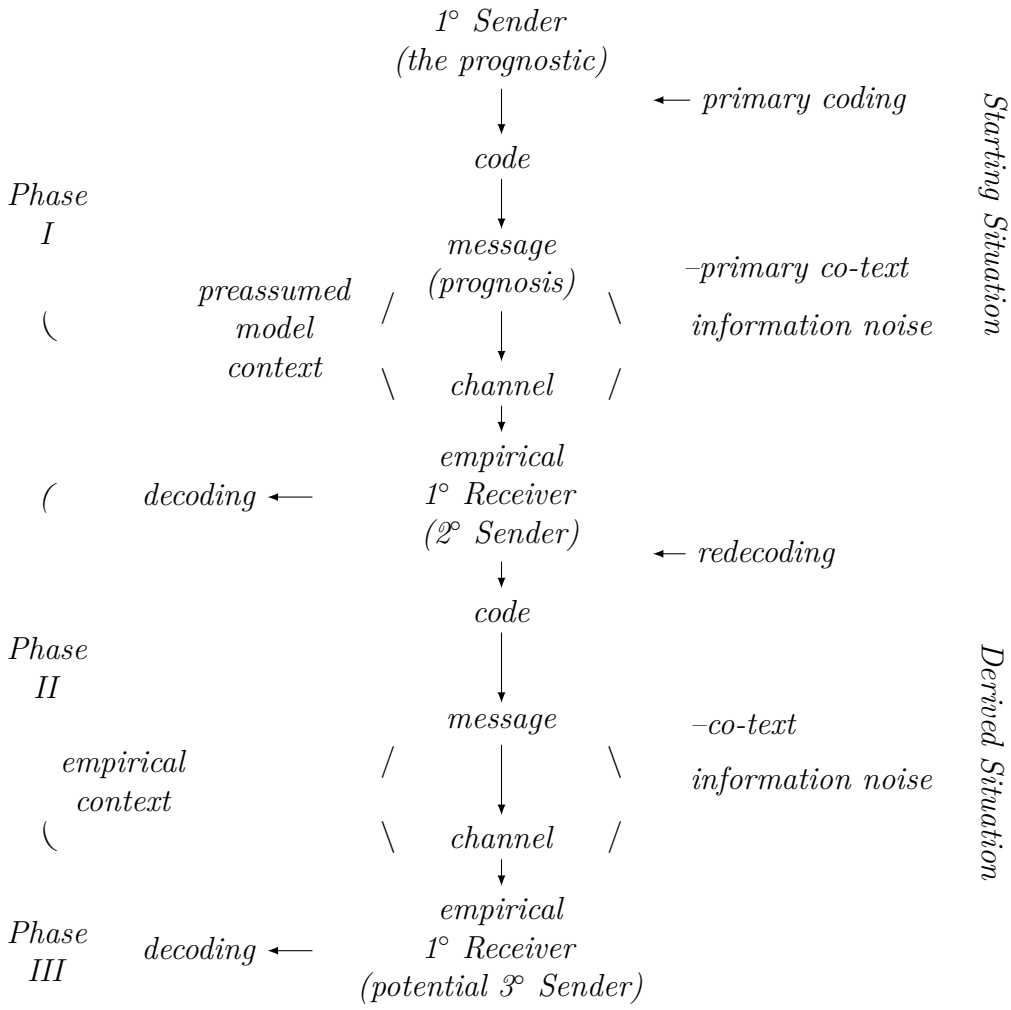
Scheme 4

(1° rec.) via a channel. The receivers who got the message (1° rec.), in its linguistic and extralinguistic context and conditioned by the co-text, decode, convey it and become the 2° senders (2° send.). In phase III, the 2° receivers (2° rec.) – following their predecessors – become the 3° senders (3° send.). The message is decoded every time it is sent (phases II and III). The knowledge of the code is crucial for understanding the message. Starting with phase II, the 2° and further receivers, already in phase III, have at their disposal only recounted information, and must rely on decoding and interpretation of the 1° and further receivers. In natural circumstances, the transfer is encumbered with distortion or loss of information or its parts. The longer the transfer of the message, the greater the possibility of distortions in the prognosis T and its fragments e.g. the prognostic reasoning (prognosis P), and conclusions (prognosis C).

The communication model presented in schemes 3 and 4 is still not complete and requires further corrections (see Scheme 5). Particular attention should be paid to the factor which is, to an extent, independent from the higher-degree senders – the noise occurring along the transfer: the channel in which the message is conveyed, the context (both extra- and linguistic), or the manner of decoding itself. The noise should be identified with the disruptions disenabling the receiver to understand the message or its parts. In other words, the noise limits the access to the informative content of the prognosis T, P or C.

The process of encoding was modified in the extended model – the communicative acts were divided into the primary coding, coming form the original prognostic; and, on the part of the receivers – redecoding – where the possible changes were introduced in the code. Furthermore, the

decoding mechanism of the 1° and 2° receivers was taken into consideration. As scheme 5 shows, phase I of the communicative process happens at the initial situation (starting position), the phases II and III – at a derived situation.



Scheme 5

Prognoses do not come into existence and exist without their referent and their addressee. (They do not remain in public sphere in isolation from what they refer, and from this, to whom they are addressed.) Ultimately, whether

and what kind of reactions can be expected from information contained in a prognosis is dependent not only on how it is formulated by the sender, but also on who the receivers are and in what context they will decode the content of the prognosis. Therefore, a few questions arise: what is the goal of the prognostic as the 1° sender; by what means does the 1° sender influence the receivers; how are the reactions of the receivers of the prognosis related to the assumptions of the prognostic as the 1° sender; and how can the original material (content of the initial message) be "processed" by the receivers? The aims set by the prognostic, and the types of the reactions of the receivers of the prognosis have lead to the issue of accuracy and effectiveness of the prognoses. These ideas will be subject to further investigations.

5.3. Communication strategies of the empirical sender of the first degree

The prognostic, attempting to perform an research procedure – prognosticating, must choose the code, the carrier, the way of presenting the data, as well as define the receiver and point out the goal of the procedure. Furthermore, prognoses P, due to their functions and goals, are divided into: exploratory, cautionary and normative. Since the latter are close to plans and their aim is to activate the receivers and force them into particular actions leading to the achievement of a goal central to the prognostic. A more accurate name for them would be the "activating-normative prognoses". The exploratory prognoses ought to be related to the cognitive function of the outcomes of cognitive operations, the cautionary and activating-normative prognoses – with the practical function of the outcomes of cognitive operations.[4] The aim of the two latter prognoses is to influence, to an extent possible, the course of events (facts) and social processes, as well as natural processes.

Information incorporated in the prognosis T, and especially P and C, may influence the attitude and actions of the receivers. What is important from a semiotic point of view is the ability to comprehend the content of the premises creating the prognostic argument (PS), and the semantic content of the conclusion (PM). Exploratory, cautionary and activating-normative prognoses must be designed differently in terms of their contents. The major difference resides not in the content and structure of the PM, but

[4] If the informative layer of cautionary and activating-normative prognoses are treated autonomously, it will be difficult to rule out certain cognitive functions they perform. Furthermore, these prognoses may perform cognitive functions indirectly, but only towards the empirical practice of the scholars. What I mean are metatheoretical analyses and improving the methodological cognisance of the researchers.

in the content and structure of the PS. Exploratory, prognoses are strictly cognitive and are directed to a professional receiver; the presentation of the prognostic argument (PS) is key to such individuals. In case of cautionary and activating-normative prognoses, it is the structure and content of the PM which are brought to the forefront – the knowledge of the future states of events should be the core element of a warning or a factor which motivates to specific actions.

In philosophising on how the Hermes effect is linked with the accuracy and effectiveness of the prognoses, some prototheoretical terminological remarks are needed. Referring to the linguistic situations alone, it can be said that the accuracy concerns the coherence between the prognosis and the reality. The ultimate goal is to fulfil the phenomena, processes or events contained in the prognosis C. However, it is not precise enough for conducting a methodological – semiotic analyses. The accuracy should be analysed in two interlocking aspects: reliability and precision of the prognoses (Delorme, Woleński 1984: 25–26). Reliability informs about the degree to which information contained in the prognosis C (PM) can be fulfilled based on the PS. In the structure of prognostic reasoning, particular PM is relative and logically possible to a degree p to PS. Broadly speaking, the idea concerns the level of certainty towards the prognosticated events or processes denoted by the PM and guaranteed by the PS. Precision is linked with the ability to fulfil what is denoted by the PM, in other words, what is presented by the PI.

It can be said that the prognosis is complete reliable if and only if it fulfils everything that the PM predicates. To put it another way: when everything goes as the PI indicated. Such an assumptions needs a restriction: a doubt arises whether the prognostic has really previsioned an event, or has made a lucky guess. If the events indicated by the PI happen, it does not show the abilities of the prognostic. In a scientific prognosis one must present not only what will happen in the future but also how it is known. From a methodological point of view, the accuracy of the prognosis is guaranteed by the correct choice of the PS and the formal and substantial appropriateness of the predictive reasoning including PS and PM. It must be noted, however, that precision as one of the aspects of the accuracy, should be considered jointly as sentences creating PM. (As it has already been mentioned, the conclusion of previdistic reasoning is not always, or even rarely, a single sentence on future states of events).

The effectiveness is more problematic as it is connected with the influence

of the prognosis on the receivers and their actions. Both dead and alive[5] prognoses can be effective. Each alive prognosis which can be "effective" should be "given a chance" to be fulfilled, as long as the established time horizon is distant. Following A. Podgórecki it can be said that "an optimally effective action is the one in which all the postulated states of events were fulfilled – only these states of events, and no others" (Podgórecki 1962: 130). Three questions help examine effectiveness: 1) how much of what was to happen was accomplished; 2) how much of what was to be avoided was not fulfilled; and 3) how much of what was to be fulfilled or changed was accomplished? The prognostic as the 1° sender must be aware of the receiver, otherwise his or her actions may be counter-effective. Prognosis aspiring to be "effective" should be suitable for any receiver E, which should be reflected in an adequately chosen, that is representative, receiver M.

From a methodological point of view, extending the range and time span (the time horizon connected with it) lowers the precision of the prognosis.[6] From a semiotic point of view, extending the range and time span enhances the probability of incorrect recoding of the content of the prognosis P and C, which influences the precision and effectiveness of these prognoses. In the case of cautionary prognoses and activating-normative prognoses, the longer the time horizon and the less prepared receiver, the easier the code of prognosis C.

The announcement of a given prognosis T may cause the realisation or lack of realisation of what the PI concerns. In this case, when the prognoses P and C can alone become the causes of further events. These are called self-fulfilling prognoses (facilitating their own realisation) and self-annihilating prognoses (self-destructing, acting against their own realisation; see e.g. Giedymin 1964: 136–141; Nowak 1985: 391–393; Merton 1982: 463–464). Such actions, i.e. the modification of the content of the PS and PM bringing self-fulfilment or self-destruction of the prognosis may be the manifestation of a conscious act taken up by the prognostic at the preparation stage.

It is said that the self-fulfilling prognoses (and self-destructing) are

[5] Prognosis of the time horizon which has expired – its range reached its final stage, can still influence their receivers and achieve the non-cognitive objectives, provided that no crucial changes in the message will be performed alongside its transfer.

[6] The range of the prognosis concerns how distant into the future the prognosis reaches. The time span of the prognosis refers to the time (period) it concerns. The range and time span of the prognosis not always covers the same periods. The time span of the prognosis is never greater than its range but the reverse. Not all prognoses are applied just after preparation. A prognosis can arise in e.g. 2012, which the PI describes as coming into force in 2015, and expiring in e.g. 2020 (Rolbiceki 1970: 154–155).

those which in the moment of their formulation, and due to the state of events they refer to, are based on false premises. These premises are false but by means of spreading the prognosis lead to the expected results; a methodologically unfounded prognosis is fully functional. In case of self-destructing prognoses, the announcement and spread of the prognosis leads to a point where the anticipated events will not come to pass by themselves. Both these types of prognoses are not necessarily based on false premises, i.e. their PS components do not have to be false.

Regarding self-fulfilling and self-destructing prognoses, two types of situations linked with logical structure of the prospection (Nowak 1985: 392–393) should be taken into consideration. The first type formulates a statement in the shape of a conditioned prediction ("If B then Z"), and the anticipated results are not neutral to the researcher or the research group. If the results Z are marked as positive, people whom they concern begin to act to create or maintain conditions B described by a predecessor of a given law (statement). If they are marked as negative, people act to prevent the event B, the predecessor of a given law (statement), from happening. For these events, a particular human action is their predecessor, or a predecessor is dependent from a human action. Furthermore, the consequences are so important that a lack of any action seems unlikely. If the result Z is attractive (or dangerous) enough to cause actions to achieve (prevent) it, and the initial conditions of a given law are subject to manipulation so that it becomes likely to take actions facilitating its achievement (prevention), then detection of the $B \rightarrow Z$-type law is a condition that enables the result Z to happen (or not to happen). This is called the conditioned self-fulfilling (self-destructing) prognosis based on a true statement. The second type encompasses situations in which prediction is based on either false cause-effect thesis relationships or is not based on any law of consequence, but has a form of unconditioned predicting which assumes that the moment it was formulated in meets some unidentified initial conditions, and unidentified dependence so that the predicated event will surely happen.

This to say that prognosis P can be supported by an active intervention facilitating or preventing an event or process mentioned in the PS from happening, by means of an action or a passive intervention, which consists in facilitating or preventing an event or process mentioned in PS from happening, by means of refraining from taking up actions. In case of a prognosis with a hidden accomplishing mechanism, two systems of the PS statements are possible: explicit, which consists of an officially announced prevision, true of false, but leaving information crucial for prevision unsaid;

and implicit, which consists of hidden information known only to the author (authors) of the prognosis (Giedymin 1964: 142–148).

A conduct of such a construction of the PS, where key premises of prognosticating arguments are concealed, is unfair towards the 1° receiver as the OTU, and indirectly towards the subsequent receivers. Despite the ethical judgment of such actions, it should be noted that the result of such behaviour can be detected by a well-prepared and perceptive 1° receiver. It is even more likely when the receiver is a critical OTU at the same time.

5.4. The Apollo syndrome and the empirical receiver as an empirical sender

From the point of view of the prognostic and as the 1° sender, the optimal situation is one in which the receivers of all degrees understand and get an undistorted message of the prognosis T, fully accept the PS and PM and work in accordance with the expectations of the sender. The empirical 1° sender may idealise the receivers of the former degrees, and identify the M receiver with every E receiver without any revision of real cognitive processes, and a linguistic and extralinguistic context in which a communicative act takes place. The signalised attitude of the 1° sender is accompanied with a set of beliefs that shall be termed here as the "Apollo syndrome". The syndrome concerns the far-fetched expectations towards the receivers and can be defined as the acceptance of an unlikely and uncertain assumption that these receivers will decode, accept and correctly transfer a piece of information contained in the message, and will further act in accordance with the guidelines from the 1° sender. The syndrome is also an example of a particular communication strategy of the empirical 1° sender. The receiver who decodes the text (message), interprets the text properly: taking into consideration all of the sentences coming from the sender (prognostic), and takes up an action meeting the demands and suggestions of the prognostic, can be called the "perfect receiver" (PR). It must be noted, however, that the PR is an ideal subject and does not appear in real communicative acts.

The question is: how will the receiver E of a certain degree react when he receives the message? Let us consider the repertoire of reactions to this message (R_m). A variety of potential reactions can be divided into three instances: the understanding of the message (um) – the prognosis T, P or C, the causative actions linked with the content of the prognosis T, P or C (ca), and the further transfer of the message to successive receivers (tm). These instances are represented by a threefold system:

$$R_m = \langle um, ca, tm \rangle$$

The person who is the addressee of the exploratory, cautionary or activating-normative prognosis, may succeed or fail to access it. If contact with a particular type of prognosis will actually happen, the person receiving a source message becomes the empirical 1° receiver or the empirical $n + 1$ degree receiver (when the contact is indirect). Every receiver E – despite their degree – can succeed or fail to understand the message (prognoses T, P and C) as a whole or as fragments. If the text is understood (fully or partly), then the receiver E may take up certain actions as a result of knowing, as a whole, or in part, the message. The receiver E may therefore react and take a position towards the prognoses P or C, or remain passive towards the content of the message, but may also (regardless of his or her actual position) transfer the message or its part to the subsequent receivers independently. When the receiver does so, the message may be transferred properly (i.e. without noise or distortions) or with changes that may include the prognosis T, but especially prognosis P and C. The improper understanding of the message or a part of it, is connected with its misinterpretation, and further in its transfer – with the complete or partial deformation of its primary content.

Due to the possible actions of the receivers E of further degrees, the key role is granted to the way the prognostic argumentation, or its fragments – certain premises constituting PS, and the conclusion of reasoning – PM, is conveyed. (Obviously, the message can be purposefully misinterpreted and transferred further in this form). Investigating the logical structure of the prognosis P, as this problem is crucial here, and its transmission, one should pay attention to the lack of changes in the content of the prognoses PS and PM, partial changes of the PS or PM and complete changes of the PS and PM. The situation discussed can be exemplified by means of two matrices (schemes 6A and 6B) where the first part of notation in brackets is always the PS, and the second – the PM. In the first and second matrix, 0 and the letter a stand for the lack of changes in the content, ½ and b – partial changes, and 1 and c – complete changes, accordingly.

Changing the enumerated components of the logical structure of the prognosis P may vary significantly: they can cover e.g. some premises constituting the PS or some sentences constituting the PM.

Possible changes introduced into the PS may be linked with transposition – the conversion of the mechanisms responsible for self-fulfilment or self-destruction of the prognoses. It is not difficult to imagine that the global

$(0,0)$	$(1/2,0)$	$(1,0)$
$(0,1/2)$	$(1/2,1/2)$	$(1,1/2)$
$(0,1)$	$(1/2,1)$	$(1,1)$

A

PS_a/PM_a	PS_b/PM_a	PS_c/PM_a
PS_a/PM_b	PS_b/PM_b	PS_c/PM_b
PS_a/PM_c	PS_b/PM_c	PS_c/PM_c

B

Scheme 6

result of mis- or overinterpretation of the prognosis, or changes to the content may have a reversed result than the one assumed by the prognostic – in this way, the goals of the prognosis are neutralised. A further consequence of such circumstances may be the majority of receivers of the prognosis T, P or C, who will get its message wrong in relation to its primary content, or will act in a way different than expected.

Widespread and methodologically unfounded prognoses can cause unintentional but effective causes of expected results. Methodologically correct prognoses P can bring unexpected results as well. The situation is analogical for overinterpreted prognoses or ones that are wrongly decoded and further recoded. They can also bring results expected by the higher degree senders but not by the 1° sender. They can even oppose the primarily assumed result or act against the results expected by the 1° sender.

Let us imagine an initial situation in which an executive board of a stock company orders a professional exploratory prognosis on the company's productive capacity in relation to growing competition and labour expenses. The prognosis T, the vehicle of which is an internal public notice, is presented to the board members being the professional 1° receivers who are well-acquainted in *OTU* with an adequate encyclopaedia and dictionary. The content of the prognosis P and C shall be an instrument to designate a long-term marketing policy for the company. Let us assume that the information delivered to the board is beneficial from the view of developmental perspectives of the company. Further, let us assume that the prognosis T reaches some inexperienced spokesperson of the company. The spokesperson, being an unprofessional receiver 1° or 2°, reports the message, especially

prognosis P or C, at an annual news conference where the aim is to present the financial results of the company to the shareholders. In this derived situation, unfortunate circumstances of the transfer (lack of electronic presentation of figures reflecting the PS) and lack of factual preparation of the spokesperson (which debilitates the exact understanding and recoding of the message) means the message reaches the journalists (receivers 2° and 2°) in a distorted and incomplete form. Further on, the journalists, as 3° senders, spread and recode the text aiming its message at so-called public opinion (potential 4° receivers). The promulgation of fragmented information on methodological and factual basis of the prognosis P in the mass media evokes scepticism in investors who no longer know the potential of the company. The fact that the notice holding the prognosis P is an internal document (available for selected members of staff only) can evoke justified suspicion from investors and market analysts. Global results for investors, shareholders and stockbrokers may lead to a drop in the company's listing. The circulation of the imprecise message from 2° sender can cause a slowdown, if not a breakdown, of a promising company.

Some economic prognoses are prepared by specialized research institutions based on a standard methodology, without the need for their detailed discussion, and their PM is just a few-sentences statement. Therefore, e.g. the quarterly prognoses for GDP that are made public by the national statistical authority, despite their simplicity, do not have to – as exploratory and activating-normative prognoses P – encourage receivers E who, apart from analysts, are the people responsible for economic entities and individual consumers. This happens mainly when the factors causing economic growth are beyond national economy, e.g. they are linked with recession or financial crisis of the world's economy, and investments or consumption is linked with risk and high individual costs.

In spite of motifs and determination of the prognostic or the receiver of the prognosis, there exist strictly ontological limitations of the possibility on prevention or support used towards the content of the prognosis C or a premise of the prognosis P. L. Petrażycki had good intuition in this case – many years ago he distinguished potestative and non-potestative prognostications. According to Petrażycki, potestative prognostications are those that the realization or non-realization of the condition of what is previsioned depends on human will and actions, non-protestative, on the other hand, are those in which the condition of what is previsioned does not depend on human will and activities (Petrażycki 1985: 124–125). I will cling to this distinction literally. The case concerns human possibility to break

the links in a prognosticated chain of events; in other words, the ability to stop prognosticated course of events. It is to look at the power a person can or cannot have over phenomena (states of events) prognosticated about. For example, prognosticating the course of geological processes, such as tectonic movements and emergent earthquakes or volcanic eruptions, and most importantly, astrophysical processes such as the evolution of stars etc. – although it fits into the current cognitive abilities of contemporary science, harnessing these phenomena is outside human technological skills and developments. However, preventive or restrictive actions against the social impact of such events are, to some extent, available.

Non-potestativeness of prognoses excludes the possibility to stop the cause-effect chain (e.g. from natural phenomena) being the condition of what is being prognosticated about, but not necessarily the human actions taken up as a result of knowledge on these chains. Therefore, although the course of an event cannot be stopped or changed (e.g. the fall of a big asteroid or release of jets of Gamma radiation from megnetars towards the Earth), then as a result of a collective psychosis or group thinking, arranged and non-arranged aims of the prognostics can be fulfilled. Henceforth, the knowledge which was supposed to save people and help them prepare for the upcoming and inevitable natural disaster, can cause – in an event of a derived communicative process – unnecessary panic and a negative social aftermath of an estimated natural phenomenon.

6. Final remarks

An introductory view of the presented problem is not exhaustive to all its research questions. Discussing further ideas connected with the phenomena of interest, such as processing and transferring information, including their personal potential: emotional aspects of cognition, psychoneurological mechanisms of decision-making, personal proneness to persuasion and capability of manipulation, the role of self-assessment and self-knowledge, and the role of the environment (cultural and technological factors) for the effectiveness of mass communication etc., requires a deep cooperation with the representatives of logical semiotics and epistemology and the representatives of empirical sciences of cognition and communication. Such an extended methodological approach, including and integrating the knowledge gained on the ground of many scientific disciplines, usually – provided that the research is conducted correctly from a workshop perspective – enables us to view the phenomenon in a richer and more exhaustive perspective, and to answer

these questions that are impossible to answer from a limited, monodisciplinary and single-paradigm perspective. It is also possible that the Hermes effect was a useful phenomenon to separate microscale experimental studies, if not at a municipal level then at least in a laboratory environment, or as a pre-prepared digital simulation experiment.

Bibliography

Delorme, Andrzej and Jan Woleński (1984). *Przewidywania – analiza metodologiczna*. Wrocław: Wydawnictwo Politechniki Wrocławskiej.

Eco, Umberto (1994). *Lector in fabula. Współdziałanie w interpretacji tekstów narracyjnych*. Warszawa: PIW.

Eco, Umberto (1996). "Nadinterpretowanie tekstów." In Umberto Eco,Richard Rorty, Jonathan Culler, Christine Brooke-Rose, *Interpretacja i nadinterpretacja*. Kraków: Znak.

Eco, Umberto (1996). *Nieobecna struktura.* Warszawa: Wydawnictwo KR.

Eco, Umberto (1976). *A theory of semiotics.* London-Bloomington: Indiana University Press.

Giedymin, Jerzy (1964). *Problemy, założenia, rozstrzygnięcia. Studia nad logicznymi podstawami nauk społecznych*. Poznań: PWN.

Głowiński, Michał (1973). "Narracja jako monolog wypowiedziany. In *Gry powieściowe. Szkice z teorii i historii form narracyjnych*. Warszawa: PWN.

Lyons, John (1984). *Semantyka*. Warszawa: PWN.

Markiewicz, Henryk (1984). "Autor i narrator." In *Wymiary działa literackiego*. Kraków: Wydawnictwo Literackie.

Meadows, Donella H., Dennis L. Meadows, Jorgen Randers and William W. Behrens (1972). *Limits to growth: A report for the Club of Rome's project on the predicament of mankind*. New York: Universe Books.

Merton, Robert K. (1982). "Samospełniające się proroctwo." In *Teoria socjologiczna i struktura społeczna*. Warszawa: PWN.

Mesarović, Mihaljo and Eduard Pestel (1974). *Mankind at the turning point: The second report to the Club of Rome*. New York: E. P. Dutton.

Nowak, Stefan (1985). *Metodologia badań społecznych*. Warszawa: PWN.

Petrażycki, Leon (1985). "O różnych gatunkach przewidywań i o znaczeniu praktycznym teoryi". In *O nauce, prawie i moralności. Pisma wybrane*. Warszawa: PWN.

Podgórecki, Adam (1962). *Charakterystyka nauk praktycznych*. Warszawa: PWN.

Rolbiecki, Waldemar (1970). *Przewidywanie przyszłości. Elementy prognozologii*. Warszawa: Wiedza Powszechna.

Węsierski, Michał R. (2004). *Prognozowanie globalne w naukach o polityce. Problemy metodologiczne*. Unpublished PhD dissertation. Kraków: Instytut Nauk Politycznych i Stosunków Międzynarodowych Uniwersytetu Jagiellońskiego.

Originally published as "Efekt Hermesa. Studium analityczne z semiotyki teoretycznej," Studia Semiotyczne 28–29 (2015), 229–251. Translated by Monika Boruta.