

Evžen Neustupný
Plzeň

Towards a new paradigm

This paper is about how archaeologists explain culture change in dependence on the theories that prevail in their scientific communities. In agreement with the American philosopher of science Thomas Kuhn (1965) I describe such theories as *paradigms*, but I do not insist upon such denotation. Many years ago, still in the pre-Kuhnian era, I used the term *basic archaeological models* (Neustupný 1967), but later I went over to the term *paradigm* (Neustupný 1976a, 1976b). In fact, it is the concept that weighs, not its denotation. I am going to argue that there is time for a change in the basic theoretical frameworks of archaeology, and I am going to hint to a few points in which the change might come.

In general, paradigms are sets of essential approaches to archaeology based on

- common fundamental concepts,
- common theoretical basics,
- common methodology and
- commonly accepted research results (modes of explanation).

Paradigms are *not taught*, most scientists acquire them unconsciously during their university training not contemplating on their principles.

Paradigms *change by revolutions* during which everything considered to be important is replaced by its opposite; there is no continuity between the old and the new paradigm. Typically, the new paradigm is realized by a *young generation of specialists*, and very few old ones join the revolt.

It has been found that archaeology develops in paradigms. The complete list with some problems at its beginning is as follows:

- the romantic paradigm of the 19th century
- the evolutionist paradigm in the last quarter of the century (Montelius)
- the culture historian paradigm starting about the turn of the centuries (Kossinna, Kostrzewski, Niederle, Stocký)

- the processual paradigm coming in the sixties of the 20th century (Binford) and
- the postprocessual paradigm in the eighties (Hodder).

Culture history

I shall discuss the culture historical paradigm as my first example as it influenced the central European archaeology for the larger part of the 20th century and it has not yet been fully overcome in some archaeological quarters. It started on the turn of the 19th and the 20th century, being mainly diffused in the German speaking environment by Gustav Kossinna, but it was similarly propagated by other archaeological communities of Central Europe, mainly the Polish (Józef Kostrzewski and Konrad Jażdżewski, e.g.) and the Czech (Lubor Niederle and Albín Stocký). The Austrians had their own variant. Gordon Childe leaned towards culture history in one part of his work.

The basic concepts of culture historians was *migration, diffusion and influences*, each indicating a class of events (cf. Table1). Regularities (or structures) were not considered. Any change in culture was explained by these principles. Archaeological cultures were regarded as reflections of ethnic units. Artefacts were studied as indicators of ethnicity and the support of written records was sought whenever possible. Concentrating on events archaeologists working in this paradigm were not interested in any kind of social theory, economics, adaptation through culture and the like. As a result, change in the archaeological record meant migration, diffusion or influence. After the Second World War migrations became unfashionable for obvious reasons, while the role of the chief explanatory principle shifted to influences.

Table 1

basic constituents	culture historical paradigm	processual paradigm
<i>fundamental concepts</i>	migration, diffusion, influences	adaptation, social order
<i>theoretical basics</i>	archaeological cultures are ethnic units	archaeological artefacts are means of adaption
<i>methodology</i>	research on artefacts as indicators of ethnicity, comparison with written records	research on artefacts as tools, research on ecofacts, deduction and formal methods
<i>events/structure dichotomy</i>	concentration on events	concentration on structures
<i>neglected</i>	evolution, ecofacts	migrations, symbols

<i>research results</i>	change means migration or influence	change means adaptation
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Processualism

As seen from Table 1, processualists stressed adaptation and social sphere. They considered archaeological artefacts as means of adaptation, artefacts were mainly tools; in addition, ecofacts were studied frequently. Archaeology got its logical foundation by including formal methods supported by logics and mathematics. Research was orientated towards finding regularities, not events; both migrations and symbols were neglected. On the whole, the processual paradigm considered change in the archaeological record to indicate adaptation.

Table 1 makes it clear how different are the two paradigms when compared to each other on almost any important point. The two paradigms do not give different answers to the same questions: they mostly raise their own questions not being interested in the old ones. It makes it hardly possible for adherents of the two paradigms to discuss anything with each other. Not even the technology of field work is exempted: processual excavations are full of ecofacts, random sampling, geophysical measurements etc., i.e. something that was not common in culture historical excavations.

As in any paradigm, the processualism had many branches outside the United States where its leading figure was Lewis Binford. It was practised in Britain by David Clarke and Colin Renfrew – among others. In a way Mats Malmer was quite close to it in Scandinavia. There were two small centres of processual thinking in the Czech Republic, and many of them elsewhere – for example in Poland. I am unable to supply a full list of archaeologists from very many countries in this paper.

I would like to point out in this context that many archaeologists believe that new ideas in archaeology originate just in one centre (or even in one single mind) while their appearance elsewhere is the consequence of „influencing” other archaeologists. By assuming this they apply the culture historical model of change to this problem. Once this approach is not applied, however, the processual paradigm does not appear to be fully Anglo-Saxon as some would have it. I know of several archaeologists in my own country (Soudský, Neustupný), and Stanisław Tabaczyński and Janusz Kruk are examples from Poland. While proposing this I do not doubt the role of Binford and other American and British archaeologists in creating a coherent form of this paradigm.

Postprocessualism

Adherents of the next paradigm, the *postprocessualists*, became preoccupied with symbols, and with the role of the individual in the past; they conceived of archaeology as a discipline reading its record as a text and explaining it by hermeneu-

tical methods. The postprocessual methodology relied on empathy and other subjective procedures – the reason why many archaeologists did not accept its positive aspects, mainly its interest in symbols. Some supporters of postprocessualism tried to join archaeology with postmodern philosophy (mainly relativism), left wing politics, feminism and the like.

The topics of symbolic issues and of the role of the individual, as stressed by the postprocessual paradigm, are undoubtedly very important in archaeology. At the same time postprocessualism has demonstrated that it is unable

to deal with symbols and the individual mind by objective methods, as the post-processual methodology of „reading” the record as a text and possibly by using empathy creates doubts and, at the same time, it is unable

to react to *questions connected with ecofacts*, because they have no symbolic value and do not testify about the individual. The evidence of molecular genetics, e.g., is an example.

The present state

Postprocessualism started nearly thirty years ago. This fact already gives rise to the query when the next paradigm appears. And is a new paradigm needed at all? I believe that this question must be answered in the affirmative for the following reasons.

1. All paradigms up to now were largely influenced by questions asked by other disciplines (history, anthropology) while trying to see something of prime importance *behind the archaeological record*, typically searching for people behind the sherds and flints. Artefacts were considered to be means or instruments of archaeological investigation, not its subjects.
2. All paradigms put weight on *fight and struggle* either against nature or against human enemy. Archaeology was to supply evidence in the form of tools and weapons.
3. In most paradigms only one *dimension of purpose* was considered. This was mostly the practical function while symbolic meaning was usually reduced to religion. Postprocessualism favoured symbolism, but hardly considered practical function of artefacts.
4. Any one paradigm of the past was exclusively concerned with *either events or structures* (regularities) while the neighbouring (preceding and succeeding) paradigm did the opposite. No paradigm put equal weight on both events and structures.
5. The archaeological record *was considered to consist at least partially of the once living culture*; it was not acknowledged that it represented dead human culture, a constituent of the present day reality. The concept of *transformation* that turns the once living culture into the archaeological record, was often ignored (with the exception of the processualism).

6. In the field of methodology the paradigms either *leaned towards induction or deduction*. Here again each paradigm kept to its creed; none accepted the validity of both.

This is mostly the consequence of the catastrophic („revolutionary”) change of paradigms where the new theory strives to be as different from the old one as possible. There is no continuity; if there is any, it relates to the last but one paradigm. But *is this catastrophic change of paradigms unavoidable?*

Each artefact is an individual creation and therefore it is an event; at the same time the same artefact belongs to a structure. One artefact may characterize all possible dimensions of purpose. Thus at least in these two points there need not be a devastating revolution.

A new paradigm

I shall now go over to the requirements that any candidate for a new archaeological paradigm should fulfil (cf. Neustupný 2010). They are as follows:

1. The life of human beings is mainly *to create* (to create artefacts), *not to fight* against nature, enemies, in the framework of class struggle, or in the exercise of power.
2. Artefacts and humans are *inseparable* in constituting the human world.
3. Artefacts can be viewed both as regularities (*structures*) and *events*.
4. Artefacts have *purpose*. First of all, they are symbols. However, they also have practical function, social meaning and express group identity.
5. The archaeological record consists of *dead objects, heavily transformed* from both the qualitative and quantitative point of view.

The first requirement means to accept that the life of human beings is to *create*, not to fight. This programme expresses the positive or optimistic role of human beings.

The second requirement is that the archaeological record should be returned its proper place. *Artefacts* are not simply means of recognizing something „behind” them, they are one of the two basic constituents of the human world, the second component being humans. Creating artefacts represents the method how human beings manage to remain within society, as artefacts provide the specifically human ties between individuals. There would be no social world without artefacts. This programme means reuniting artefacts with human actors; it acknowledges their immense importance for the human world.

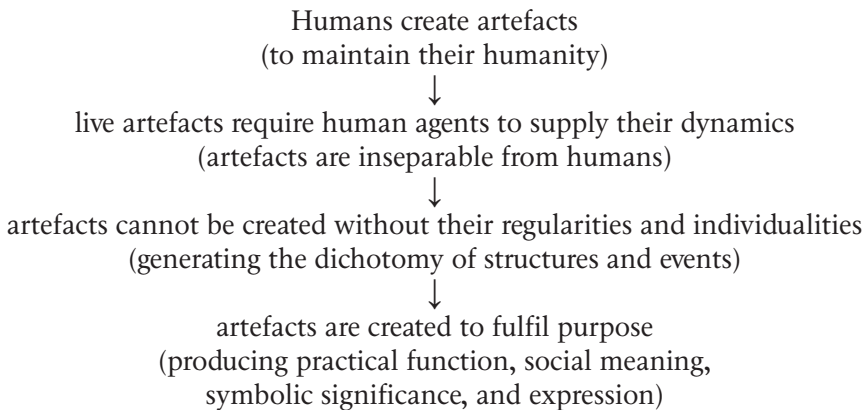
Further, we can look at artefacts from two essentially different aspects. The first one is to conceive of them as regularities or *structures* corresponding mainly to various dimensions of purpose such as the practical function, social significance, symbolic meaning and/or expression of identity. The second aspect of

artefacts (the same artefacts), is to view them as *events*, i.e. the individual instances of their manufacture and use. As any artefact is created by an individual, its conception as an event becomes the basis for the reconstruction of their role for the individual. Reuniting structures and events as *aspects of artefacts* is one of the principal virtues of the new paradigm.

The fourth requirement is to concede that artefacts are *symbols*. However, artefacts are not only symbols used in communication between individuals (as well as communication between humans and the supernatural), they also have *practical function, social meaning and express group identity* – all this at the same time.

This theoretical programme must be accompanied by an appropriate *method* based on the recognition of the fact that the archaeological record consists of dead objects, heavily *transformed* from both the qualitative and quantitative point of view. The method should create not only events but also structures, and to devise means for finding their explanation in terms of the living culture (cf. Neustupný 2007).

Some of the points characterizing the paradigm that I am discussing, *can be derived from one another*:



This represents a logical flow from *artefacts* to the basic *theorems* of archaeology. The starting point is the creative role of artefacts. They are created by humans, their inseparable twins. At the same time, the artefacts cannot be created without their regularities and individualities. This means that artefacts are both structures and events. At the same time, artefacts are created to fulfil purpose. Facts without purpose, even if produced by man, are not artefacts. Thus, the concept of artefact generates all the main theses of archaeology.

This is the reason why I refer to the paradigmatic approach described in this paper as *artefact archaeology*. This might cause misunderstanding as some colleagues would maintain that any kind of archaeology has to do with artefacts. Others might complain that the stress laid upon artefacts means a return to antiquarianism.

I would raise objections against these judgments. They could only be true if we accepted that artefacts are to be considered merely as *means* how to get behind them to the true history of mankind. I believe, however, that artefacts, inseparable from man, constitute the very basis of the human world and its history. By stressing this I want to emphasize the importance of artefacts for the human world *in general*, past and present. Even archaeologists do not sometimes realize that human made artefacts and their negative reflections called ecofacts constitute the greater part of the world that surrounds us. Nearly all that we observe around us are artefacts, our bodies are ecofacts. The roads, buildings and fields outside towns are artefacts as well as the possible Bronze Age villages in the archaeological landscape. The lake in their neighbourhood may be nature, but with strong ecofactual admixtures.

True, *not everything are artefacts*. The books in our library are generalized texts, full of arbitrary signs, and the same is true of possible flash discs for our computers. Our brains sometimes contain concepts that are not artefactual. The social sphere is composed of relations between individuals and groups of individuals. I do not dare to guess how much of the outer world are artefacts, but it is certainly a major part.

Now, it is surprising, but rarely fully realized by academic theoreticians, that every part of nature, however small, has its scientific theory, while *human artefacts have no general theory* at all. No doubt, archaeology is the nearest substitute for such a general theory of artefacts. However, I do not suggest that my artefactual archaeology as shortly described in this lecture, is already such a general theory of artefacts. Considering the commonly accepted conception of archaeology, it is a discipline that deals with dead artefacts. At the same time we observe the interesting phenomenon that *archaeology proceeds ever nearer to the present*, and this requires a change in its perception. We have to open the way to the possible further impact of archaeology upon the general theory of our world.

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W kierunku nowego paradygmatu

S t r e s z c z e n i e

Jak wiadomo, paradygmat to koncepcja wprowadzona w latach 60. do filozofii nauki przez Amerykanina Thomasa Kuhna. Oparta jest na założeniu, przejętym głównie z fizyki, że nauka rozwija się w ramach zestawu systemów teoretycznych – nazywanych paradygmatami – które naukowcy w dość bezrefleksyjny sposób przejmują podczas uniwersyteckiej edukacji. Paradygmaty składają się z podstawowych koncepcji danej nauki, zasadniczych twierdzeń, metodologii a nawet modelowych rezultatów akceptowanych przez naukową wspólnotę. Paradygmaty ulegają zmianom poprzez rewolucję, w wyniku których stare teorie są całkowicie porzucane, a nowe zajmują ich miejsce (zwykle tworzone przez nowe pokolenie naukowców).

Stwierdzono, że nauka rozwija się w paradygmatach. Jednym z najstarszych jest romantyczny paradygmat z 19 wieku, później pojawili się ewolucyoniści w ostatniej ćwierci tegoż stulecia, którzy zostali z kolei zastąpieni przez historyków kultury na przełomie XIX i XX stulecia. W latach 60. ubiegłego wieku pojawił się procesualizm, w latach 80. zaś postprocesualizm.

Pozwolę sobie posłużyć się jako przykładem paradygmatem kulturowo-historycznym. Na większą skalę pojawił się w Niemczech i był propagowany w świecie niemieckojęzycznym przez Gustafa Kossinnę, zaś poza jego granicami przez środowiska archeologiczne Europy Środkowej, głównie polskie (Józef Kostrzewski i Konrad Jażdżewski) i czeskie (Lubor Niederle i Albín Stocký). Gordon Childe skłaniał się ku historii kultury w części swoich prac. Zasadniczą koncepcją przyjmowaną przez historyków kultury była migracja, rozprzestrzenianie wpływów (głównie ze wschodu i z południa). Wszelka zmiana kulturowa tłumaczona była tymi procesami. Koncentrując się na wydarzeniach archeolodzy pracujący w ramach tego paradygmatu nie byli zainteresowani teoriami socjologicznymi, ekonomią, adaptacją kulturową i podobnymi zjawiskami. Po drugiej Wojnie Światowej „migracje” stały się niemodne z oczywistych względów (głównie w Niemczech), a zasadniczą rolę zaczęto przypisywać kwestiom „wpływów”.

Procesualiści podkreślali adaptację, sferę społeczną i logiczne podstawy archeologii (łącznie z metodami formalnymi), podczas gdy postprocesualiści zajmowali się symbolami i rolą jednostki; pojmowali archeologię jako tekstową interpretację materiału źródłowego.

Ostatni, postprocesualny paradygmat pojawił się niemal trzydzieści lat temu. Fakt ten od razu nasuwa pytanie, kiedy pojawi się paradygmat następny. I czy jest w ogóle potrzebny? Myślę, że na to pytanie należy odpowiedzieć twierdząco z następujących powodów.

Aż do teraz wszystkie paradygmaty pozostawały pod wpływem pytań z innych dziedzin (historii, antropologii), starając się dostrzec coś o zasadniczym znaczeniu *poza materiałem źródłowym*, zwykle szukając ludzi poza skorupami i krzemieniami. Wszystkie paradygmaty kładą nacisk na walkę z siłami przyrody czy też z innymi ludźmi. Każdy dany paradygmat dotyczył wyłącznie wydarzeń lub struktur (regularności), podczas gdy

każdy poprzedni i następny zajmował stanowisko przeciwne. Jeśli chodzi o metodologię paradygmaty skłaniały się albo ku indukcji bądź dedukcji, uznając że materiał źródłowy przynajmniej częściowo jest odbiciem niegdyś żywej kultury.

Nieobecność kwestii symbolicznych i roli jednostki w paradygmacie procesualnym sugeruje, iż debaty archeologiczne osiągnęły swój punkt szczytowy. Oczywiście jest, że tematy te są w archeologii wyjątkowo ważne. Jednocześnie postprocesualizm uświadomił nam, iż nie jest w stanie dać odpowiedzi na pytania związane z kwestiami ekologicznymi, ponieważ nie mają wartości symbolicznej i nie mówią nic o jednostce. Chodzi tu na przykład o wyniki badań z zakresu genetyki molekularnej. Poza tym postprocesualna metodologia „odczytywania” materiału źródłowego jako tekstu i ewentualnie studiowanie jednostek poprzez empatię budzi wątpliwości.

Przejdę teraz do wymagań jakie winien spełnić kandydat na nowy paradygmat archeologiczny. Po pierwsze, archeologiczny materiał źródłowy musi wrócić na swoje właściwe miejsce. *Artefakty* nie służą jedynie rozpoznawaniu czegoś „poza”, są jedną z dwóch podstawowych części składowych świata ludzi (druga część to właśnie ludzie). Program ten zakłada połączenie artefaktów z aktywnością *homo sapiens*.

Na artefakty można patrzeć zasadniczo z dwóch różnych perspektyw. Pierwsza to możliwość postrzegania ich jako regularności lub *struktur* odnoszących się do różnych wymiarów celowości. Druga, zastosowana do tych samych artefaktów, to postrzeganie ich jako *wydarzenia*, tzn. skierowana jest do konkretnych przykładów ich wykonania. Ponieważ każdy artefakt jest wytwarzany przez jednostkę, jego koncepcja jako wydarzenia staje się podstawą do rekonstrukcji jego roli w życiu jednostki. Połączenie struktur i wydarzeń jako dwóch aspektów artefaktów jest jednym z podstawowych wymogów nowego paradygmatu.

Trzeci wymóg oznacza przyjęcie faktu, że życie ludzkie ma na celu głównie *wytwarzanie* (wytwarzanie artefaktów), a nie walkę z siłami natury, wrogami w ramach walki klasowej, czy też sprawowanie władzy. Ten program wyraża pozytywną rolę istot ludzkich.

Czwarty wymóg to uznanie, że artefakty to *symbole*. Jednak artefakty to symbole używane nie tylko w komunikacji pomiędzy jednostkami (jak również pomiędzy ludźmi i światem nadprzyrodzonym), mają również praktyczne funkcje, znaczenie społeczne i wyrażają tożsamość grupową. Wszystko to musi być wzięte pod uwagę. Między innymi ze względu na tą złożoność przeszłość nie może być odczytywana w prosty sposób.

Te założenia teoretyczne muszą być poparte odpowiednią metodą opartą na przekonaniu, że archeologiczny materiał źródłowy tworzą przedmioty martwe, silnie zmienione zarówno pod względem jakościowym jak i ilościowym. Metoda ta powinna tworzyć nie tylko wydarzenia lecz również struktury, oraz dostarczyć sposobów ich wytłumaczenia w ramach żywej kultury.

Ten opierający się na paradygmatach program już pojawił się w szeregu konkretnych badań: pozostaje tylko ukształtować go w spójny zestaw koncepcji akceptowanych przez kompetentne grono archeologów.

Tłumaczył Jan T. Piotrowski

