

ON THEORETICAL PRAGMATISM IN ARCHAEOLOGY

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Abstrakt: O teoretickom pragmatizme v archeológii. Cieľom úvah, ktoré prezentujeme v článku, je zamyslenie sa nad otázkou, aká je archeologická metodológia v po-postmodernom teoretickom diskurze súčasnosti primárne, avšak nielen z perspektívy archeológie v stredoeurópskom regióne. Tieto úvahy smerujú k prezentovaniu teoretického a metodického konceptu, ktorý by reflektoval zmeny myslenia v súčasnosti a zároveň by bol bázou životaschopného výskumu. Za taký považujeme stav, keď je vedecká teória, z ktorej vyúsťujú skúmané otázky podporovaná funkčnou metodikou. V práci postupne diskutujeme tie fenomény archeologickej teórie, ktoré zohrávajú primárnu úlohu pri tvorbe konceptu, ktorý označujeme ako teoretický pragmatizmus (moderna, postmoderna, neomaterializmus, historická narácia, interakcia a kauzalita). Vo výklade teoretických základov tohto konceptu akcentujeme význam naratívnej logiky v procese výskumu, relativizujeme kontrapozíciu štruktúry a fenoménu, relativizujeme antagonizmus medzi indukciou a dedukciou, považujeme historickú naráciu za reflexiu podstatnej štruktúry minulosti a interakcie za reálne reprezentácie. V závere práce prezentujeme metodický postup, ktorý je postavený na koncepte teoretického pragmatizmu a ktorý aplikujeme pri výskume. Metodika výskumu je preto kombináciou explanácie, induktívnych a deduktívnych postupov, logickej argumentácie či matematického modelovania a naratívnej interpretácie.

Kľúčové slová: moderna, postmoderna, neomaterializmus, historická narácia, interakcia, kauzalita, metodika archeologického výskumu, modelovanie pomocou štruktúrálnych rovníc

Abstract: The considerations presented in this paper aim to reflect on the question what is the primary archaeological methodology in the current post-postmodern theoretical discourse, but are not limited to the perspective of archaeology in Central Europe. These considerations are aimed at presenting a theoretical and methodological concept reflecting the recent changes in thinking, which could also be a basis of viable research. Viable research means that a scientific theory underlying research questions is supported by a functional methodology. This paper discusses the phenomena of archaeological theory that play a primary role in creating the concept of “theoretical pragmatism” (modern, postmodern, neomaterialism, historical narration, interaction and causality). The theoretical foundations of this concept emphasise the importance of narrative logic in the research process, relativise the contraposition of structure and phenomenon, relativise the antagonism between induction and deduction, consider historical narration as a reflection of the essential structure of the past and interactions as real representations. The final section of the paper presents a methodological procedure, which is based on the concept of theoretical pragmatism and which we apply in research. The research methodology is therefore a combination of explanation, inductive and deductive methods, logical reasoning or mathematical modelling and narrative interpretation.

Key words: modernism, postmodernism, neomaterialism, historical narration, interaction, causality, methodology of archaeological research, structural equations modelling

1. Introduction

During its historical development, archaeology has always naturally reflected the developmental stages of science, and the main schools of thought in archaeology prevalent at different periods essentially responded to

the developments in philosophical thought or thought in social sciences in general (albeit sometimes with a slight delay). This premise of our considerations may be accepted without any serious doubts. The entire 20th century shows us how archaeology is intertwined with other scientific fields, and the political and economic development of the society. The historians' debate about the nature of their science developed very dynamically in the 20th century. Archaeology is a much younger field than history as far as its theoretical research "of itself" is concerned. In fact, until the 1960s, archaeology may be considered as a non-theoretical field. The change took place as late as in the 1960s, when archaeologists from the USA and the UK (e.g. *Binford 1972*) began to apply analytical methods in research ("new archaeology" later referred to as processualism). The processualist postulate of knowable past and the effort to formulate general laws of development of the human society and culture was criticised for several decades by a new generation of archaeologists referred to as post-processualists (*Tilley 1994*). They emphasised the symbolic character of artefacts, taking a phenomenological and hermeneutic view of the interpretation of sources and challenging the optimistic confidence of processual archaeology in the explanation of data and the claim of knowable past. In this discussion, archaeology reached a point of self-reflection and its theoretical research evolved hand in hand with the general discourse of the philosophy of science during the second half of the 20th century and in early 21st century (*Kristiansen 2014*).

However, the historical development of archaeology has brought certain specific aspects (and is therefore in a very similar situation to history as will be discussed below). One specific aspect is that the evolution of archaeological thought is not straightforward, in the sense that we could observe clear and genuine paradigm changes on the timeline of archaeological thought. It is evident that the concepts of archaeological research cannot be defined strictly as phenomena that are not commensurate and can be substituted in terms of time, which are some of the characteristics of a scientific paradigm as defined by Thomas Kuhn (*Kuhn 1982*). However, a paradigm is just a model of reality (language) and should be treated as such. Therefore, we think it is appropriate to understand a paradigm (a developmental stage of science) in archaeology as a matter of fashion. This is based on the reality of archaeology as such, where several theoretical concepts (paradigms or fashions) coexist simultaneously. One of the reasons is that archaeology, throughout its development, has constantly addressed the problem of defining itself at the boundary of humanities and social and natural sciences.

The search for a theoretical concept that reflects the thinking of the times, but also serves as a functional basis for archaeological research poses a question what is key for the definition of basic parameters of research. A simple and quick response is possible: the scientific paradigm of the period in which we conduct research. However, it is much more difficult to answer the question what is today's scientific paradigm. What is the social interpretation of reality, i.e. the opinion system that currently prevails in our scientific community? Looking at the postmodern reality in which we find ourselves, we can conclude that it is not possible to clearly define the boundaries of scientific thought and thus define the consensus of our times. There is an opinion that postmodernism is the end of a unified and universal view of the world. It rejects the unifying, all-encompassing and general explanations, and seeks to replace them with diversity and individuality.

However, one of the premises of our theoretical concept is that we are currently observing a quiet collapse of postprocessualism that has been dominant recently, but it is no longer possible to bring back processualism. The present is characterised by theoretical and methodological experimentation and reorientation (*Kristiansen 2014*, 14). The quiet collapse of postmodernism and its transformation into a new situation can be seen in the work of philosophers dealing with the current situation in philosophy, social sciences and art (*Hauser 2012*). So if we find ourselves in a period of reflection of the postmodern view of archaeological and historical research, that is, if we try to find a way out of the situation that F. Ankersmit describes as a mismatch between the present and the past, between the language we use to talk about the past and the past itself (*Ankersmit 1994*, 180), it is necessary to pragmatically expand the theoretical and methodological repertoire of research.

The considerations presented here aim to reflect on the question what is the primary archaeological methodology in the current post-postmodern theoretical discourse, but are not limited to the perspective of archaeology in Central Europe. They also aim to present a theoretical and methodological concept reflecting the recent changes in thinking, which could also be a basis of viable research. Viable research means that a scientific theory underlying research questions is supported by a functional methodology. It is also important

that the research is internally consistent and externally comprehensible. It is up to the reader to decide whether we succeeded. However, like in other similar situations, time will probably have the final say on our efforts.

2. Why Are We Still Thinking in Modern Terms After Postmodernism?

A short consideration cannot cover all phenomena of theoretical discussions of current archaeology. Given the premises emphasised in the previous lines on the nature of scientific thought at the time of transformation of postmodern society into something that we are not yet able to grasp or name, we do not consider such an endeavour to be effective.

So let us begin our text with one of the basic topics in ontological reflections of archaeological theory, which has also been strongly reflected in the discussion in the Central European context, i.e. the relationship between processualism and postprocessualism or, to put it better, the relationship between modernism and postmodernism.

The fundamental problem, which has been the stumbling block repeatedly, is the relationship between the objective structure and subjective representation. In other words, every archaeological find (or a set of finds such as a grave, house, production facility, burial site, church, town, castle, etc.) documents certain individuality, but also shows many features that regularly repeat in other archaeological sources and is, therefore, a part of a structure. This premise leads archaeologists to seek and then explain structures or patterns repeating under constant conditions in the sources. In terms of social science fields, such approach is characterised by building descriptive social theories that describe the studied phenomena, seeking patterns that are analogous to laws operating in nature (*Ochrana 2009*, 58–65). In archaeological practice, this process is associated with processualism.

On the other hand, every archaeological find documents certain individuality, which means that archaeological sources always point to a particular individual's agency, which may or may not match (be subordinated to) collective (structural) manifestations in society. This premise then leads archaeologists to attempts to understand and interpret (specifically, personally) events, which is opposed to the above attempts to explain (general, impersonal) structures from sources (*Ochrana 2009*, 58–65). The pursuit of interpretation and understanding of sources in our research leads us to postprocessualism.

The described division, regarded as universal, between the objective structure (the place of the most certain archaeology, which would reconstruct the actual past societies by processing aggregate quantifiable data) and subjective representation (associated with “different archaeology” situated in distance from reality), i.e. the opposition of structuralist approach and phenomenological processes, may be overcome and, moreover, its universality may be relativised.

The consequences of this claim become clearer in the context of the mentioned situation of change or abandonment of the “postmodern landscape”. Although postmodernism is still a dominant cultural formation, it is evident that developments in society, philosophy and social sciences are aimed at bringing back certain topics that postmodernism considered a thing of the past, for example, ideas of universal emancipation or social conflicts (*Hauser 2012*, 13). In the context of archaeology, this situation is described by K. Kristiansen by stating that everything that has been “banned” in the past 15 years is now a hot topic: mobility, migration, war, return to great narratives (*Kristiansen 2014*, 14). However, these topics return in a different historical constellation than that when they appeared. Just like the postmodern situation resulted from a specific historical constellation, based on which it defined its attitudes to the great ideas of modernity, the current transformation in thinking is underway in a different cultural and social order and, importantly, it is enriched with postmodern experience. Last but not least, the development of technology has had a significant impact on the transformation of thinking. In archaeological theory and practice, this situation is manifested, inter alia, by research that deals with processual themes such as mobility, migration, ethnicity or gender, but their study takes place in local or regional contexts. This change in the perspective of global problems through the understanding of individual actions of actors (subjects) in the past results from the postmodern experience.

The growing importance of the research subject's agency for understanding global topics is also enabled by technological developments, for example DNA analyses, strontium-isotope analyses or climate research.

These conclusions show that the future belongs to new modernism enriched with postmodern experience. So if we say that we still think in modern terms after postmodernism, we mean this situation. It is updated modernist thinking that is a natural outcome after a period of questioning social and philosophical thinking as such. It is renewed modernism that combines the experience of both processualism and postprocessualism with the constant use of technological innovations and analytical methods. That is why we talk about theoretical pragmatism. This pragmatism relativises the universality of the claim about the opposition of modernism and postmodernism, structure and phenomenon. Similarly, this pragmatism relativises the "antagonism" between deduction and induction by emphasising the need to link these thought processes throughout the research process. Theoretical pragmatism in research uses a combination of deductive and inductive approach. It is a method that best reflects the nature of research in the social sciences in general (*Ochrana 2009*, 50). This means that if the premise of the analysis of sources is to examine the veracity of the hypotheses, which can be formulated as a model, it is necessary to realise that the initial premises are not axioms that need not to be proven. It is therefore impossible to draw conclusions only in a logical way (deduction). Interpretation models built solely on deduction are rarely sophisticated; they tend to be full of intuitive methods and unsupported qualified estimates (*Verhagen – Whitley 2012*). The research therefore involves empirical verification of premises, i.e. inductive methods. This method is aimed at finding the relevant patterns that are repeated under identical conditions. Based on the analysis method, the generalisation method (synthesis) is used, general conclusions are stated (deduced), leading to theories used to interpret phenomena (*Ochrana 2009*, 50). As most cases of using induction involve incomplete induction based on studying a limited number of phenomena, the only way how to increase the probability of the veracity of expressed general conclusions is to increase the number of discovered patterns.

3. Asymmetry Between Archaeology and Anthropology as a Problem or Premise

Another important phenomenon that determines the attitudes between archaeologists and fundamentally determines the nature of the research methodology is the relationship between archaeology and anthropology. In the context of our above question about the nature of current scientific thinking and given the issue of the transformation of postmodernism into new modernity, the discussion of this relationship is important for the situation that one of the central problems is the existence or non-existence of a subject, to which we attribute agency in the process of creating interpretation models.

By their very nature, both fields seek to understand human diversity and understand how people live and interact in different worlds (*Fablander 2017*, 69). However, the fundamental difference is the absence of a subject in archaeology (*Lucas 2010*). This absence of a subject (i.e. the possibility to directly study specific phenomena in living culture among humans) creates a striking asymmetry between archaeology and anthropology. Archaeology relies on working with artefacts or ecofacts and traces of past human behaviour. Such a grasp of the object of research involves the separation of people and things into two different spheres of culture and nature as the main ontological basis. However, in current archaeological theory or more generally in the humanities and social sciences, we increasingly often encounter the concept of neomaterialism (*Fablander 2017*, 69; *Witmore 2007*), which redistributes agency (action) between both spheres, both people and things. Ultimately, the interaction between things and people is two-way: just as human activity creates things, things create and influence culture and man. In Central Europe, this trend was strongly reflected, for example, in the work of E. Neustupný, who published a theory of archaeology in 2010, describing his concept of artefact archaeology (*Hladík 2014*, 12; *Neustupný 2010*, 30–33). In Neustupný's theory, neomaterialism appears in an extreme position, claiming that man (and subsequently the human world) resulted from the accumulation of artefacts. E. Neustupný writes: "Man was not created by a natural event. Humans as elements of the human

world are not natural beings. They are people as consequences of the production of artefacts.“ (*Neustupný 2010*, 39). This extreme formulation may be challenged by the following question: If man is the result of artefact production, who accumulated artefacts until the point when man was created (*Hladík 2014*, 12)? However, it is indisputable that the accumulation of artefacts certainly played a key role in the development of the social world. In our opinion, however, it is not the cause but the consequence of human existence.

The concept of neomaterialism is not a strictly homogeneous field of research in archaeology, which is reflected in a wide range of terms associated with this understanding of ontology (e.g. symmetrical perspectives, material turn, ontological turn, neomaterialism, object-oriented ontology or posthumanism) (*Fablander 2017*, 72). The common denominator of these approaches is the redistribution of agency between people and things. However, it is very important to realise that the understanding of agency in these theoretical concepts goes beyond the phenomenological view of agency as something intentional, which is attributed only to humans. Posthumanism understands agency as a complex concept where things, of course, do not have intrinsic qualities and a priori identity. They are not social in themselves. Things are defined by their mutual relations and relations with other actors of reality.

The extent to which such deanthropocentrism of ontological premises will solve the issue of the absent subject in archaeological research, and whether this shift will move archaeology and anthropology closer or further away, is probably a question that will be answered only in the near future (*Fablander 2017; Webmoor 2007*). However, the perception of *human* and *non-human* as ontologically inseparable is currently one of the ontological bases of our research concept presented below (*Mazuch et al. 2017*, 17). The point is that current archaeology is moving away from simple interpretations based on analogies between anthropological models, which were created in a different period and based on different premises with different objectives and by studying other objects (humans) than archaeological models. The inspiration for interpretation in archaeology is currently coming from a wide range of sources such as history, philosophy, sociology, culturology, etc. It is evident that the current complex concept of archaeological research requires pragmatic solutions from the level of theoretical foundations. Therefore, the accentuation of several theoretical concepts when defining the theoretical basis of research causes no contradictions; in terms of theoretical pragmatism, it is an integration of the theoretical basis dictated by the need to grasp the complexity in the post-postmodern space in search for research tools and data interpretation. This theoretical pragmatism is a prerequisite for multidisciplinary archaeological research, mainly because its absence may lead to a situation where scientific fields based on contradictory or hardly compatible ontological or epistemological premises will cooperate with regard to methodological research procedures. This problem is evident when applying anthropological models to the process of archaeological research, both at the level of analysis and at the level of interpretation.

An example of intercultural generalisation applied in an evolutionary framework may also be found in the discussion on the nature of early medieval society in Central Europe, particularly in Great Moravia (*Hladík et al. in press; Macháček 2015; Štefan 2014*), where acceptance or rejection of specific neo-evolutionist generalisations of the society's development is a matter of dispute. The discussion focuses on whether it is possible to combine, by analogy, archaeological data on Great Moravia with specific stages of development defined in the neo-evolutionist model of the evolution of society, which was prominent in archaeology in the second half of the 20th century (*Hodges 1982*). However, the pursuit of this connection triggered a discussion that shows the trend of deviating from the straightforward application of analogy in the sense that if two objects are similar in some aspects, they may also be similar in others. The risks of such comparative studies in archaeology based on anthropological models were aptly formulated in three points by I. Štefan: 1) What degree of difference between the compared phenomena is still acceptable so that we can talk about analogy? 2) What we compare are not neutral facts, but our picture of the past that is constantly changing. 3) The inconsistency of sources between individual regions may quite easily turn the comparison into a proof by circle (*Štefan 2014*, 142).

There is a visible trend in current anthropology of moving away from evolutionist or strictly cultural approaches, which were characterised by comparative studies and whose roots can be found in the first half of the 20th century. Anthropological research aims to understand human, social or ethnic relations without these restrictive language constructions (*MacClancy 2002*). This situation also needs to be reflected in archaeological

research. Otherwise, the claim by F. Fahlander that „It must be tiresome for a modern anthropologist to read archaeological texts that neglect the latest 50 or 60 years of research and refer only to colonial ethnographies“ (Fahlander 2017, 71) will continue to be valid.

The adoption of ontology based on the neomaterialist concept is one way of dealing with the unequal relationship between anthropology and archaeology, where anthropological theories (models) based on observers (people) are considered better than studies based only on things. If we apply this non-anthropocentric ontology, the question of the missing subject in archaeology may become redundant. The need for stereotyped analogies and intercultural generalisation will also be redundant.

4. Historical Narration

Next we discuss the problem of the relationship between the objectivity of scientific research and the subjective sphere of historical or archaeological presentation, the solution of which is one of the key determinants in defining the theoretical basis of archaeological research. This problem became evident during the 1960^s and 1970^s, when the interest of the majority of humanities turned to language (the “linguistic turn”). Historiography started to turn its attention to the problem of writing. This phenomenon was prominently formulated in two books from the early 1970^s. The work of Paul Veyne *Writing History* (Veyne 2010) responded primarily to the significant scientific ambitions of French historians inspired by the structuralist movement. On the other hand, Hayden White in his book *Metahistory* (White 1973) turned his attention solely to the linguistic aspect of writing history. He addressed the style of individual authors and tried to establish the modalities of historical imagination. Both these authors are considered the main representatives of the “narrative” idea of history.

The traditional “realistic” concept of history claims that in addition to particular events or simply phenomena whose fragments were preserved in material monuments or written sources, there is a general meaning of history governing these particular events, and the historian’s role is to attempt to reconstruct this meaning. Modernism understood history as a unified universal system of human interpretation, based on the humanistic and renaissance concept of temporality.

In contrast, the “narrative” or “textual” concept of history claims that the past is an incoherent mass of fragments, details and particular phenomena unified by a historian’s work. It is based on the assumption that the participants in individual events do not know the general meaning of their actions with all possible and often unintended consequences. It means that historians or archaeologists see disparate clues, which they use to create history.

This is how we understand historical narration. It is not a denial or rejection of logical and deductive or quantification research methods. Accentuating historical narration in the postmodern era is an attempt to show that we are unable to reconstruct the past as such. We create a picture of the past, which is subject to the rules of language. The application of logical, deductive and analytical methods is based on the modernist view or traditional realistic concept of history; however, their use in historical narration involves primarily the linguistic framework, which determines the “picture of the past“. In terms of White’s autonomous ontology of linguistic manifestation of the world, historiography or archaeology can be understood as a way of modelling past events and phenomena.

A similar conceptually coherent constructivist view of the nature of historical narration, based on the belief that historical narratives give a certain picture of what happened in the past, was introduced and argued for by Frank Ankersmit in his work *Narrative Logic* in 1983 (Ankersmit 1983). One of the premises of Ankersmit’s considerations of historical narratives is the distinction between the research phase, which is focused on obtaining facts, and the narrative interpretation phase, which combines the facts into a consistent narrative whole (Šuch 2009). Ankersmit’s examination of historical narration highlights the importance of the perspective of viewing the researched object. In natural sciences, the research starts from a certain perspective, but this perspective appears only at the end of research in history. Therefore, Ankersmit claims that historiography is not cumulative in nature and there are fashions rather than paradigms in historiography (Ankersmit 1983, 89).

A very important point in our understanding of historical narration and its relation to logical-deductive and

analytical methods is the distinction between the research phase and the narrative interpretation phase. Research should result in a consistent narrative whole. We understand the whole historical narrative as a certain reflection of the essential structure of the past. It is important to realise at this point that narration may focus in various ways on specific events, but also on their temporary and causal links. This second point is often neglected, and historical narration is mistaken for mere “storytelling”. It is an indisputable premise that narrative historiography is based on the return to the philosophy of subjects and rejects the power of collective determinations and social conditions and is determined to rehabilitate the “explicit and reflected aspect of actions” (*Chartier 2010*). This premise resulted in that historians and archaeologists refused to describe social totality and the Braudelian model and attempted to think of society outside the strictly hierarchical division of practices and temporalities (economic, social, cultural, political) and without giving primacy to any particular a set of determinations (whether technical, economic or demographic). This led to the effort to understand society by penetrating into the tangle of relations and tensions that create it. At this point, it is very important to think about what comes neither from practice nor from structure, which is produced by contradictory and defiant representations, by which individuals and groups make sense of the world in which they live (*Chartier 2010*).

5. Interaction and Causality in Historical Narration

Understanding relations and interactions in social reality as real representations in narrative interpretation is different from the structuralist understanding of relations as abstract states. However, the difference between the abstract state and the real representation is striking especially at two levels. First of all, there is the fact of defining qualities that may only be realistically considered if relations and interactions are seen as real representations. This means that their characteristics is possible on a wider than subjective level. This premise puts relations in a position equal to movable or immovable objects, with which they are the forming subjects of the space of human being. The second level, which fundamentally determines the difference between the structuralist view of interactions and the perspective of narrative logic, which we apply in research, is basically an understanding of the status of a relation/interaction between these movable or immovable objects of historical reality. The fact that relations and interactions are not abstract states but real representations implies that their form or properties directly depend on other objects of reality, are interconnected with them and are not separable from them as separate structures.

This understanding of historical narration, with an emphasis on causal relations and interactions seen as real representations, brings us to another important theoretical concept we work with, relational archaeology, which draws heavily on the discussed concept of neomaterialism (*Watts 2013*). Therefore, relational archaeology is firmly anchored in modern social theory and open to culturally diverse idea of nature, universe and society. This theoretical concept builds bridges between different ontologies. It can therefore create a meaningful connection between the past and today’s ontology. It is one of the crucial issues in the post-postmodern discourse on the historical narration. Defining a relation as a separate category alongside traditional space-time formal framework for characterising an artefact is a critical step towards a comprehensive understanding of the whole range of causality and dynamics between the origin and position of an object in relation to other entities and things (*Zedeño 2013*, 117). The basic philosophical premise of this approach is that relations impose an order on the world and must therefore be properly classified in terms of type (what they connect), direction, importance and repeatability. The ideas of relational archaeology are not new. Structuralism in the 1960s understood man as a social persona with roles, status, and the associated specific relations. The overcoming of structuralism in relational archaeology lies in the denial of the premise that relations are abstract states. In the relational approach, they are ways of the living experience, by which people construct themselves and others (*Ingold 2013*, 248). It means that relations must be understood differently than in structuralism. It is therefore an approach that is coherent with how we understand historical narration.

The world we study (the historical reality whose picture we are trying to create) is not understood as composed of known subjects (human) and objects to be known (all other things), but is a world in which humans

and/or non-humans exist, defined by the emergence and intersections of particular relations. In the concept of relational archaeology, research of this world cannot be confined to a strictly analytical perimeter. The significance of any part can only be grasped in its relative position in the space of other subjects and activities (*Watts 2013*). Understanding relations as real representations, relational archaeology surpasses processualism. In this step, attributing agency to both people and things, postprocessualism is surpassed by relational archaeology.

Network analyses provide a very similar view of relations and interactions. A network is not seen as a handy metaphor for connectivity but the aim to answer the question what actually a network is (*Knappett 2013, 3*). In this approach, it is very important how we define nodes and relations in the network. The relations and points have equal attention. We must not be satisfied with distribution maps, for example, but we must analyse network points as well as relations. Similar to relational archaeology, the roots of network analyses can be traced back to the processualism period (*Clarke 1977*). This approach has developed especially in the recent decades (*Knappett 2013*). The power of network analyses lies in their ability to integrate social and physical space and to bridge different scales of research.

6. Theoretical Pragmatism as a Way from or to a Labyrinth

If we look at all the theoretical assumptions of current archaeology, one cannot get rid of the feeling of looking into a labyrinth. The way out of this situation is not easy but we believe it is possible. The current period of transition from postmodernism to a new situation shows us that the effort to precisely define the processes of research, from terminology to methodology, has again come to the forefront in scientific thinking. The fact that this will not be an easy and quick process is noted by many authors who deal with the direction of archaeological thinking in their work. As an example, the work of Dobres and Robb from 2000, which dealt with the definition of agency in archaeology, cited 12 definitions of this term found in the works of archaeologists (*Dobres – Robb 2000*). We are therefore aware that theoretical pragmatism cannot be understood as a universal method for solving all problems. Theoretical pragmatism is understood as a method of thinking when finding the way out of the labyrinth. However, in the spirit of theoretical pragmatism, we seek practical ways how to better integrate archaeological theory into the whole process of research. This brings us to what we declared at the beginning of the paper, i.e. the creation of a theory that may result in a functional method of research. Theoretical pragmatism is a method for getting out of the narrow alleys of the labyrinths (individual isolated theoretical concepts) to the space above the labyrinth, where it is possible to see relations and discover paths from the labyrinth from a higher perspective.

The theoretical frameworks of modernism and postmodernism, together with the tools associated with them, direct archaeologists to research of different partial phenomena of historical society. However, it is clear at first sight that there is no logical justification for dividing past societies based on the boundaries created by modern epistemology. On the other hand, it is also clear that research is organised in accordance with historically-rooted disciplinary directions (*Meier 2012, 509*). The strength of these links may vary in different fields, but it is obvious and cannot be ignored simply because of the feeling of postmodern diversity and individuality. Therefore, the strict rejection of some theoretical concepts is not justified, but it is precisely the search for consensual and pragmatic solutions at the theoretical level that contributes to the creation of a theoretical basis that is supported by a functional methodology on the practical level. So how can we link the above theoretical premises with the method of research? How can we define questions and research methods consistent with the above claims about relativised contraposition of structure and phenomenon, relativised antagonism between induction and deduction, narration as a reflection of the essential structure of the past, and interactions as real representations?

Despite concluding that the current methodological development in archaeology is heading towards renewed modernism, it is clear that our premises deviate from the standard modernist concept of scientific research. Again, this is related to the fact that we are in a different historical constellation than in the period when modernism originated and dominated. We can simplify the process of modernist archaeological research

as three steps. “Normal” archaeological research begins with the formulation of theory. The choice of methodology and data collection follows. And the last step is explanation and interpretation (Dobres – Robb 2005). In this scheme, analytical models (mathematical or geoinformational) are basically considered as one of the end results of research, which is compared or even confused with interpretation. It is therefore understandable that they are criticised as the final product of research and raise legitimate questions about their relevance to the research object (e.g. does the causality of mathematical or predictive geoinformational models correspond to causality in a living culture environment, historical society? Etc.). To avoid this problem, it is necessary to find another research scheme that better matches our theoretical assumptions. Our methodological concept works with the method described by D. O’Sullivan and M. N. Gahegan and partially modified by F. Verhagen and T. G. Whitley (Fig. 1, Verhagen – Whitley 2012).

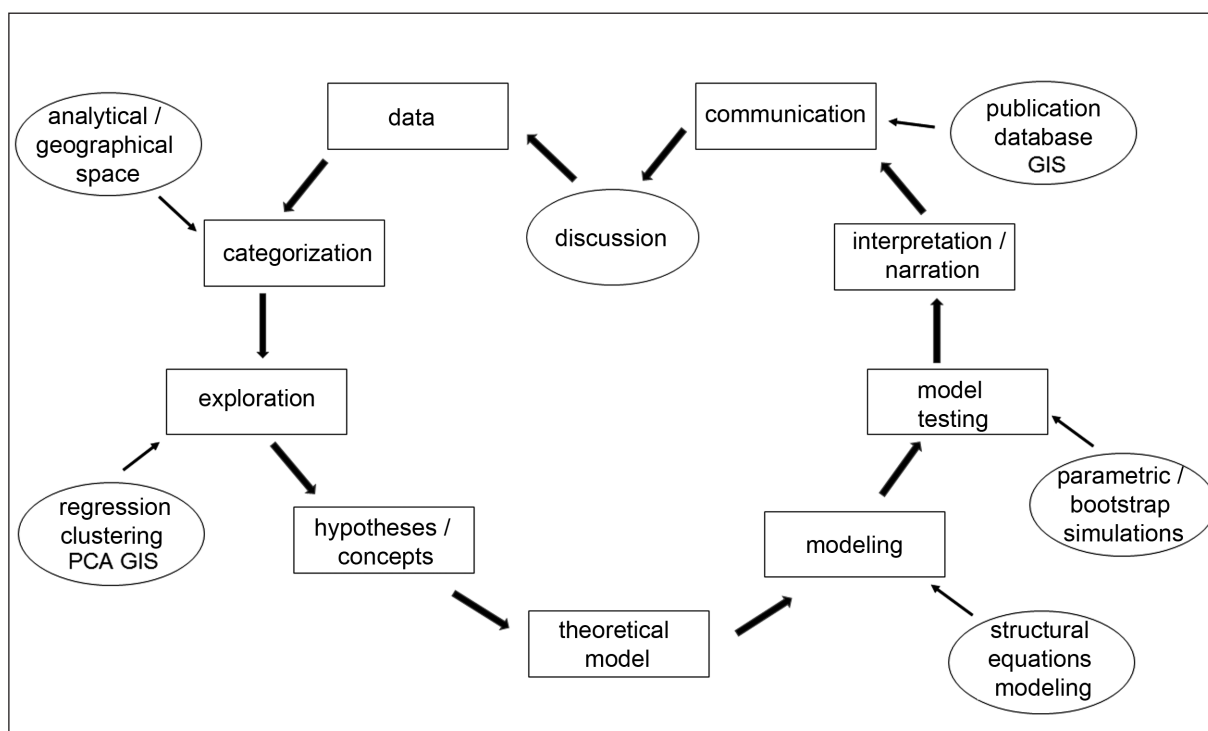


Fig. 1. Research scheme designed using the premises of theoretical pragmatism, applied, for example, to research of social and economic interactions in Great Moravia (Mazuch, Hladík, and Skopal 2017, Hladík, Mazuch, and Látková in press).

Obr. 1. Výskumná schéma navrhnutá na základe východísk teoretického pragmatizmu, ktorú sme aplikovali napríklad pri výskume sociálnych a ekonomických interakcií na Veľkej Morave.

Research starts with data collection (of course, it is never possible to collect data without questions in mind). The first step after data collection is the exploratory analytical phase. It is a search for data properties that could answer our questions. This step involves exploratory statistical methods to detect patterns and basic classification of data. The patterns detected in the second step are used to develop a theory. The theory should transparently specify the relations between the variables that determine the patterns revealed in the statistical exploration and classification process. In the next step, the theory can be generalised using inductive methods. The second way of generalising the detected patterns is to use logical argumentation and modelling (deductive and inductive). Modelling is primarily aimed at describing causal relations that form the basis of detected patterns. The results of such methods should be available for review. The next step is a test phase, which should ideally confront models with new data. The final step is the narrative interpretation phase in which we seek to reflect the fundamental structure of the past and events with their causal relations.

In the proposed scheme, modelling is a tool for generalising a theoretical concept. Hence, theoretical models are tested quantitatively. Such a method is consistent with the premises discussed above. Given the presented theory, it is important that theoretical models are tested by structural equations modelling (SEM)

(Mazuch *et al.* 2017). It is used to understand causal relations and interactions, in other words, to model causal networks.

Modelling that is understood and used in this way cannot be described as modernist or positivistic in the spirit of postprocessualist criticism. On the contrary, it shows us the plurality of possible causal relations and emphasises looking at problems from multiple angles. However, this is not a relativistic *anything goes* view. We see plurality as the possibility of creating multiple models that are tested and compared, which means that not all theoretical models can be equally valid. In this perspective, quantitative modelling in the research process is as important as data collection, development of logical arguments and narrative interpretation.

7. Searching for Causality in Archaeological Research (Structural Equation Modelling)

Underlying the whole research process conceived in this way is the idea of causality, based on the claim that scientific explanations are based on the assumption that phenomena have their causes. A strictly deterministic model of explanation is typical of natural sciences. In social sciences, the deterministic concept contrasts with the idea of man's free will. In general, however, in social sciences human will is in some way limited by external factors. Therefore, explaining human behaviour is a complex problem. Every phenomenon and every cause has its cause. The study of such a complex network of relations formed by human society implicitly accepts a model of human behaviour that attributes little individual freedom to man. However, this does not mean that all human action and thinking is determined. It is important to note that the deterministic model does not assume that causal patterns are simple and does not claim to describe all causal relations. A causal model may be idiographic or nomothetic. The difference between an idiographic and nomothetic approach to explanation essentially relates to the difference between qualitative and quantitative data. Both models include the idea of causality. The idiographic model seeks explanation by detecting a large number of causes at the root of a certain event or action (qualitative data). The nomothetic model seeks to reveal the matters that are most important in explaining general classes of events or actions. This is a probabilistic approach to causality (quantitative data).

The difference between quantitative and qualitative research is also reflected at the level of measurement (empirical observation). Quantitative research requires strong standardisation, which ensures a high degree of reliability, a state where repeated measurements give consistent results, provided that the state of the observed object has not changed. However, strong standardisation leads to a significant reduction in information, resulting in relatively low validity. Qualitative research, on the other hand, is characterised by low standardization, which leads to low reliability but high validity of measurements (the measurement measures exactly what was intended to be measured). One of the important steps in the described research concept is mathematical modelling, which allows to generalise the theoretical concept and mathematically define the degree of correspondence of the theoretical concept with the archaeological data available to us. Our testing of theoretical models involves structural equations modelling.

In the social sciences, structural equations modelling has become prevalent especially in the last decades of the 20th century. Nevertheless, this tool has strong opponents and advocates. It is not our aim here to reflect the whole discussion about the application of this methodology in the social sciences. This issue is discussed in several works (Mazuch *et al.* 2017). D. Kaplan (Kaplan 2000, 1) proposes to define structural modelling as a class of methodologies that seek to represent the hypotheses about means, variances and covariances of observed data in terms of a smaller number of "structural" parameters defined by a hypothetical base model. Structural equation models are often called LISREL models (*linear structural relations models*), which means they are linear structural relation models. The term structural relation is basically the principle of the SEM concept, which works with relations between latent constructions. These relations are usually formulated using linear regression equations and they are graphically expressed using path diagrams (Fig. 2). SEM is very flexible because it does not deal with just one simple regression equation but with a system of multiple regression equations. Thus, unlike conventional regression analysis, SEM considers several equations simultaneously, with

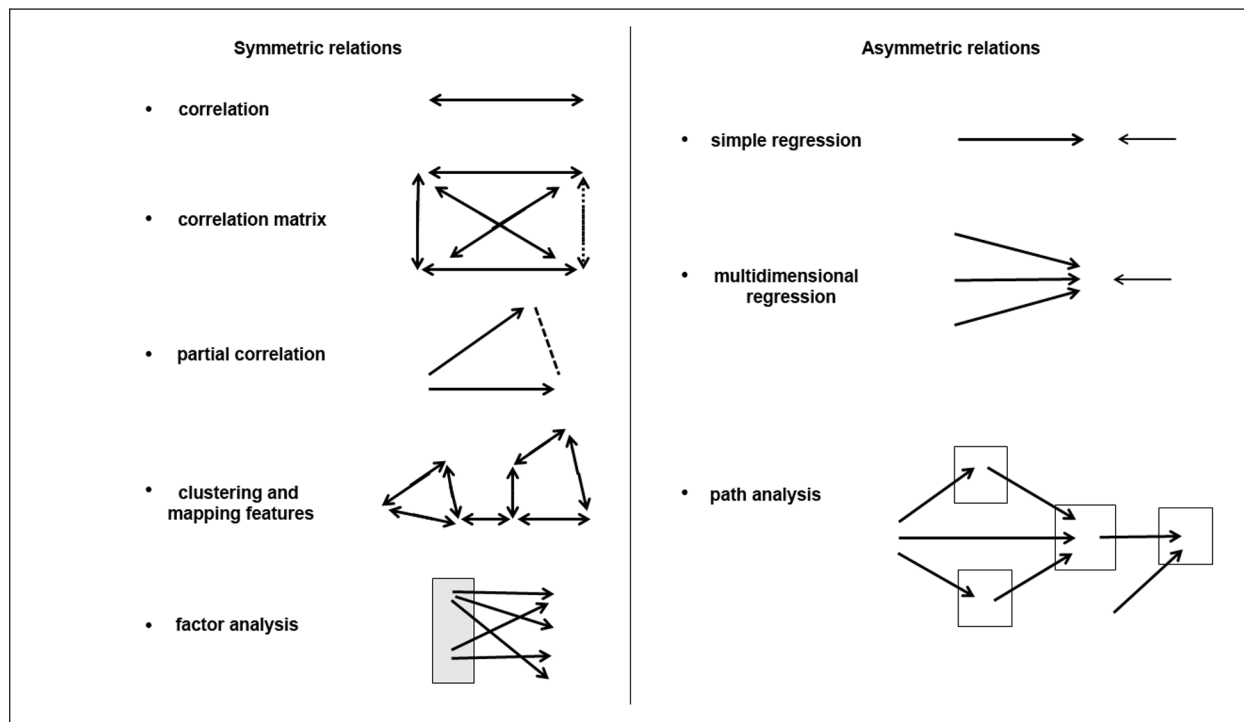


Fig. 2. Overview of variability of symmetric and asymmetric relations in structural models.
Obr. 2. Prehľad variability symetrických a asymetrických vzťahov v štruktúrálnych modeloch.

one variable being a regressor in one equation and a regressand in another. Such a system of equations is called a model (at the most basic level, a model is a statistical declaration of relations between variables).

Hence, a structural equation model consists of a regression model and measurement model (otherwise referred to as a latent factor model or latent construction model). SEM is essentially a synthesis of a latent factor model and structural model (otherwise referred to as a path model).

SEM is built on factors (latent variables or constructions). When creating a structural model, it is therefore necessary to explain why the use of latent factors in archaeological research is justified (or how it correlates with the theoretical basis of research discussed above). In order to be consistent with the theoretical foundations of research, we rely on two claims. Firstly, latent factors should be interpreted as true entities. Secondly, latent constructions and measurable variables are causally related. In order to determine causal relations between subjects (i.e. to understand cause and effect), these subjects must be perceived as real. So if we are looking for causality between observed and latent variables, they are both real entities. Therefore, we rely on the claim that latent constructions are real entities that are causally responsible for the observed variables and not just “operational” constructions facilitating the view of the multidimensional analytical space of the observed variables. So the first step of modelling is to identify latent constructions (factors). They are subsequently arranged to form strings or paths (hence the path model).

Statistical methods for detecting, confirming or modelling causality do not determine causality. They only work with differences, concordances, connections or statistical dependencies. They are merely a means of causal considerations. They provide arguments for the existence or absence of causality. However, causality is deduced by an analyst, user of models. Similar to other statistical analyses, structural modelling is better at rejecting our ideas than proving them. Data confirm a model and thus our ideas, but they could also confirm other models, too. The statistical argument confirms only that the data could have emerged according to a validated model. However, they do not strictly prove the validity of the chosen model, they only confirm and strengthen it.

Obviously, we postulate approximation and idealisation in structural modelling. Of course, linear approximation is not literally true. The main strength of linear models is that they explain correlation relationships very well and, in addition, linear models are conceptually simple, computationally feasible and often

empirically adequate. It is important to emphasise that all three criteria must be represented together. Computational feasibility is a manifestation of testability and repeatability. Testability is in turn a prerequisite for empirical adequacy. If a model cannot be verified or falsified, no one is able to decide whether the data correspond to the model or not.

In archaeological practice, subjective decision-making criteria based on the simplicity argument (Occam's razor) are very often used to determine whether mathematical models (especially exploratory analyses such as PCA or FA) match the data. Simplicity alone is not a good criterion for assessing the validity of a model. Firstly, simplicity is a relative concept. K. Popper pointed out serious problems with the definition of simplicity (*Popper 1997*). Secondly, simplicity does not guarantee that a model is true. Simplicity tends to be relevant for the pragmatic aspect of research but it is not relevant for the epistemic aspect of research (*van Fraassen 1980*). This fact is very often neglected in analyses used by archaeologists in their work, when simplicity (often achieved by not very proper methods of rotation of factors, etc.) and certain aesthetic and visually interpretable representation, for example in reducing multidimensional space by the principal components analysis, is the main criterion for assessing the quality of a model. Such works disregard epistemically more significant criteria for model validity.

8. Conclusion

The presented considerations reflect on the question what is the primary archaeological methodology in the current post-postmodern theoretical discourse, but are not limited to the perspective of archaeology in Central Europe. We have also presented a theoretical and methodological concept that reflects the current changes in thinking, and we consider it as a basis for viable research. Viable research means that a scientific theory underlying research questions is supported by a functional methodology.

The theoretical foundations of research, which we call theoretical pragmatism, emphasised the importance of narrative logic in the research process, relativised the contraposition of structure and phenomenon, relativised the antagonism between induction and deduction, considered narration as a reflection of the essential structure of the past and interactions as real representations. The interpretation of the presented concept of theoretical pragmatism implies the following statements:

- 1) For us, the key aspect that determines how to define the objective and methodology of research is the problem of the relationship between objectivity of scientific research and the subjective sphere of historical or archaeological presentation.
- 2) The division between an objective structure and subjective representation, regarded as universal, resulting in the opposition of a structuralist approach and phenomenological methods may be overcome and, moreover, its universality may be relativised.
- 3) The adoption of ontology based on the neomaterialist concept is one way of dealing with the unequal relationship between anthropology and archaeology. If we apply non-anthropocentric ontology, the question of the missing subject in archaeology may become redundant. The need for stereotyped analogies and intercultural generalisation will also be redundant.
- 4) Historical narration does not deny or reject logical and deductive or quantification research methods. Accentuating historical narration in the postmodern era is an attempt to show that we are unable to reconstruct the past as such. We create a picture of the past, which is subject to the rules of language.
- 5) It is essential to distinguish between the research phase, which is focused on obtaining facts, and the narrative interpretation phase, which combines the facts into a consistent narrative whole.
- 6) We understand narration as a certain reflection of the essential structure of the past. Narration may focus in various ways on specific events, but also on their temporary and causal links.
- 7) Human communities in the past depended on diverse skills (talents) and not on a unified concept of skills or abilities. The existence of such a unified concept would support the significance or existence of the primacy of a specific set of determinations (whether technical, economic or demographic) in the development of society. On the contrary, negating such a concept opens the way to understanding reality as a dynamic and

interactive space of being, in which development depends on the emergence and intersections of particular relations, and the significance of any part can only be grasped in its relative position in the space of other subjects and activities.

8) Understanding relations and interactions in social reality as real representations in narrative interpretation is different from the structuralist understanding of relations as abstract states.

9) Defining a relation as a separate category alongside traditional space-time formal framework for characterising an artefact is a critical step towards a comprehensive understanding of the whole range of causality and dynamics in the past.

10) Theoretical pragmatism inevitably leads to interdisciplinary research. However, it is essential that interdisciplinarity is not limited to transferring results or models across fields. Above all, there must be communication about the assumptions and epistemology of each field.

The concept of the research methodology, presented as an application of theoretical pragmatism, is therefore a combination of explanation, inductive and deductive methods, logical reasoning or mathematical modelling and narrative interpretation. We have already applied the research method presented here to concrete case studies aimed at understanding social and economic relations in Great Moravia (*Hladík et al. in press; Mazuch et al. 2017*). However, we are continuously testing the entire concept. The current transition from postmodernism to a new situation constantly confronts us with new challenges. We are constantly confronted with dynamic changes in technology, which has an indisputable impact on archaeological research, whether in terms of management, analysis or synthesis of data (*Hladík et al. 2018*). Innovative changes in technology and society as a whole require our archaeological research to be innovative, too. Technology keeps opening new doors to knowledge hidden in sources. It is up to archaeologists how much they can combine their ideas about the past with this knowledge in creating an image of the past.

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Zhrnutie

Archeológia počas svojho historického vývoja vždy reflektovala prirodzene vývojové štádiá vedy. Hlavné myšlienkové smery v archeológii prevládajúce v tej ktorej dobe vo svojej podstate reagovali na vývoj vo filozofickom myslení či spoločenskovednom myslení vo všeobecnosti (aj keď niekedy s miernym oneskorením). Toto východisko našich úvah je asi možné prijať bez väčších obáv z jeho spochybňovania. V podstate celé 20. storočie nám ukazuje, ako veľmi je archeológia previazaná s inými vednými disciplínami, ako aj politicko-ekonomickým vývojom spoločnosti. Veľmi dynamickým vývojom prešla v 20. storočí diskusia o povahe ich vlastnej vedy medzi historikmi. Archeológia je predovšetkým v rovine vlastného teoretického bádania „o sebe samej“ podstatne mladšia disciplína ako história. V podstate až do 60. rokov 20. storočia môžeme hovoriť o archeológii ako o ateoretickej disciplíne. Zmena nastala až v priebehu 60. rokov, kedy predovšetkým archeológovia z USA a Veľkej Británie (*Binford 1972*) začali aplikovať pri výskume analytické metódy (tzv. nová archeológia neskôr označená ako procesualizmus). Procesualistický postulát spoznateľnej minulosti a snaha formulovať všeobecne platné zákony vývoja ľudskej spoločnosti a kultúry boli už v priebehu niekoľkých desiatok rokov kritizované novou generáciou archeológov označovaných ako postprocesualisti (*Tilley 1994*). Títo zdôrazňovali symbolický charakter artefaktu, zastávali fenomenologický a hermeneutický pohľad na interpretáciu prameňov, čím spochybnili optimistickú dôveru procesualnej archeológie v explanáciu dát a tvrdenie o poznateľnej minulosti. V tejto diskusii archeológia dospela do bodu vlastnej sebareflexie a jej teoretické bádanie sa v priebehu druhej polovice 20. storočia a na začiatku 21. storočia rozvíja v podstate kontinuálne so všeobecným diskurzom filozofie vedy (*Kristiansen 2014*).

Archeológia však vo svojom historickom vývoji prinášala a prináša určité špecifiká. Jedným z týchto špecifik je skutočnosť, že vývoj archeologického myslenia nie je jednoznačne priamočiary, v tom zmysle, že by sme mohli pozorovať na časovej osi archeologického myslenia jednoznačné zmeny paradigiem v pravom slova zmysle. Táto skutočnosť vyplýva z reality archeológie ako takej, kedy viaceré teoretické koncepty (paradigmy či módy) koexistujú súčasne. Táto realita je okrem iného dôsledkom skutočnosti, že archeológia vo svojom vývoji neustále rieši problém definovania seba samej na pomedzí sociálnych, humanitných a prírodných vied.

Pri hľadaní teoretického konceptu, ktorý by nielen reflektoval myslenie doby, ale aj predstavoval funkčnú

bázu archeologického výskumu si na začiatku položíme otázku, čo je rozhodujúce pre definovanie základných parametrov výskumu? Ponúka sa jednoduchá a rýchla odpoveď, vedecká paradigma doby, v ktorej výskum realizujeme. Oveľa zložitejšie je už však odpovedať na otázku, aká je vedecká paradigma v súčasnosti. Pri pohľade na postmodernú realitu, v ktorej sa nachádzame, môžeme dospieť k záveru, že nie je možné jednoznačne definovať hranice vedeckého myslenia a takto definovať úzus doby. Môžeme sa stretnúť s názorom, že postmodernizmus predstavuje koniec jednotného a univerzálneho pohľadu na svet. Odmietajúce jednotiacu všetko zahŕňajúce všeobecne platné vysvetlenia a snaží sa ich nahradiť rozdielnosťou a jednotlivosťou.

Jedným z východiskových tvrdení nášho teoretického konceptu však je, že sa v súčasnosti nachádzame v období, kedy sledujeme tichý kolaps donedávna dominantného postprocesualizmu, ale pritom už nie je možné oživiť procesualizmus. Súčasný je charakteristický teoretickým a metodickým experimentovaním a preorientovaním sa (Kristiansen 2014, 14). Tichý kolaps postmodernity resp. jej prerod na novú situáciu je pozorovateľný aj v prácach filozofov, ktorí sa zaoberajú súčasnou situáciou na poli filozofie, spoločenských vied aj umenia (Hauser 2012). Ak sa teda nachádzame v období reflexie postmoderného pohľadu na archeologický a historický výskum, teda ak sa pokúšame nájsť cestu zo situácie, ktorú F. Ankersmit popisuje ako nesúlad medzi prítomnosťou a minulosťou, medzi jazykom, ktorý v súčasnosti používame na hovorenie o minulosti a minulosťou samotnou (Ankersmit 1994, 180), je nevyhnutné pragmaticky rozširovať teoretický a metodický repertoár výskumu. V tomto zmysle chápeme teoretický pragmatizmus, o ktorom v texte pojednávame.

Cieľom úvah, ktoré tu prezentujeme, je zamyslenie sa nad otázkou, aká je archeologická metodológia v po-postmodernom teoretickom diskurze súčasnosti primárne, avšak nielen z perspektívy archeológie v stredo európskom regióne. Ako aj prezentovanie teoretického a metodického konceptu, ktorý by reflektoval na zmeny myslenia v súčasnosti a zároveň bol základom životaschopného výskumu. Za taký považujeme stav, keď je vedecká teória, z ktorej vyúsťujú skúmané otázky podporovaná funkčnou metodikou. Dôležité je tiež, aby bol výskum interne konzistentný a externe zrozumiteľný.

V krátkej úvahe nie je možné postihnúť všetky fenomény teoretických diskusií súčasnej archeológie. V texte sa venujeme tým fenoménom, ktoré do značnej miery determinujú náš postoj k teoretickej báze archeologického výskumu.

Ako prvú diskutujeme jednu z bazálnych tém v rámci ontologických úvah archeologickej teórie, ktorá sa výrazne zapísala aj do diskusie v stredo európskom kontexte a to je vzťahom medzi procesualizmom a postprocesualizmom resp. lepšie povedané vzťahom medzi modernou a postmodernou. Základný problém, ktorý tu predstavuje opakovane kameň úrazu, je vzťah medzi objektívnou štruktúrou a subjektívnou reprezentáciou. Inak povedané každý archeologický nález (či nálezový celok ako hrob, dom, výrobný objekt, pohrebisko, kostol, mesto, hrad a pod.) je dokladom určitej individuálnosti, ale zároveň vykazuje veľa rysov, ktoré sa pravidelne opakujú na iných archeologických prameňoch a je preto zároveň súčasťou nejakej štruktúry. Jedným z výsledkov našich úvah je tvrdenie, že popisované rozdelenie, pokladané za univerzálne, medzi objektívnou štruktúrou (miestom tej najistejšej archeológie, ktorá by spracovaním hromadných kvantifikovateľných dát rekonštruovala spoločnosti také, aké v skutočnosti boli) a subjektívnou reprezentáciou (spojenou s „inou archeológiou“ situovanou v dištancii voči realite), ktoré proti sebe stavalo štrukturalistický prístup a fenomenologické postupy, je možné prekonať či dokonca relativizovať jeho univerzálnosť.

Ďalším významným fenoménom, ktorý determinuje postoje medzi archeológmi a zásadným spôsobom určuje charakter výskumnej metodiky, je vzťah medzi archeológiou a antropológiou. V rámci nami vyššie položenej otázky o charaktere vedeckého myslenia v súčasnosti a v rámci problematiky prerodu postmodernity na novú modernitu je diskusia o tomto vzťahu významná pre skutočnosť, že jedným z centrálnych problémov je existencia či neexistencia subjektu, ktorému v procese tvorby interpretačných modelov pripisujeme agenciu.

Obidve disciplíny sa vo svojej podstate snažia porozumieť ľudskej rozmanitosti a pochopiť spôsoby, ako ľudia žijú a ako interagujú v rôznych svetoch (Fablander 2017, 69). Zásadným rozdielom však je absencia subjektu v archeológii (Lucas 2010). Táto absencia subjektu (teda možnosť priamo skúmať konkrétne fenomény v živej kultúre medzi ľuďmi) vytvára markantnú asymetriu medzi archeológiou a antropológiou. Archeológia je odkázaná na prácu s artefaktami či ekofaktami a so stopami po jednaní ľudí v minulosti. Pri takomto uchopení objektu výskumu je ako hlavné ontologické východisko chápané oddelenie ľudí a vecí do dvoch rozličných sfér kultúry a prírody. V súčasnej archeologickej teórii, či všeobecnejšie v humanitných

a sociálnych vedách, sa však stále častejšie stretávajú s konceptom neomaterializmu (Fablander 2017, 69; Witmore 2007), ktorý redistribuuje agenciu (akciu) medzi obidve sféry, teda medzi ľudí aj veci.

Ako ďalší diskutujeme problém vzťahu objektivity vedeckého výskumu a subjektívnej sféry historického či archeologického podania. Venujeme sa teda problematike historickej narácie v archeologickom výskume. Riešenie problému vzťahu objektivity a subjektivity predstavuje jeden z kľúčových determinantov pri definovaní teoretickej bázy archeologického výskumu. Tento problém sa naplno prejavil v priebehu 60. a 70. rokov 20. storočia, kedy sa záujem väčšiny humanitných odborov obrátil k jazyku (tzv. *linguistic turn*). V historiografii sa začala obracať pozornosť na problém písania. Tento fenomén bol markantne formulovaný v dvoch knihách zo začiatku 70. rokov. Práca P. Veyna „*Jak se píšou dějiny*“ (Veyne 2010) reagovala predovšetkým na výrazné vedecké ambície francúzskych historikov inšpirovaných štrukturalistickým hnutím. H. White vo svojej knihe „*Metahistorie*“ (White 1973) zase obrátil pozornosť výhradne k jazykovej stránke písania dejín. Obidvaja títo autori sú považovaní za hlavných predstaviteľov tzv. narativistického poňatia dejín.

Historickú naráciu chápeme tak, že nejde o popretie alebo odmietnutie logicko-deduktívnych či kvantifikačných metód pri výskume. Akcentovaním historickej narácie v postmodernej dobe sa snažíme poukázať na skutočnosť, že nie sme schopní rekonštruovať minulosť ako takú. Vytvárame obraz o minulosti, ktorý je podmienený pravidlami jazyka. Aplikovanie logicko-deduktívnych a analytických postupov je na jednej strane späté s modernistickým pohľadom či tradičným realistickým poňatím dejín, avšak v prípade jeho využitia pri historickej narácii ide predovšetkým o lingvistický rámec, ktorý podmieňuje podobu „obrazu o minulosti“. Z hľadiska Whiteovej autonómnej ontológie jazykovej manifestácie sveta je možné poňať historiografu či archeológa ako spôsob modelovania minulých udalostí a javov.

Úvahy o vzťahu moderny a postmodernej, o vzťahu antropológie a archeológie následne rozvíjame a popisujeme náš postoj k archeologickému výskumu, ktorý označujeme ako teoretický pragmatizmus. Tento primárne chápeme ako metódu myslenia, ktorej cieľom je budovať koncepčne ucelený a externe zrozumiteľný výskum.

Napriek tomu, že sme konštatovali, že v súčasnosti smeruje metodologický vývoj v archeológii k obnoveniu modernej je zrejme, že naše východiská sa odkláňajú od štandardnej modernistickej predstavy o vedeckom výskume. Tento fakt súvisí s tým, že sa nachádzame v inej historickej konštelácii ako v období vzniku a dominancie moderny.

V našom metodickom koncepte pracujeme s postupom, ktorý popísali D. O'Sullivan a M. N. Gahegan a čiastočne modifikovali F. Verhagen a T. G. Whitley (obr. 1, Verhagen – Whitley 2012).

Výskum začína zberom dát (je samozrejme, že nikdy nie je možné dáta zhromažďovať bez otázok v mysli). Prvým krokom po zbere dát je potom prieskumná analytická fáza. Ide o hľadanie takých vlastností dát, ktoré by mohli odpovedať na naše otázky. V tomto kroku sú užitočné prieskumné štatistické metódy na detekciu vzorcov a zároveň ide o fázu, v ktorej sa realizuje základná klasifikácia dát. Na základe vzorcov detekovaných v druhom kroku je vytvorená teória. Táto by mala transparentne špecifikovať vzťahy medzi premennými, ktoré determinujú vzorce odhalené v procese štatistického prieskumu a klasifikácie. Ďalším krokom je zovšeobecnenie teórie, na ktoré je možné využiť indukčné metódy. Druhú možnosť ako generalizovať detekované vzorce je využitie logickej argumentácie a modelovania (deduktívneho aj induktívneho). Modelovanie je primárne zamerané na popis kauzálnych vzťahov, ktoré tvoria podstatu detekovaných vzorcov. Výsledky takýchto postupov by mali byť k dispozícii ku kontrole. Nasleduje teda testovacia fáza, ktorá by mala v najideálnejšom prípade konfrontovať modely s novými dátami. Posledným krokom je fáza naratívnej interpretácie, v ktorej sa snažíme reflektovať podstatnú štruktúru minulosti a udalosti s ich kauzálnymi vzťahmi.

V navrhnutej schéme je modelovanie nástrojom pre generalizovanie teoretického konceptu. Ide teda o kvantitatívne testy teoretických modelov. Takto definovaný postup koreluje s východiskami, ktoré sme rozoberali vyššie. Vzhľadom na teóriu, ktorú sme predstavili je dôležitá skutočnosť, že pri testovaní teoretických modelov využívame modelovanie pomocou štruktúrnych rovníc (Mazuch et al. 2017). Ide v ňom o pochopenie kauzálnych vzťahov a interakcií inak povedané o modelovanie kauzálnych sietí.

Vo výklade teoretických základov výskumu, ktoré označujeme ako teoretický pragmatizmus sme akcentovali význam naratívnej logiky v procese výskumu, relativizovali sme kontrapozíciu štruktúry a fenoménu, relativizovali sme antagonizmus medzi indukciami a dedukciou, označili sme naráciu za reflexiu podstatnej štruktúry

minulosti a interakcie za reálne reprezentácie. V podstate z celého výkladu o prezentovanom koncepte teoretického pragmatizmu vyplývajú tieto tvrdenia.

1) Rozhodujúcim bodom, ktorý určuje ako definovať cieľ a metodiku výskumu, je v našom ponímaní problém vzťahu objektivity vedeckého výskumu a subjektívnej sféry historického či archeologického podania.

2) Rozdelenie medzi objektívnou štruktúrou a subjektívnou reprezentáciou, pokladané za univerzálne, ktoré proti sebe stavalo štrukturalistický prístup a fenomenologické postupy, je možné prekonať či dokonca relativizovať jeho univerzálnosť.

3) Prijatie ontológie vychádzajúcej z neomaterialistického konceptu predstavuje jednu z možností, ako sa vysporiadať s nerovným vzťahom antropológie a archeológie. Ak aplikujeme neantropocentrickú ontológiu, môže sa stať otázka chýbajúceho subjektu v archeológii nadbytočnou. Nadbytočná tiež bude potreba stereotypných analógií a medzikultúrnej generalizácie.

4) V historickej narácii nejde o popretie alebo odmietnutie logicko-deduktívnych či kvantifikačných metód pri výskume. Akcentovaním historickej narácie v postmodernej dobe sa snažíme poukázať na skutočnosť, že nie sme schopní rekonštruovať minulosť ako takú. Vytvárame obraz o minulosti, ktorý je podmienený pravidlami jazyka.

5) Je nevyhnutné rozlišovanie medzi fázou výskumu, ktorá je zameraná na získavanie faktov a fázou naratívnej interpretácie, v ktorej sa spájajú fakty do jedného konzistentného naratívneho celku.

6) Naráciu chápeme ako istú reflexiu podstatnej štruktúry minulosti. Narácia sa môže rôznymi spôsobmi zameriavať na konkrétne udalosti, ale aj na ich dočasné a kauzálne súvislosti.

7) Ľudské komunity v minulosti boli závislé na rôznorodosti schopností (talentov) a nie na jednotnej koncepcii schopností či zručností. Existencia takejto jednotnej koncepcie by podporovala význam či existenciu primátu zvláštneho súboru determinácií (či už technických, ekonomických alebo demografických) vo vývoji spoločnosti. Naopak negovanie takejto koncepcie otvára cestu k chápaniu reality ako dynamického a interaktívneho priestoru bytia, v ktorom je vývoj podmienený vznikáním a križovaním partikulárnych vzťahov a význam ktorejkoľvek časti je možné uchopiť len v jej relatívnej pozícii v priestore iných subjektov a činností.

8) Chápanie vzťahov a interakcií v spoločenskej realite ako reálnych reprezentácií v naratívnej interpretácii je rozdielne od štrukturalistického chápania vzťahov ako abstraktných stavov.

9) Definovanie vzťahu ako samostatnej kategórie popri tradičnom priestorovo-časovo-formálnom rámci charakteristiky artefaktu je zásadný krok pre komplexné uchopenie celej škály kauzality a dynamiky v minulosti.

10) Teoretický pragmatizmus nevyhnutne smeruje k interdisciplinárnemu výskumu. Je však nevyhnutné, aby interdisciplinarita nebola realizovaná len v rovine preberania výsledkov alebo modelov medzi jednotlivými odborníkmi. Predovšetkým musí existovať komunikácia o predpokladoch a epistemológii jednotlivých disciplín.

Koncept metodiky výskumu, ktorý sme prezentovali ako aplikáciu teoretického pragmatizmu, je preto kombináciou explanácie, induktívnych a deduktívnych postupov, logickej argumentácie či matematického modelovania a naratívnej interpretácie (*Obr. 1, 2*). V pozadí celého takto koncipovaného výskumného procesu stojí idea kauzality, ktorá vychádza z tvrdenia, že vedecké vysvetlenia spočívajú na predpoklade, že javy majú svoje príčiny. Striktne deterministický model vysvetľovania je typický pre prírodné vedy. V sociálnych vedách kontrastuje deterministická predstava s ideou slobodnej vôle človeka. Obecne však môžeme konštatovať, že v sociálnych vedách platí, že ľudská vôľa je určitým spôsobom obmedzená vonkajšími faktormi. Vysvetlenie ľudského chovania preto predstavuje komplexný problém. Každý jav a každá príčina má zase svoju príčinu. Pri výskume tak zložitej siete vzťahov, aká je tvorená ľudskou spoločnosťou sa implicitne prijíma model ľudského chovania, ktoré človeku prisudzuje len málo individuálnej slobody. Toto však neznamená, že všetko ľudské jednanie a myslenie je determinované. Je dôležité si uvedomiť, že deterministický model nepredpokladá, že kauzálne vzorce sú jednoduché a ani netvrdí, že popisuje, všetky kauzálne vzťahy.

Celý tu prezentovaný postup sme v rámci nášho výskumu už aplikovali na konkrétnych prípadových štúdiách zameraných na pochopenie sociálnych a ekonomických vzťahov na Veľkej Morave (*Hladík et al. v tlači; Mazuch et al. 2017*). Ďalšie testovanie celého konceptu však kontinuálne realizujeme. Súčasný prechod z postmodernej do novej situácie nás neustále konfrontuje s novými výzvami. Neustále sme konfrontovaní

s dynamickými zmenami technológií, čo má neodškriepiteľný dopad aj na archeologický výskum, či už v rovine správy, analýzy alebo syntézy dát (*Hladík et al. 2018*). Inovatívne zmeny v technológiách, ako aj v celej spoločnosti, si vyžadujú, aby bol inovatívny aj náš archeologický výskum. Technológie otvárajú neustále nové dvere k vedomostiam, ktoré sú ukryté v prameňoch. Je preto len na archeológoch ako veľmi dokázu svoje predstavy o minulosti spojiť s týmito vedomosťami pri tvorbe jej obrazu.