



## The distribution of axes in alpine metamorphic rocks (eclogites and jadeitites), in the central and southwest part of France

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Numerous studies, led for some years, have shown the very wide distribution of axes in alpine metamorphic stones in a big part of Europe. Attention was especially focused, in France, on the big axes, exceeding 15 cms in size. Most of them had a prestigious role for the populations.

We chose to study this phenomenon in a detailed way by means of an exhaustive inventory of all the artifacts of all sizes coming from several „counties“ of the central and southwest part of France. The Charente and Charente-Maritime are two „counties“ of the southwest of France, whereas the other places are mentioned in the centre of the country.

We set an exhaustive list of all the axes kept in public and private collections from the various „counties“ involved. For some of them (Haute-Loire, Puy-de-Dôme), this task is almost finished, at least as far as public collections are concerned. Because of a large number of small private collections, it is very difficult to have a real idea of their importance. On the contrary, we still have axes to be inventoried in the museums of the other departments. So the present list of artifacts (1564 axes) we can give now is not a final one and will be completed after further studies.

The very big majority of axes were picked up on the ground, without precise archaeological context. So, a chronological study of imports is impossible.

Together with studies by simple visual exam, petrographical analysis in thin blades were made, as well as a study by spectroradiometry (M. Errera) for the „counties“ of the Centre of France.

Our study is focused on eclogites and jadeitites. We voluntarily put aside the case of serpentinites, because it is so difficult to tell serpentinites of alpine origin from those of the French Central Massif.

The alpine metamorphic stones form a variable proportion within the groups of axes. Generally speaking the regions of the centre are richer in imported cliffs, maximum being reached (affected) in the Haute-Loire (23 % of axes are there eclogite alpine, 6 % in jadeitite) (Fig. 1). Going away eastward, proportions decrease quickly, but eclogite and jadeitite remain very present, in spite of the

estrangement (more than 600 km separate Charente-Maritime of the potential shelters). One notices the important differences which can set is it and the West of the same county (Cantal) cut in two by a mountain massif.

### Results

The alpine metamorphic cliffs form a variable proportion within the groups of axes. Generally speaking, the regions of the Centre are richer in imported rocks, the highest percentage is reached in the Haute-Loire (there, 23 % of axes are alpine eclogite, 6 % jadeitite) (Fig. 1). When moving eastward, proportions decrease quickly but eclogites and jadeitites remain very present, although the Charente-Maritime is more than 600 km away from the potential deposits. One notices important differences between the West and the East of the same „county“ (Cantal) cut in two by a mountain massif.

It looks as if axes must have been carried away as finished tools. It is quite certain for some big ones with a typical shape that can be found in other regions of France (Fig. 2). It gives evidence of a standardized production on the very place where tools were made. Some small axes result from the transformation of initially bigger axes. It is difficult to know where this reshaping was made.

In the Centre of France, notably in the Haute-Loire, these alpine rocks were used, even when the same kind of rocks (eclogites of Velay) were present on the spot and could have been used. This phenomenon is another proof of the dynamism of the export of the alpine metamorphic rocks.

Generally speaking eclogites are more frequent than jadeitites. The geographic origin of eclogites is not quite clear yet, the eclogites forming the major part of the axes of the Centre of France would might come from Ligurie (Italy, Fig. 3).

### Conclusion

The wide distribution of Italian metamorphic rocks shaped as axes illustrates the importance of the flows of



traffic of raw materials all though the Neolithic. The quantity of products even leads us to think of the existence of real commercial currents. Of course, we have no idea of the products which may have been given in exchange by the populations receiving these axes. Ethnographical researchs made by P. Pétrequin in Papua-New Guinea show that they may can be of very different nature, including perishable or even immaterial products.

With the cooperation of Michel Errera.

Fig. 1 Proportion of axes in alpine metamorphic stones (in % for every geographic sector)

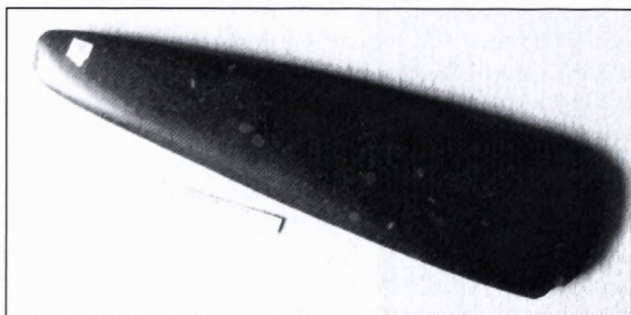
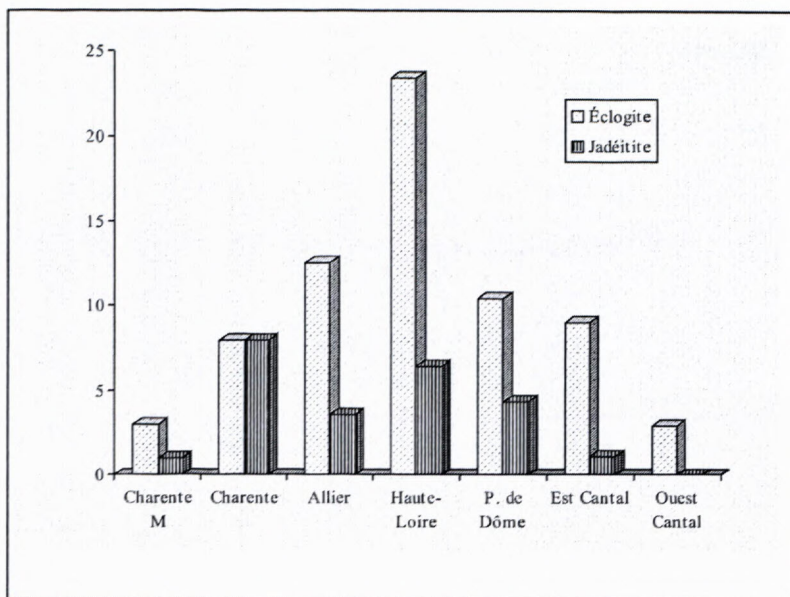


Fig. 2 Axe made of eclogite stone, 19 cm size, discovered on the site of Corent (Puy-de-Dôme). The polishing is remarkable.



Fig. 3 Axe polished in éclogite alpine discovered(found) to Saint-Bonnet-Près-Orcival (Puy de Dôme, France). Collections of the Bargoin museum of Clermont-Ferrand. Photo F. Surmely