salem. On receiving this peace treaty [8] they opened the gates of Jerusalem to the Muslims, and so ʿUmar and all the Muslims entered in. ʿUmar then asked the Nabatites, the people of Palestine, to clean the holy places and the temple, for everywhere were great heaps of rubbish.

Then ʿUmar came (to the place) and Kaʿb [9] with him and said (to Kaʿb): „O Abū Isḥāq, do you know where is the place of the Rock". He answered: „Measure from that wall over there so many yards then dig down and you will find it". Then they dug there, which then was a heap of rubbish and (the Rock) appeared. Then ʿUmar asked Kaʿb: „Where do you think we should have the Qiblah of the mosque"? He replied: „Behind the Rock, so it will thus include the two Qiblah's: of Moses and of Muhammad, may God pray and bless them". ʿUmar said: „Well spoken, o Abū Isḥāq, you have been as shrewd as the Jews, for the most important part of the mosque is the front (where is the Qiblah)". Thus they built the Qiblah in front of the mosque.

Later on ʿAbd al-Malik Ibn Marwān built in the year 70 A. H. the mosque of Jerusalem, financing it with the tribute taken from Egypt during seven years. Then he built the Dome of the Rock. On the top of the dome he put eight thousand bars of copper painted with gold leaf, each bar having the equivalent of seven and one-half drachmes of gold. He also gave one-hundred mithqāls (drachmes) for covering the crowns of the columns with gold leaf. The outside of the Dome is covered with plates of lead. The length of the Mosque in Jerusalem was seven hundred and fifty five royal yards or the so called yard of Solomon, peace be upon his soul, which is equal to three spans, and the width is four hundred and fifty five yards. It also contains six hundred and thirty four cylinders, and the number of columns at the Dome of the Rock is thirty, and in the mosque hang five thousand lamps which are lit every Friday evening.

[8] The treaty which is known as al-ʿUhdah al-ʿUmaryyah, which is still in the possession of the Patriarch of the Orthodox churches in Jerusalem.

[9] Kaʿb al-Aḥbār † 652 or 654 in Hims (Syria) a Jamanite Jew, who accepted Islam under one of the first two caliphs, and acted as a teacher.

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ON ARCHAEOLOGICAL PRAXEOLOGY

The title may seem to be a paradox. For praxeology developing lately in Poland ever more intensely, chiefly owing to the pioneer's works of Professor T. Kotarbiński, is concerned, to put it shortly, with a general theory of efficient activity, or — after the more precise definition of Professor Kotarbiński — it is a study of efficacious activity. In other words, the scope of interest of praxeology covers an activity comprising all particular fields of science, therefore also the field of archaeology.

There is moreover another undoubtful circumstance, namely the mutual connection between a general theory and its particular branches of interest. Therefore, when speaking of single cases where principles of praxeology are applied, we can make use of adjectives qualifying the determined relations of a given field of science with the mentioned study. I thus consider it appropriate to use here the term: archaeological praxeology. Its objectives will, however, be certainly different, i.e. more detailed, than the general aims suited to mathematics [1].

Getting more closely acquainted with various papers of theoreticians, as well as with those of practical workers' studies in the field of archaeology, would easily lead to the discovery of many statements, distinctly proving drifts towards the making use of praxeological methods, although the term itself does not appear in their works. I venture even to remind the readers that

[1] Cf. for instance T. Pszczołowski, *Matematycy interesują się praxeologią* [Mathematicians are interested in Praxeology], „Prakseologia", No 29, Warszawa 1968, p. 203 and fol.

the undersigned had often followed this very direction in his articles [2].

One of the tasks of archaeological praxeology ought to be the elaboration of such an organisation of work, and of such particular appropriate methods, which would allow the possibly shortest way of realizing the general aim of some research undertaken. It is well known that archaeological investigations are particularly expensive and require an immeasurable amount of time. There is, therefore, a main social interest and the urgent need of skillful dealing with a highly qualified team of workers, that lays on archaeologists the duty of making the widest possible use of the achievements of praxeology. There does not indeed exist any branch of archaeology in which general directions resulting from the assumptions of praxeology would not be necessary. Three activities, however claim its very essential agency, they are: 1 — careful preparation of the proposed research, 2 — organisation of the working team and an appropriate division of labour, 3 — skillful use of detailed methods and of the assistance of auxiliary disciplines.

Point 1, — indicates a very essential matter, many a time disregarded by archaeologists (who have often indeed — though mostly in the past — achieved important discoveries only by accident), which is preparing an appropriate question sheet. This is especially important in every team work, although very necessary also to individual investigation. A learned man will always dress an enquiry for himself, were it even only a number of questions not put down on paper.

Point 2, — concerns such a model of planning team work that would avoid superfluous hands, but would take care to employ those, whose absence might hinder progress. It is clearly difficult to employ steadily people whose share in some particular part of the research (were it even an important fragment) should be dispensable. The enterprise ought therefore be organized in a way, which would allow a swift summoning of those specialists to the

[2] Cf. for instance W. Hensel, *Bariera dźwięku* [Sound Barrier], „Kwartalnik Historii Kultury Materialnej", Vol. II, 1955, p. 677 and fol.

desired spot. A proper organisation of work requires also perfect choice of manpower and its appropriate distribution. Were this section of the enterprise neglected, due to a careless organisation, a serious waste of means would be sure to follow. Their choice must rely on a good knowledge of the area in which the research is to be carried out, and making use of positive technical methods.

The matter ought moreover be treated far wider, which means linking the organisation of work to a whole technical background forming the team's equipment. A primitive technical and material background would infallibly lead to the extension of research in time and to its imperfect documentation. Such shortcomings often appear in archaeology. Objections are mostly answered by the declaration of a lack of means, the deficiency of which has necessarily led to such a misorganisation. This is precisely an example of a false approach to the matter and a classical sample of „bad work". For no field research should be undertaken if we do not dispose of means allowing to manage it in conformity with the principles of scientific workmanship. Special care must be applied to saving precious time, which means accomplishing a given task with possibly swiftest progress. Any other kind of action would lead to such an extension of the duration of work, that the investigation achieved would in the end hardly be a new contribution to the advancement of science. The only exception admissible are works of a rescuing type. The danger of complete destruction menacing a precious object, requires indeed immediate enabling, (were it only its partly) salvation, to the benefit of science and society.

Principles of good work are obliging not only in field research, but also in office study. A very important and delicate matter comes here forward, i.e. the problem of making proper use of people according to their abilities. The purposeful making best use of those who complete documentation, as well as drawing perfect profit of the idea itself, remains still to be discussed, taking into account its various meanings in different disciplines. I needn't stress the fact, that the very essential matter represented by scientific documentation, important for every field of science and especially for archaeology, is till now in our study practically at its initial stage.

The very simplified system of scientific titles and degrees causes people engaged in archaeology to lose the feeling of their own high value and usefulness in scientific research. The want of specialization tends to produce dilettantism. Thus the chance of highly qualified investigators and capable scholars trained for documentation, is often wasted.

That kind of deficiency will stand out particularly sharply at the time when we get eventually aware of the difference between the range of activity of archaeology and prehistory, and again when it becomes clear that the distinction and giving names to particular archaeological cultures, discerning their groups and types of relics, will have strictly technical (although weighty) importance. In other words, that deficiency will be still more keenly felt when we turn to a fuller study of the whole historical process in far remote ages, not limiting our research to the description and only formal analysis of the monuments discovered. It will then become clear that such a type of work must be based on a well prepared documentation, which will help to conclude the proposed task within a reasonable spell of time.

Point 3, — The success of every enterprise is determined not only by an appropriate choice of sources and their expert documentation, but also due to general methodological principles, and rightly applied detailed methods within the main discipline, assisted by a number of auxiliary ones. The scientific value of an appearing dissertation and its modern quality are not proved by the number of methods applied, but by employing them to good purpose. We do not strive to produce the type of work only for the sake of art, but to acquire sound answers to all questions, or only to one question addressed. The skillful selection of sources, as well as the choice of righful methods should be a just criterion of the estimate of a given publication. This remark concerns all stages of an archaeologist's work.

In a paper quoted above, entitled *Sound Barrier* and published several years ago, I mentioned a prticular case of thoughtless procedure in archaeological activity, which was neglecting the advantage of that very useful agent in the elaboration of so called mass relics, (such as fragments of earthenware and animal bones). A mechanical elaboration of an entire material leads to the publication of bulky descriptive papers, having hardly any value for the advancement of science. This is a specific example of „bad work" among archaeologists, all the worse for its involving heavy financial means and wasting the onerous effort of men, often highly skilled scientific workers.

Scientific toil has to take a margin of risk into account, i.e. the danger of making a mistake. Progress is never free of slips and only brave experimentation can assure its advance. New methods are its milestones. However, a wide zone lies between experiment and practice. This means that a successful end of the experiment ought necessarily be the wide making use of its fruits, i.e. of thus acquired new methods to support further investigations. We should therefore have the courage not only to find new solutions, but also to throw swiftly away those methods which have proved useless.

One more example would be the question of applying the electric resistivity method. Practice has shown that — in its present classical form — it can only prove useful to the research of certain types of objects, it should therefore, by no means be considered a generally applicable method. A praxeological approach to the matter commands drawing proper conclusions from this observation and giving up its use in many cases of research.

I could indeed quote more examples proving that praxeology ought to be applied as widely as possible in archaeology. It also calls for a more detailed elaboration than what might be fitted into this short article.

Its intention was to provoke discussion on this very important subject, and also to add my modest contribution to the respectful recognition of the scientific merits of Professor Tadeusz Lewicki, who is so actively working in the field of Oriental studies and so eagerly cooperating with archaeology.