Grand infrastructural projects and preventive archaeology in Romania*

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Abstract. The author presents a brief history of preventive archaeological research in Romania, in particular the investigations which took place on large infrastructural projects after 2000. The state of research, the problems facing the preventive archaeological research in Romania and their causes are analysed.

Rezumat. Autorul prezintă un scurt istoric al arheologiei preventive în România, în special investigațiile desfășurate după 2000 în cadrul proiectelor de infrastructură mare. Sunt analizate stadiul cercetării, problemele cu care confruntă arheologia preventivă în România, precum și cauzele acestora.

Keywords: contractual archaeology, preventive archaeology, grand infrastructure/highway, archaeological sites, Romania.

The term "contractual archaeology" is associated in the West with preventive archaeological research, which is conducted in general by private research institutions, under a commercial contract². Its evolution can be traced from the early 60's of the last century, when some major infrastructural and development projects took place in the West, it required a new approach on the matter of preserving the archaeological sites. Thus appeared the term "public archaeology". As this current research has developed on several directions⁴, which the "father" of this term, Charles McGimsey, called *public archaeology*, was redefined as *contract archaeology* or *Cultural Resource Management* (CRM) ⁵.

This term was imported from the United States into Europe, initially in the United Kingdom. Strongly affected by the destructions of Second World War, with a heritage of inestimable value to humanity, within the economic revival of the '60s, Europe experienced a period of major investments in infrastructure, constructions of factories, restorations of monuments, etc. All these affected, in some way, the cultural heritage. To protect these monuments voices were raised within the scientific community and civil society, but also in

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² McGILL 1995.

³ McGIMSEY 1972; MERRIMAN 2004; JAMESON 2004, 21–58.

⁴ BORŞ 2014, 90-96.

⁵ PYKLES 2006, 311-349.

the governmental institutions. The cultural heritage began to be seen as a development resource, non-renewable, and its protection as an obligation. There were established protection rules, codes of professional conduct and introduced terms such as *Cultural Resource Management / Archaeological Resource Management*, *Rescue Archaeology, Preventive Archaeology, Preservation by Record*, etc. Or as Michael Shanks and Christopher Tilley concluded "The past, its preservation, archaeology and the work of the hands of professional has archaeologists, academics, state and local government workers Employees. In this work the issue is paramount conservation planning, managing and rescuing the past is a vital concern⁶."

First of all, *contractual archaeology* in Romania is confused, sometimes to its very core, with *preventive archaeology*⁷. This has a long tradition in Romanian archaeology, especially after the Second World War. Alongside the *preventive archaeology* we have, what was called until 2006, *rescue archaeology*.

The main landmarks of the Romanian preventive and rescue archaeology can be found in abundance in the scientific literature.

First we have to mention the example of the complex researches generated by the construction of the Bicaz dam⁸. In this project were involved several institutes of the Academy and specialists from different professions, from archaeologists to architects, geologists, geographers, ethnographers, engineers etc. As a result of this effort there were investigated many endangered archaeological sites and were relocated churches with heritage value.

Another example is generated by the hydro-electric power station construction of the Iron Gates ${\rm II}^{\circ}$. The works dedicated to the construction of this unit triggered archaeological researches on the Danube Iron Gates 10 .

Unfortunately, for another major infrastructure work from the communist era, the Danube–Black Sea Channel, the data on archaeological findings are far fewer¹¹.

Another example of archaeological research that is worthy of mentioning was conducted by the archaeologists from Transylvania History Museum in Cluj County, in the 80's. Since there were about to perform different types of investments and landscaping jobs in several areas of Cluj County, archaeologists have conducted several field researches in those areas ¹². The novelty of this project was the introduction, in the Romanian archaeology, of non-intrusive methods on a large scale, but also a partnership with a team of British archaeologists.

⁶ SHANKS, TILLEY 1992, 24-28.

⁷ ANGELESCU 2005.

⁸ PETRESCU-DÂMBOVIȚA, SPINEI 2003; NICOLĂESCU-PLOPȘOR *et al.* 1959, 45–60; NICOLĂESCU-PLOPȘOR *et al.* 1959, 57–83; NICOLĂESCU-PLOȘOR *et al.* 1960, 37–47.

⁹ ROMAN 2010.

¹⁰ STÂNGĂ 1979, 275–276; BORONEANȚ 1980, 636–640; STÂNGĂ 1980, 641–646; CRĂCIUNESCU 1980, 647–651; STÂNGĂ

¹¹ COMȘA 1951, 169-172; HARŢUCHE, BOUNEGRU 1997, 17-104.

¹² DRAGOMIR *et al.* 1992, 919–924; LAZAROVICI, KALMAR-MAXIM 1992, 997–1009; LAZAROVICI, MEŞTER 1994, 86–105.

The first real project of contractual archaeology in Romania began in 2001. It was the establishment of "Alburnus Maior" 13 National Research Program. This aimed to conduct archaeological researches in "Roșia Montana" area, in Alba County, before the gold mining¹⁴ in this surface began. Although debates were raised by groups that opposed the gold mining in the area, in terms of archaeological research there weren't any objections. Substantial funding from the investors managed to create the framework through which the affected area was investigated and the results were published¹⁵.

Even if it isn't an investment with public character, it's worth mentioning the preventive archaeological research for the Floresti-Polus Center project¹⁶.

Another important step in the development of contractual archaeology is related to the initiation of the "Autostrada" National Programme for Archaeological Research¹⁷. This is the improved and better structured successor of "Autostrada Transilvania" National Archaeological Research Programme 18.

But what is the exact status of preventive archaeological 19 researches in the field? At least for the large infrastructure projects we can make an eloquent analysis.

1. NADLAC-ARAD HIGHWAY - LOT 1 - KM. 0 + 000-22 + 200 (+ road linking km. 0 + 000-6 + 581)²⁰.

Institutions involved in the archaeological research - Institute of Archaeology and History of Art Cluj-Napoca, Arad Museum Complex.

Archaeological diagnostic completed in the autumn 2011, preventive archaeological research completed in April 2012

Archaeological sites identified: 9 sites.

- a. Approved free area -26.784 km 93%;
- b. The archaeological sites that were investigated and obtained discharge certificates nine sites.

2. NADLAC-ARAD HIGWAY — LOT 2 — KM. 22 + 200-38 + 882²¹.

Institutions involved in the archaeological research — Arad Museum Complex.

Archaeological diagnostic and preventive archaeological research completed in the autumn of 2011

¹³ DAMIAN 2003.

¹⁴ GIMPCRM 2011.

 $^{^{\}rm 15}$ SIMION et al. 2005; DAMIAN 2008.

 $^{^{16}}$ ROTEA et al. 2008, 47–88; MUSTEAȚĂ et al. 2009.

¹⁷ Ordinul Comun MTI-MCPN nr. 653/2010.

¹⁸ OMCC 2040/2004.

¹⁹ Situation for May 2015. The data may be incomplete because the Ministry of Culture refused our access to the ministry archive regarding preventive archaeological research made with infrastructural projects, on account of the fact that they aren't public information. Apparently, only the money that funded the research was public.

²⁰ Raport de diagnostic arheologic Autostrada Nădlac Arad lot 1 Km. 0+000 – 22+200 (+ bretea de legătură km. 0+000 –

²¹ Raport de diagnostic arheologic Autostrada Nădlac Arad Lot 2 Km. 22+200 – 38+882, mss.

Archaeological sites identified: 7 sites.

- a. Approved free area 14,907 km 88%;
- b. The archaeological sites that were investigated and obtained discharge certificates $-\,7$ sites.

3. TIMIŞOARA-LUGOJ HIGWAY — LOT 1 — KM. 44 + 500-54 + 520^{22} .

Institutions involved in the archaeological research — Institute of Archaeology and History of Art Cluj-Napoca

Archaeological diagnostic and preventive archaeological research completed in the autumn of 2011 $\,$

Archaeological sites identified: 2 sites.

- a. Approved free area -9,720 km 97%;
- b. The archaeological sites that were investigated and obtained discharge certificates $-\ 2$ sites.

4. TIMIŞOARA-LUGOJ HIGWAY - LOT 2 - KM. 54+000 - 79+625²³.

Institutions involved in the archaeological research — Banat Museum Timișoara County (diagnostic), National Museum of Unity in Alba Iulia (preventive research).

Archaeological diagnostic completed in February 2014 and preventive archaeological research started in august 2014.

Archaeological sites identified: 5 sites.

- a. Approved free area -24,865 km 97%;
- b. The archaeological sites that were investigated and obtained discharge certificates we don't have access to this data.

5. <u>LUGOJ-DEVA HIGWAY - LOT 1 - KM. 0+000 - 27+620 (+road linking km. 0+000 - 11+368)²⁴.</u>

Institutions involved in the archaeological research — Banat Museum in Timişoara County.

Archaeological diagnostic completed in December 2011 and preventive archaeological research completed in July 2012.

Archaeological sites identified: 4 sites (+ another 2 discovered during the archaeological research).

- a. Approved free area -37,488 km 96%;
- b. The archaeological sites that were investigated and obtained discharge certificates we don't have access to this data.
 - 6. <u>LUGOJ-DEVA HIGWAY LOT 2 KM. 27+620 56+220</u> 25 .

²⁴ Raport de diagnostic arheologic Autostrada Lugoj Deva, Lot 1 km. 0+000 – 27+620 (+ bretea de legătură km. 0+000 – 11+368. mss.

²² Raport de diagnostic arheologic Autostrada Timișoara Lugoj Lot 1 – km. 44+500 – 54+520, mss.

²³ TĂNASE et al. 2015, 185-187.

 $^{^{25}}$ Raport de diagnostic arheologic Autostrada Lugoj Deva, Lot 2 km. 27+620- 56+220 , \emph{mss} .

Institutions involved in the archaeological research — Banat Museum in Timişoara (diagnostic), The County Museum in Satu Mare and The County Museum of History and Art in Zalău.

Archaeological diagnostic completed in march 2014 and preventive archaeological research completed in June 2014.

Archaeological sites identified: 6 sites.

- a. Approved free area -27,120 km 95%;
- b. The archaeological sites that were investigated and obtained discharge certificates $-\ 6$ sites.

7. <u>LUGOJ</u>—DEVA HIGWAY — LOT 3 — KM. 56+220 – 77+361²⁶.

Institutions involved in the archaeological research — "Vasile Pârvan" Archaeological Institute in Bucharest.

Archaeological diagnostic completed in May 2014 and preventive archaeological research completed in February 2015.

Archaeological sites identified: 4 sites.

- a. Approved free area -19,891 km 94%;
- b. The archaeological sites that were investigated and obtained discharge certificates $-\ 4$ sites.

8. LUGOJ-DEVA HIGWAY — LOT 4 — KM. $77+361 - 99+500^{27}$.

Institutions involved in the archaeological research — Museum of Dacian and Roman Civilisation in Deva County, The National History Museum of Romania.

Archaeological diagnostic completed in November 2013 and preventive archaeological research completed in April 2014.

Archaeological sites identified: 3 sites.

- a. Approved free area -21,489 km 97%;
- b. The archaeological sites that were investigated and obtained discharge certificates $-\,3$ sites.

9. DEVA-ORĂȘTIE HIGWAY — KM. $0+000 - 32+500^{28}$.

Institutions involved in the archaeological research - The National History Museum of Romania, Museum of Dacian and Roman Civilisation in Deva County, Brukenthal Museum - Sibiu and The National Museum of Unity in Alba Iulia

Archaeological diagnostic completed in July 2011 and preventive archaeological research completed in November 2011.

Archaeological sites identified: 13 sites.

- a. Approved free area -26,567 km 82%;
- b. The archaeological sites that were investigated and obtained discharge certificates $-\,$ 13 sites.

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²⁶ Raport de diagnostic arheologic Autostrada Lugoj Deva, Lot 3 km. 56+220-77+361, mss.

²⁷ RIŞCUȚA et al. 2011, 53–134; Raport de diagnostic arheologic Autostrada Lugoj Deva, Lot 4 km. 77+361-99+500, mss.

²⁸ In ANGELESCU 2012.

10. ORĂȘTIE-SIBIU HIGWAY — LOT 1 — KM. $0+000 - 24+100^{29}$.

Institutions involved in the archaeological research — The National History Museum of Romania.

Archaeological diagnostic completed in December 2011 and preventive archaeological research completed in October 2012.

Archaeological sites identified: 11 sites.

- a. Approved free area -20,930 km 88%;
- b. The archaeological sites that were investigated and obtained discharge certificates $-\,11$ sites.

11. ORĂȘTIE-SIBIU HIGWAY — LOT 2 — KM. $24+100 - 43+855^{30}$.

Institutions involved in the archaeological research — The National History Museum of Romania (diagnostic), The National Museum of Unity in Alba Iulia (preventive research).

Archaeological diagnostic completed in October 2011 and preventive archaeological research completed in April 2013.

Archaeological sites identified: 4 sites.

- a. Approved free area -17,735 km 90%;
- b. The archaeological sites that were investigated and obtained discharge certificates $-\ 4$ sites.

12. ORĂȘTIE—SIBIU HIGWAY — LOT 3 — KM. $43+855 - 65+965^{31}$.

Institutions involved in the archaeological research — The National History Museum of Romania (diagnostic), Brukenthal Museum of Sibiu (preventive research).

Archaeological diagnostic completed in November 2011 and preventive archaeological research completed in august 2012 (+ an archaeological research of a site on a deviation of DC – Apold — completed in May 2013).

Archaeological sites identified: 5 sites (+ 1 site on DC - Apold deviation).

- a. Approved free area -20,290 km 92%;
- b. The archaeological sites that were investigated and obtained discharge certificates $-\ 6$ sites.

13. ORĂȘTIE-SIBIU HIGWAY — SIBIU — LOT 4 – KM. $65+965 - 82+200^{32}$.

Institutions involved in the archaeological research — Brukenthal National Museum inSibiu.

Archaeological diagnostic completed in September 2011 and preventive archaeological research completed in January 2012, addition of an archaeological research for project modification for a third site — completed in July 2013.

Archaeological sites identified: 3 sites.

a. Approved free area -15,110 km - 93%;

³⁰ In ANGELESCU 2012.

²⁹ In ANGELESCU 2012.

 $^{^{31}}$ Raport de diagnostic arheologic Autostrada Orăștie–Sibiu Lot 3 km. 43+855- 65+925 , \emph{mss} .

³² In ANGELESCU 2012.

b. The archaeological sites that were investigated and obtained discharge certificates $-\ 3$ sites.

14. CERNAVODĂ-MEDGIDIA HIGWAY — KM. 151+600 - 165+530³³.

Institutions involved in the archaeological research — The National History Museum of Romania (diagnostic), Museum of National History and Archaeology in Constanța County (preventive research)

Archaeological diagnostic completed in November 2011 and preventive archaeological research completed in May 2012.

Archaeological sites identified: 4 sites.

- a. Approved free area -12,680 km 91%;
- b. The archaeological sites that were investigated and obtained discharge certificates $-\ 4$ sites.

15. <u>SEBEŞ-TURDA HIGWAY — LOT 4 — KM. 53+700 – 70+000 (+Turda Road junction)</u> ³⁴.

Institutions involved in the archaeological research — The National History Museum of Romania.

Archaeological diagnostic completed in July 2014 and preventive archaeological research completed in November 2014.

Archaeological sites identified: 8 sites.

- a. Approved free area -14,520 km 89 %;
- b. The archaeological sites that were investigated and obtained discharge certificates $-\,8\,$ sites.

16. GILĂU-NĂDĂȘELU HIGWAY — KM. 0+000 - 8+300 (+Nădășelu Road junction) 35.

Institutions involved in the archaeological research — Archaeology and History of Art Institute in Cluj-Napoca.

Archaeological diagnostic completed in July 2014 and preventive archaeological research completed in October 2014.

Archaeological sites identified: 2 sites (+ 1 archaeological site with no expropriation).

- a. Approved free area -7,900 km 95%
- b. The archaeological sites that were investigated and obtained discharge certificates $-\ 2$ sites.

It can be noted that for the 16 segments of highway analysed, the area that could initially be approved and on which the constructions could start immediately, after completing the archaeological diagnosis, is around 92.3% of the surface.

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 $^{^{33}}$ Raport de diagnostic arheologic Autostrada Cernavodă–Medgidia km. 151+600- 165+530 , \emph{mss} .

³⁴ DAMIAN et al. 2015, 175-176.

 $^{^{35}}$ Raport de diagnostic arheologic Autostrada Gilău-Nădășelu km. 0+000- 8+300 , $\emph{mss}.$

It follows that only less than 10% of the area affected by the project, could have delays or increased costs due to the procedures conducted by archaeological investigations. The segments that has the most archaeological sites still had 88–89% of the free area, and those that had less sites have reached up to 97% of the free area.

A special case is Deva-Orăștie segment, on which there were identified 13 archaeological sites, and where the initially approved areas for construction represented only 82% of the total area of the segment. This was due to the position of the highway exclusively on Mureș Valley, where there is a high density of habitation that existed from prehistory to the contemporary era. In the period 2011–2014, there hasn't been a situation like the one described above.

The average number of archaeological sites for the 16 segments studied is 5.6%, but this figure is not relevant. Each of these sites has particular characteristics and the complexity of archaeological problems for a segment of highway can't be determined based only on the number of sites, but rather on the extent and the difficulty that involves their research.

If we want to compare research projects we can observe that there are discrepancies between the number of sites, their surfaces and the time it takes to research them. This is based on each research institution's ability to organise.

Thus, the site no. 4^{36} (Miercurea Sibiului) on the Lot 3 of Orăștie – Sebeș highway, although it was limited to a length of 1 km, it was required for research only two months, since it was a prehistoric and a La-Tène settlement, with dwellings, pits and without being a multi-layered archaeological site. The site no. 5^{37} (Şibot) on lot 1 of Orăștie – Sibiu highway, although it was limited only to a length of 350 m, it required 8 months for completion, as it was a necropolis and a large settlement from Roman times, with many masonry structures preserved.

In general, the archaeological sites identified on the direction of future highway are sites with an average length (of 200–250 m), with simple stratigraphy, without built structures, with a medium of 200 archaeological contexts (pits, dwellings, hearths etc.) and belonging to no more than two historical eras.

Over 90% of the identified sites are settlements / dwelling—because the area is suitable for human settlement—and less for cemeteries. Although feasibility studies were based solely on field surveys, the designing of the highway segments took into account the existence of the most important archaeological sites and they were avoided 38 (except for Deva-Orăștie segment, where there were researched two settlements found in the List of Historical Monuments — Turdaș and Şoimuş).

Firstly, it must not be taken into account as a benchmark the number of sites that are to be investigated, but rather the complexity of the sites discovered and their area. This requires carrying out an archaeological intrusive diagnostic.

 $^{^{36}}$ Raport de diagnostic arheologic Autostrada Oraștie–Sibiu Lot 3 km. 43+855- 65+925 , mss.

³⁷ BÂLTÂC et al. 2013, 230-232.

³⁸ This is the case of the south necropolis in the Roman city of Potaissa. The future highway Sebeş–Turda should've had archaeological research and a road junction on Câmpia Turzii—Gilău highway, over the Roman necropolis area. The project was modified and now it has been saved.

From the start, the field surveys conducted for feasibility studies should be ignored³⁹. Very often these were done on other itineraries, on areas much wider than the one affected by the project. At best they can show the presence of a nearby archaeological site, but can't mark its borders and neither can capture the degree of impairment of the investment.

It is therefore recommended the archaeological intrusive diagnosis. Its results should then be analysed properly and responsibly by archaeologists.

A well performed intrusive diagnosis can provide correct calculations of cost and time for each site individually. This should actually represent the basis of the research contract . When we are talking about time, cost and necessary resources to carry out an investigation we should start from the complexity of the archaeological site 40 .

For the field archaeological research we should take into account all kinds of situations that could affect the smooth running of the research, from meteorological factors to the soil storage, generated during mechanical scaling⁴¹. Post-archaeological field research is equally important. We mustn't forget that research generates archaeological material — cultural heritage. These should be inventoried, restored and the results of the research published. All this means financial efforts for the institution that organised the research. These efforts can be seen in the final cost of the research.

Conducting an archaeological research, in contractual terms, it is much more complex than it seems at first sight. From the engineer's point of view, archaeology remains a problem. First of all, from the financial point of view. In most cases, a construction company, that won an auction, has very few money, or none at all, for archaeological research. The blame for this ignorance is on the beneficiary, because not knowing the specific problems of preventive archaeology accepts bids to an auction, which in our point of view are incomplete⁴². Therefore, very often, on the basis of the lowest price, the lack of adequate financial resources provided to archaeology or environmental protection have parted the bidders.

It is from this point that starts the disagreements between archaeologist – builder – beneficiary on sharing the liability for the fault of delays in project implementation.

³⁹ The so-called nonintrusive archaeological diagnoses type. They actually manage to distort the image complexity from archaeological point of view of an infrastructure project. The best example is that of Lot 2 Timişoara–Lugoj highway. Field evaluation carried out, by our fellow colleagues from Banat Museum, didn't identified any archaeological site. But intrusive archaeological diagnosis found five archaeological sites that would've been affected by the future highway (see TĂNASE *et al.* 2015).

⁴⁰ Even if it is more accurate than nonintrusive diagnosis type, the intrusive type has however limitations. In lot 1 Lugoj-Deva after archaeological survey were discovered two new archaeological sites (see footnote 22).

 $^{^{41}}$ It is common practice that the storage facilities (waste dump) or borrowed pits are chosen by the engineers on terrains that were not researched by an intrusive diagnosis, and sometimes new archaeological sites are identified.

 $^{^{42}}$ Until recently, auctions specifications requested specialty archaeological presence — a term which doesn't exist within the heritage legislation, which the engineers understood as archaeological survey.

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Raport de diagnostic arheologic Autostrada Timișoara Lugoj Lot 1 - km. 44+500 - 54+520, mss.

Raport de diagnostic arheologic Autostrada Lugoj Deva, Lot 1 km. 0+000 – 27+620 (+ bretea de legătură km. 0+000 – 11+368, mss.

Raport de diagnostic arheologic Autostrada Lugoj Deva, Lot 2 km. 27+620-56+220, mss.

Raport de diagnostic arheologic Autostrada Lugoj Deva, Lot 3 km. 56+220-77+361, mss.

Raport de diagnostic arheologic Autostrada Lugoj Deva, Lot 4 km. 77+361-99+500, mss.

Raport de diagnostic arheologic Autostrada Oraștie-Sibiu Lot 3 km. 43+855-65+925, mss.

Raport de diagnostic arheologic Autostrada Cernavodă-Medgidia km. 151+600- 165+530, mss.

Raport de diagnostic arheologic Autostrada Gilău-Nădășelu km. 0+000-8+300, mss.

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