

Alfred MAJEROWICZ

**PETROARCHEOLOGICAL STUDIES OF SELECTED SETS OF STONY
ARTEFACTS IN THE DEPARTMENT OF MINERALOGY AND
PETROLOGY (UNIVERSITY OF WROCLAW) IN THE PERIOD 1954-
2002**

An interdisciplinary branch of science, known in our part of Europe as the „petroarcheology”, has intensely developed in the Department of Mineralogy and Petrology (Institute of Geological Sciences, University of Wrocław) since 1954. The aim of this science is the study of stony and ceramic objects made and used by men during various archeological epochs, as well as the study of places where the raw materials used for their production are found. Today, this science is a part of a broader concept of archeometry, which covers the study of almost whole men’s production, including tools, sculptures, building materials, metals, glass, ceramics as well as bones, paints, food and so on.

As soon as in the 50-ties, archeologists P. and W. Hołubowicz collaborating with petrographists K. Maślankiewicz and A. Majerowicz, studied and determined ca. 300 spindle-whorls and grinders made of limy rocks and marly shales from Ostrówek near Opole. Later on, this collaboration has become continuous and dependent on the possibilities of commission the petrographists to work out objects from various archeological excavations. These objects were mainly supplied by the Archeology Department of the University of Wrocław (W. Wojciechowski, I. Bukowska-Gediga, B. Gediga and others) and by J. Kaźmierczyk from the Material Culture History Department (now the Archeology and Ethnology of Nadodrże Department) of the Polish Academy of Science. The Department of Mineralogy and Petrology received also objects for petrographic analyses from other parts of Poland, in particular from Wielkopolska and partly Pomorze (T. Wiślański, J. Skoczylas, A. Majerowicz, A. Prinke, 1980, 1981, 1987 vide *Prz. Geol.* Vol. 47, 638-643 and Vol. 49, 495-498). Objects from Museums of some towns from Wielkopolska were also determined. The author of this paper together with A. Fabisiak organized in 1990 a modern exposition of Ślęża rocks in the regional Museum in Sobótka. Working out of such objects as axes, hammers, querns, grind-stones, snoothingstones and so on, the mentioned authors from Poznań and Wrocław paid special attention to the intensions of the object, the good selection of raw materials and the right choice of materials as regards their technical utility.

¹*University of Wrocław, Institute of Geological Sciences, Department of Mineralogy and Petrology, ul. Cybulskiego 30, 50-205 Wrocław, Poland*

The author during the permanent collaboration period carried out petrographic determinations of stony objects from various excavations in Lower Silesia (Piotrowice Wielkie, Niemcza, Jordanów, Biały Kościół, Stary Zamek). It was also necessary to indicate the raw materials needed for the reconstruction of sculptures and other architectonic objects damaged during the World War the 2nd (e.g. portal in the Maria Magdalena Church or tombs in the St. Vincent Church). A. Grodzicki carried out petrographic determinations of boulders used for the culture tomb (cult. uniet.) in Szczepankowice. Later this author applied also a new method that enabled the correlation of Pleistocene and Holocene deposits.

It is necessary to stress prolonged studies by A. Majerowicz and W. Wojciechowski (1988), with the use of various laboratory methods, of many artefacts, in particular 70 axes determined as Ślęza-type axes. These studies allowed Majerowicz and Wojciechowski to locate the oldest, in the Neolith and early Bronze Age, serpentinite quarry in the Ślęza Massif. It is situated at Jańska Góra in the eastern part of the Massif. Axes and other objects made of raw materials from this part of the Massif were found not only in Lower Silesia but also in Małopolska, Wielkopolska, Bohemia and Moravia. Thanks to the detailed petroarcheological studies of the stony raw materials of the Bronze Age, Iron Age and the early Middle Ages by A. Majerowicz (1987) and W. Wojciechowski (1988) it was possible to put constraints on the location of places where the famous Ślęza sculptures (Mushroom, two Bears, A Girl with Fish, Monk, eight Lions, the Ślęza Column, a piece of man's torso), were made. These sculptures were the subject of a PhD thesis (supervised by A. Majerowicz) during the last 4 years and were studied with modern laboratory methods (A. Wójcik, 2002). It was found that they are largely made of the aplitic granite of the marginal zone of the Strzegom-Sobótka Massif, from the contact with basic rocks of the Ślęza Massif. Numerous querns (over 10 000) were studied by archeologists with participation of A. Wójcik and P. Limisiewicz. The research by M. Dobrzyńska (1980) showed that the stony circles on Radunia contain only loose serpentinite blocks, and no pieces of rocks from other parts of the Ślęza Massif or its nearest surroundings that could have been brought by pilgrims.

Pazda and Sachanbiński (1991) analyzed ca. 100 grinders and found that their material came from the quartzitic series of Wzgórza Strzelińskie. The studies of A. Majerowicz and J. Skoczylas (1984) indicate an import of objects, most probably made of phyllitic rocks coming from natural exposures in the Złoty Potok Valley east of Głuchołazy in the Eastern Sudetes, into the Western and Northern Europe areas. Granitic blocks, as well as quartz crystals, fluorite and other minerals, used for the production of decorative stones, were imported to Wrocław from Wzgórza Strzelińskie (J. Kaźmierczyk, M. Sachanbiński, 1978). In 1986 J. Bukowska-Gedigowa excavated 1.5 thousand of stony artefacts made of marly limestones from the vicinity of Opole, which were determined by the author of this study in the 50-ties.

This year a paper on the use of microspectral laser analysis in some petroarcheological studies has been submitted by A. Majerowicz and H. Siągło (2003). The method described enables the distinction of amphibolites with

accessory ilmenite from serpentinites with accessory chromite on perfectly preserved and smoothed archeological artefacts without any damage to these precious objects.

Between 1980 and 2002 five international petroarcheological seminars were held, with active participation of Polish and Czech researchers: at Brno (1975), Wrocław-Sobótka (1980), Płowdiw (1984), Potsdam (1994) and Veszprem near Balaton (1995). Several lectures on current issues of petroarcheological studies in these countries were presented there, and detailed guide-books, covering also field trips, were published.

11 author's publications concerning these problems came out. Descriptions of about 1600 artefacts and assessments, up to several tens of pages thick, with photographs, tables etc., are stored at the archives of the Archeology Institute of the University of Wrocław, Etnology and Archeology Institute of the Polish Academy of Science and the mineralogy and Petrology Department of the Institute of Geological Sciences of the University of Wrocław.

As the author could have only committed a limited amount of information into this paper, using the most available sources only (and there is undoubtedly much more of them), he is sorry for an unintentional omitting of some problems and researchers.

REFERENCES

Two papers in the References: Przegląd Geologiczny (1999) vol. 77, 638-643 and Przegląd Geologiczny (2001) vol. 49, 495-498, contain bibliographic data for most papers cited in this publication. Therefore, only selected papers are referred to with details here.

DOBRZYŃSKA M. 1980: Das Problem der Abstammung des Felsmaterials von den Steinwälen des Ślęża massiv. II Międzynarodowe Seminar.Petroarcheologiczne, Wrocław: 80-84

DOMAŃSKI G. 1996: Badania na Ślęży w 1994 r. Śląskie Spraw.Archeol., 37: 205-215

GEDIGA B. (red.) 1988 - Surowce mineralne w pradziejach i we wczesnym średniowieczu Europy Środkowej. Wyd.Ossolineum

GRODZICKI A., Burdukiewicz J. & Szykiewicz A. 1997: Utwory czwartorzędowe w odkrywce „Stanisław Północ” w Rusku koło Jaroszowa gm.Strzegom, w świetle badań strukturalnych, archeologicznych i denudodezagregacji. Acta Univ.Wratisl. Pr.Geol.-Miner., 55:159-174

HOLUBOWICZ W. 1956: Opole w wiekach X-XIII. Wyd.Śląsk, Katowice

KULCZYCKA-LECIEJEWICZOWA A. 1997: Strachów - osiedla neolitycznych rolników na Śląsku. Wyd. Werk, Inst.Etnologii i Archeol.PAN, Wrocław

KULCZYCKA-LECIEJEWICZOWA A., MAJEROWICZ A., PRINKE A., SKOCZYLAS J. & WOJCIECHOWSKI W. 1996: Opis zabytków. Propozycja standaryzacji. Biblioteka Muzealnictwa i Ochrony Zabytków ser.B, 96: 1- 66

- MAJEROWICZ A. 1979: Grupa górská Ślęży a współczesne problemy ofiolitów. Wybrane zagadnienia stratygrafii, petrografii i tektoniki wschodniego obrzeżenia gnejsów sowiogórskich i metamorfiku kłodzkiego. Mat.Konferencji Terenowej Nowa Ruda 8 - 9 wrzesień. Wrocław
- MAJEROWICZ A. 1997: Charakterystyka petrograficzna wyrobów kamiennych ze Strachowa, woj. Wrocławskie. [W:] A.Kulczycka-Leciejewiczowa: Strachów - osiedla neolitycznych rolników na Śląsku. Wyd. Werk, Inst. Etnologii i Archeol.PAN, Wrocław
- MAJEROWICZ A. & Pin Ch. 1992: The main petrological problems of the Mt Ślęza ophiolite complex - Sudetes, Poland. Zbl.Geol.Palaeont., 10: 989-1008
- MAJEROWICZ A. 1980: Origin of granitic in cult sculptures on the Mount Ślęza in the light of the petrographic investigation. II Międzynarodowe Seminar. Petroarcheologiczne, Wrocław: 81-83
- MAJEROWICZ A., Siągło H. 2003: Wykorzystanie mikrospektralnej analizy laserowej w badaniach petroarcheologicznych niektórych narzędzi kamiennych bez ich uszkodzenia (in press)
- UNIwersytet Wrocławski w latach 1945-1970. Księga jubileuszowa (red.) W.Floryan, Wyd. Ossolineum Wrocław
- WOJCIECHOWSKI W. 1988: Próba lokalizacji ośrodków produkcyjnych toporów ślęzańskich w świetle badań petroarcheologicznych. Prz.Archeol., 35: 101-138
- WÓJCIK A. 2002: Wykorzystanie granitu z rejonu Ślęży w prehistorii i we wczesnym średniowieczu - studium petroarcheologiczne. Wrocław (dysertacja doktorska, w druku)