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ON RESEARCH METHODS CONCERNING SETTLEMENT COMPLEXES

Archaeology, being one of the so called historical sciences, investigates far remote periods of human societies' history, mostly on the basis of sources provided by excavations [1]. Archaeological methods *sensu stricto* take all specific qualities of the material remainders of these societies into consideration, using largely the support and collaboration of historical, natural and technical sciences. The participation of the above mentioned disciplines and their methods will be distinctly defined and graduated according to epochs and degrees of development of these societies.

Two extremities in a "chronological, development and research sense" will serve here as examples: 1. Palaeolithic Age — primitive social groups of humans, whose examination requires, next to archaeological research, also the considerable help of natural sciences with geology in first place, physical and chemical sciences, and ethnography. 2. mediaeval centuries — with their feudal societies; here archaeology will call for the support of a large number of various sciences. These are: mediaeval research, history of art and architecture, linguistics, numismatics, sphragistics and others, not excluding also natural and technical sciences. The touching boundaries of chronology and sources, determine a close collaboration of historical sciences in the scope of heuristics and hermeneutic research.

Some determined human groups dwelling in a certain territory were bound to leave material remainders speaking of their life conditions. The degree of keeping of those remainders and their legibility depend of a number of factors such as: geographical zone, kind of soil and undersoil with all their consequences, of the fate to which these human groups were subject, of customs, rites and later human and atmospherical activity.[2] Qualities, quantities and kinds of material remainders left by human groups are very diverse and conditioned by a great many overlapping factors. Tools and various objects found on the tracks of particular nomads will greatly differ from one another. Mediaeval societies, present-

ing various types of settlement, household and handicraft, are apt to offer very complex patterns of relics to investigators.

Human activity spread over many places of a certain territory. Its aim was not only the securing of means of living, exploitation and production of raw material, transport and communication, trade and exchange of goods, but also social activity, organizing life in groups, building dwellings, fight and defence, attending to various rites, burials of the dead, all sorts of offerings comprising also the cult of forces of nature, etc. The majority of these doings happened to leave material traces of different kind and form on ground or under ground in a given territory.

These legible elements in an archaeological sense are named settlement complexes. Many factors, as said above, will determine their qualitative or quantitative abundance or scantiness. We may therefore distinguish simple settlement complexes composed of dwelling, exploitation and burial, and others, very complicated ones, containing traces of spots where all sorts of functions used to be executed, also outside the settlement. These are: exploitation and special production, additional defensive arrangements, communication and transport building such as roads, bridges, dams, dikes, fords, harbours, places designed for religious ceremonies, mostly connected with banquets, places for special cult e.g. concerning water and fountains, and above all burial places for the dead. A distinct but very important position belonging to this list will be hoards.

We shall now consider the question what are the best means of investigation leading to the discovery of settlement elements, and what methods should be used for the disclosure and examination of settlement complexes? How should this total of means serving scientific aims be named and determined? Close examination of territory is called "method of space research" by geologists. Our methods of investigation in every territory are a manner or manners of learned research and recognition of parts or totals of phenomenons, of facts directly or indirectly connected with human activity and above all of traces i.e. material remainders speaking of human doings in one or several periods of time and in a certain territory.

These facts or phenomena are:

1. geographical environment;

2. direct traces of human activity coming forth in various forms of building in space, in mobile and immobile surface extent, in layers of culture and other culture products. Settlements of various types, camps, places of exploitation of raw material, cultivated fields and pastures, places for production outside the camps, organization for defence, transport and communication, market, trade and exchange places, traces of combat,

places and buildings designed for social assemblies and ceremony, temples meant for religious cult, burial places, sites of loose finds and so called hoards;

3. local names of settlements and parts of them, names of fields, meadows, forests, eminences and other details of landscape, natural and artificial, fords, fountains, places of extracting raw material, in other words names of all places possibly connected with the history of a given territory or offering indications helpful to archaeological field-work;

4. every information concerning accidental archaeological finds;

5. legends and tradition touching directly or indirectly certain facts connected with a determined territory, as well as those concerning archaeological objects, notwithstanding the often doubtful value of such an information;

6. all details speaking of landscape and territory transformations, done by human or natural activity;

7. situation of settlements and disposition of buildings in space, communication system by land or water, being in connection with investigated objects;

8. transfers of a historical type, ethnographical and architectural relics, useful to all methodical steps and the history of a given territory in which we are interested.

The above list proves that territory research comprises investigations supported by following examination methods: 1) surface research of an archaeological, geological, ethnographical, toponymical and soil science character, and others as well as close observation of every uncovered layer of earth occasioned by digging works, the colouring of these layers and of the surrounding vegetation; 2) plummet research; 3) digging investigation on a large scale; 4) deep water research.[3] The total of these investigations is able to supply a full collection of historical and natural transfers, necessary for the establishing of views and sources concerning the fate of a certain territory as well as many methodical indications.

The above described research method calls for the collaboration of many specialists outside archaeologists.[4] We may also deduce that such a research has a collective character from a methodical and essential point of view. It is unnecessary to stress that these deduction and induction methodical measures are clearly indispensable.

All the above mentioned dealings and methodical postulates are applied for many years to the continuous archaeological research in Biskupin. The results of these investigations as well as methodical procedure are very briefly presented below.[5]

In Biskupin on a surface of about 750 ha, lake included, some 40 ha of settlement layers on over 36 sites have been ascertained. About 4 ha, i.e. 1/10 of the above space has been closely examined by digging method in the period from 1934 to 1958, suspended throughout 7 years on account of II World War. Traces of settlement beginning with the epipalaeolithic age up to the 14th century have been revealed here and in the near surroundings. Among legible settlement complexes reaching the late Stone Age, we will mention here a collection of settlements and graves, next to single finds of stone hoe- and pick-blades in a number of sites belonging to the population of Lengyel culture, further a spring water source and colonies ascribed to the population of funnel cup culture. The discovery of a "craal", instant camps and graves dating from an early Bronze Age, vote finds and the use of spring water, speak of settlements of Iwno culture. The majority of archaeological finds may, however, by attributed to settlements of Lusatian culture of an early Iron Age (Hallstatt D period), chiefly in Biskupin and also in the near and far neighbourhood. These date from the time of fortified settlements, i.e. buildings meant for planned defence against enemies' attacks, and on their ruins we find open settlements, site 4. Places of drawing clay, (several spots — site 10, 15a and 6), places where oaktrees were felled and grubbed and fields ploughed there, north and west from the lake, according to dendrological examination based on traces of oak-ash found in hearths, e.g. site 31. Extraction of peat in the Gąsawka valley, south and south-east from the lake.[6] A fountain of spring water, site 15a. A crossing over the swamp and the river Gąsawka — road inlaid with wooden logs. Underwater gangway in the lake, near the river Gąsawka's mouth. Two harbours lying close to the fortified settlement. Places where agricultural works were performed (stock-breeding and soil cultivation) have been discovered in several spots. Places of hunting or fight — bronze hatchet and stone battle-axes, site 9. Places of offering in the water or swamp, single vessels found near the water, ornaments in the swamp. Burial place — cemetery with cist graves, north from the lake. Place of cult ceremonies (water fountain) site 15a. Places where the fulfilment of rite used to be joined to consumption (site 2 and site 17), hardly perceptible pits with bones and fragments of vessels.

Finally settlements of the period where the fortified camp existed no more — site 4, site 18, site 2a, and iron hoards in a suburb opening on site 4. The disposition of settlement centres determines approximately the boundaries of a tribe's territory.

Thus was it possible to acquire a fuller historical picture of groups living there and partially also of the oecumene. Investigations carried out

in a larger space of land led to the discovery of another fortified settlement dating of the same time in Izdebno, 8 km. west of Biskupin, and round that a number of abodes of the same type but undefined functions. Further, 13 km. from Biskupin, in Sobiejuchy, a big fortified settlement, older than the former has been traced, having 6 ha surface and dating from an early Iron Age (Hallstatt C), as well as a number of places with a settlement character on the coasts of lakes. The fortified camp lies on a sandy island, contrary to those of Biskupin and Izdebno, situated on marshy islands. Extended research has led to the discovery of more fortified settlements dating from an early Iron Age (Hallstatt D) i.e. in Smuszewo, 22 km. west from Biskupin and Ostrowite Trzemeszeńskie, 27 km. south from Biskupin. These added to the known fortified settlement in Jankowo, give a distinct complex of Lusatian settlements and their ethnic and demographic conditions on a piece of land having about 1800 km^2. They may be qualified as tribe territories with fortified tribe settlements. The quality and quantity of movable relics material and the character of immovable objects imply, that stable dwelling places of those tribe communities were only fortified settlements. Biskupin, for instance, had probably from 1000—1250 inhabitants. Methodical means of research outside digging methods were here: 1) surface and deep reconnaissance research, 2) observation from a prisoner baloon, now substituted by the best observation instrument i.e. a helicopter, 3) photos taken from aeroplanes, 4) classical and web-footed divers, 5) constant observation of peat-bogs, clay-ponds, sand-fields, excavations, melioration ditches, cultivated spaces, meadows etc., 6) research by means of an apparatus made for the discovery of mines, 7) enquiries among the population. A number of scientists participated in the research; those were: geographers, geologists, petrologists, dendrologists, soil scientists, ichtyologists, zoologists, anthropologists, metallographers, architects and others. Experimental methods were also applied in Biskupin, not only where primitive means were sufficient but also considering phenomena of culture layers.

A second settlement complex, perhaps better recognized than the first, if we do not take into account the La Tène and Roman periods, is the early mediaeval and mediaeval settlement complex, dating from the 5th/6th up to the 14th century and consisting of the following elements succeeding one another: one settlement and three boroughs on the half-isle, site 4, till the half of the 11th century and two suburbs, a number of abodes, places of exploitation and special production, with pits used for tar-huts, pits for smoking fish and meat (site 6 and 2a), places for the exploitation of meadow-ore, (site 9), places for drawing

water (site 15a), for melting iron, storing or hiding places for grain in deeply dug pits, further special barrage system at 200 m. distance from the borough (two deep ditches and a bridge), nearest means of communication (bridge over the river Gąsawka) in the direction of the suburbs round Godawy. This complex was a great-feudal chieftain's property and the borough on the half-isle will have been, as the foremost point of the *opole*, an administration and military centre with a governor's dwelling place and office. In the half of the 11th century this centre is abolished. Only one of the numerous colonies near the lake persists (Biskupin site 15 and 15a) and Godawy (site 2 and 5a — conjectured Świeprawice). The duke offers this territory to the archbishop of Gniezno, as well as other villages in the district Żnin, confirmed later by a bull of the Pope Innocent II, dated 1136, it mentions the village Starzy Biskupicy having 22 settlers. This village persisted till 1325, when, the then acting bishop transfers it to the territory of the actual village, hence its name. We encounter no other name belonging to the place either in documents or in legends. The half-isle continues to bear the name Grodzisko or Grodziska which would mean: spot where the borough formerly stood.

Outside Biskupin investigations were also carried out in Żnin, 7 km. north from Biskupin, to the result of tracing settlements from the 6th and 7th centuries and finding remainders of a borough and its suburbs probably from the 10th—12th century. Żnin mentioned in the Pope's bull, will have been the capital of a larger territory, having a spacious market place, according to a detail in the bull: "provincia de Znein — cum foro". For the sake of a fuller historical picture of this territory, research was further shifted towards the lake in Ócwieka, 5 km. south from Biskupin and settlement remainders discovered there, in the form of a small borough dating from 11th/12th—13th century, a colony lying near by and a vast cemetery, further several more finds and the remainders of a later, mediaeval dam with water-mill. This small settlement complex belonged to a knight Degno of the family Nałęcz, who offered it in 1195 to the Monastery of Regular Canons in Trzemeszno (14 km. from Ócwieka) as may be read in written documents.

The above mentioned objects, i.e. settlements of the early and middle mediaeval centuries, represent settlement complexes linked to each other by historical fate, whereas Biskupin would give a diagram of the development of a settlement from 4th/5th to the 14th century, being the centre of a determined territory with local market place; its final phase will be decline to the class of a common feudal village, being part of an archbishop's property. We must notice here that Biskupin is short of one

important historical settlement feature, that is of a burial place. May be its cemetery is still to be discovered; technical difficulties have not allowed the carrying out of research on a larger scale; the name of one of the lakes: "Święte" which means "saint", would suggest a burial place somewhere in its vicinity.

The method of field research represented here does not consider all methodical means of investigation; there remain moreover special territory methods conducted by natural and technical sciences, the latter are essentially helpful considering the powerful latest development of technics.[7]

The author's opinion is that the nearest future will bring eminent technical support to the development of archaeological works and methods, thanks to which research procedure will gain in efficiency, consequently enlargening its powers of discovery. Now already the progress of historical sciences, supported by the methodology of historical and dialectical materialism, allows archaeology to possess fuller discernment of historical and research problems. Thanks to them archaeologists are able to use suitable methods in field work, leading to a conscient discovery of material remainders of the life of societies long ago passed away. It is very important that the archaeologist's spade should strike just, and that he were able, knowing general rules of appearance in settlement elements and space forms and their specific character, to systematically unveil successive components of societies of settlers in the true hierarchical order of historical problems. The above discussed register of methodical dealings in field work, has surely not exhausted all methodical means applied to the examination of settlement complexes. Our field research using these exact methods is nevertheless a function of recognition of far remote historical phenomena, impossible to attain knowing only single settlement elements. Notwithstanding classical research skill, investigators will be lucky if they possess a personal creative invention and conscient discoverer's abilities in archaeological and historical field, very useful to this kind of work. Their success depends, however, also of the sort of settlement they are to investigate. It is necessary to stress that field work ought to be preceded by a serious study of archives, museums and appropriate institutions, by perusing literature, cartographic and iconographic material and written sources. Settlement complexes appear in particular territories, bigger or smaller, according to determined historical conditions. By revealing various functions and components of complexes we approach a fuller historical knowledge of these distant processes, not attainable by the discovery of single settlement elements. Investigation concentrating research efforts to a closely defined territory, will gain

a more exact knowledge of the development of contemporary complexes, representative for a given region, period, culture and social organization. This investigation limited to smaller regions and supported by technical and natural sciences, may accelerate the development of a more efficient style of archaeological research.

Meetings of archaeological workers gathering directly in the spots subjected to investigation on a larger scale, in various parts of Europe, giving the occasion of demonstrating actual archaeological works and methods and scientific discussion, would surely be useful and desirable for the nearest future.

This is indeed the best way of communicating new methodical achievements and testing their efficiency in field work. Perhaps appointing a commission comprising interested persons from all countries for the elaborating of archaeological methods, with special consideration of field work, would be indicated. This commission might among others work out a programme of uniform documentation for publications and organize an exchange of achievements and discussions in particular countries, in the scope of methodical principles and field work technics.

(*Translated by Maria Starowieyska*)

NOTES

[1] The author of this work has discussed methods of field research, concerning early mediaeval rural settlement complexes in a particular work, quoting all references of the subject: Z. Rajewski, *O metodzie terenowych badań wczesnośredniowiecznych wiejskich zespołów osadniczych* [Methods of Field Research Concerning Early Mediaeval Rural Settlement Complexes], "Wiadomości Archeologiczne" Vol. 20, p. 117—145. He has also lectured upon these methods to the students of an Archaeological Training Camp in Biskupin in the years 1951—1956, further at an Archaeological Session in Praha 1955, at meetings of the Polish Archaeological Institute of the Polish Academy of Sciences, and has also held discourses in Scandinavia 1957 and Germany.

A. Gieysztor, *Niektóre potrzeby badań nad materialnymi warunkami bytu we wcześniejszym średniowieczu polskim* [Certain Necessities in Research Concerning Material Conditions of Existence in Polish Early Mediaeval Centuries], "Kwartalnik Historii Kultury Materialnej", Vol. 1, No. 2, p. 605 fol.

[2] Very difficult and complicated are investigations undertaken inside towns, especially those that have developed from borough main centres. The research, greatly obstructed by ancient and new building limiting thorough investigation, is likely to give only fragmentary results. On the contrary, reconstruction of damaged buildings or parts of towns will give excellent occasions to archaeological research.

Investigations undertaken in mountains or highlands are very difficult, on account of territory formation and hard, resisting undersoil.

[3] Plummet common research and boring, geology and soil sciences may give many hints concerning archaeological settlement phenomena. In 1935 and 1936 archaeologists, interested in the history of Biskupin, carefully observed soil scientists occupied with plummet research, aiming at the classification of grounds and obtained thus many useful results. Lately archaeological inspectors collaborate closely with soil scientists busy with classification of grounds in Silesia. Analogical collaboration has also developed in the surroundings of Tarnobrzeg by discovery works concerning layers of sulphur. The research of Mr. S. Stryła, dendrologist, using a wand helpful in finding water underground, must be mentioned in the history of Biskupin investigations. According to his observations, there should be on the eminence site 2a "something like deep water pits". Further research in this place revealed a number of deep smoking pits of an early mediaeval time; some of them were 2 m. deep. Underwater research in Biskupin aided by divers has brought forth convincing discoveries. Lately such investigations have revealed remainders of a mediaeval bridge in Kruszwica and the presence of pillars in the river near Kołobrzeg—Budzistowo. Z. R a j e w s k i, *Przydatność poszukiwań podwodnych w badaniach archeologicznych* [The Utility of Underwater Research in Archaeological Works], "Wiadomości Archeologiczne", Vol. 26, p. 63 fol. Also the application of phosphate methods in Stara Kouřima, Czechoslovakia, led to the direct discovery of burial places with disregard of classical digging and perpendicular boring. This method proves to be indispensable to the research of skeleton cemeteries, battlefields, moreover "craals" and to the determining of the reach of settlements, etc.

[4] W. H e n s e l, *Bariera dźwięku* [The Barrier of Sound], "Kwartalnik Historii Kultury Materialnej", Vol. 3, No. 4, p. 674 fol. For instance the use of cameras for photos taken underground in Italy, on the ancient Etruscan territory is now called photographic plummet. Z. R a j e w s k i put forth a similar idea proposing the use of a periscope for observation of some underground objects.

[5] The development of Lusatian settlements has been extensively discussed in an article of Z. R a j e w s k i, *Osadnictwo ludności z kulturą łużycką we wczesnym okresie epoki żelaza w Biskupinie i okolicy* [Settlements of Lusatian Culture Population, of an Early Iron Age Period in Biskupin and its Neighbourhood], "Archeologia Polski", Vol. 2, 1958, fasc., 1 p. 7—31, and the total about settlements of Primitive Ages in Biskupin and surroundings in an article of the same author published in "Wiadomości Archeologiczne", Vol. 24, p. 165—188, *Osadnictwo w czasach pierwotnych w Biskupinie i okolicy* [Settlements of a Primitive Age in Biskupin and Surroundings].

[6] For instance the problem of extracting peat (smogor) in an early Iron Age has been ascertained in Danemark. It is most probable that this kind of peat was also dug by our ancestors in early mediaeval centuries. This suggestion is supported by finding certain objects in Biskupin and meeting a settler named "Smogorz" in Stare Biskupice (c.f. *O metodzie...* [Methods of...], p. 12, point 1.). Lately in Kołobrzeg places of salterns are about to be discovered.

[7] A number of experiments in the scope of primitive achievements or architecture may practically be carried out only in field work, quite near to disclosed archaeological objects for a simultaneous comparison. Z. R a j e w s k i, *Metoda doświadczalna w badaniach archeologicznych* [Experimental Methods in Archaeological Research], "Z otchłani wieków", Vol. 23, p. 5—13.