



BQY/VSG diversity noted for the lithics is especially interesting, with the introduction of techniques that attest to increased expertise which the authors attest to the migration of an external group.

The results of this work have allowed Denis et al. to discuss multiple influences on the technical systems they identify. Rather than trying to fit the data within a single model, the authors demonstrate the need for nuance, considering the social changes associated with Neolithic migration and interactions, as multifaceted and dynamic. As such, they are able to show not only the influence of contact with other groups, but that the apparent migration of external groups does not simply lead to the replacement of the crafting heritage already established at the sites they have examined.

In concluding the authors acknowledge, that as scholars push the existing state of knowledge (in this respect analysis of raw materials would make an especially important contribution), the picture presented in the paper may alter. Future work will hopefully fill in current gaps, particularly in terms of how far the trends identified extend, and the extent to which the lithic and ceramic pictures diversify on a broader geographical scale. It is certain that based on such results, future work should adopt the comparative approach presented by the authors, who have demonstrated its explanatory potential for understanding the technical and cultural groups we all study.

[1] Leroi-Gourhan, A. 1971. *Evolution et techniques I- L'Homme et la matière*, 2nd Edition. Albin Michel: Paris, Leroi-Gourhan, A. 1973. *Evolution et techniques II- Milieu et techniques* 2nd Edition. Paris: Albin Michel.

[2] Mauss, M. 2009 [1934]. *Techniques, Technology and Civilisation*. Edited and introduced by N. Schlanger. New York/Oxford: Durkheim Press/Berghahn Books.

[3] Lechtman, H. 1977. *Style in Technology: some early thoughts*. In H. Lechtman and R.S. Merrill (eds.) *Material Culture: styles, organization and dynamics of technology*. Proceedings of the American Ethnological Society 1975, St. Paul, 3-20.

[4] Gosselain, O. 1992. *Technology and Style: Potters and Pottery Among Bafia of Cameroon*. *Man* 27(3) 559-586. <https://doi.org/10.2307/2803929>.

[5] Wenger, E. 1998. *Communities of practice: Learning, meaning, and identity*. Cambridge: Cambridge University Press.

[6] Denis, S., Gomart, L., Burnez-Lanotte, L. and Allard, P. (2023). *Transmission of lithic and ceramic technical know-how in the Early Neolithic of central-western Europe: Shedding Light on the Social Mechanisms underlying Cultural Transition*. OSF Preprints, gqnht, ver. 5 peer-reviewed and recommended by Peer Community in Archaeology. <https://doi.org/10.31219/osf.io/gqnht>

## Reviews

### Evaluation round #1

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Version of the preprint: 3

### Authors' reply, 19 April 2023

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Decision by [Clare Burke](#), posted 10 February 2023, validated 10 February 2023

Revision

Dear Solène, Louise, Laurence and Pierre,

thank you for the submission of your pre print which offers a very interesting case study of cross craft examination. Whilst the case studies discussed offer significant insights into the topic of spheres of shared techniques and identity, I agree with the reviewers that the text needs additions and edits to help clarify and strengthen your arguments and some of the terms used before it can be recommended.

Please consider the reviewers comments and submit an revised version of the pre-print.

Best

Clare Burke

## Reviewed by **Bogdana Milić**, 24 December 2022

### **Overview&general opinion**

This preprint by S. Denis et al. is a valuable and significant contribution to the ongoing debate about the relation between the LBK and post-LBK entities, which, by looking at two different find categories, uses the evidence from the Early Neolithic in Belgium to investigate in detail the nature of cultural transition in the central-western Europe, and thus address a bigger picture and a number of issues that relate to socio-economic systems. The manuscript introduces many, and often overlooked important aspects, which can shape our understanding of the intercultural interactions, connections and exchange, and focuses on data deriving from technological analyses of lithics and ceramics aiming to interpret the transmission of technical know-how, levels of production skills and shared knowledge. This is a particularly successful example of how two different subjects (lithics and ceramics) can be brought together despite different methodological approaches employed, and follow the same line of research about a particular topic. Although the method is not entirely novel, it definitely demonstrates a "revival" of the synergy between detailed studies on technique and the strong knowledge of theoretical background and wide regional material culture by the specialists in the subject.

The following text gives the comments on strengths and weaknesses of the manuscript, of which strengths are undoubtedly prevailing. In addition, the PDF with reviewer's remarks on the clarity and language issues is provided to avoid listing of particular, rather minor points.

### **Preprint's strengths**

The title and the abstract perfectly explain the content of the study, by being straightforward in bringing in the topic.

*The introduction* section is concisely presenting the theoretical framework and proposing a research question that will be explored through a number of details regarding the production techniques and technical traditions and systems. It clearly outlines the current issues in understanding the Neolithic transition in the area of interest, by introducing first the general paradigms and turning then the focus on the regional character. The authors provide a good overview on the literature, adequately citing both the classic and the most recent references.

*The materials and method & results* sections represent a bulk of data regarding not only the evidence from two case studies, but also general observations made by most welcome first-hand analyses of a suitable number of artefacts (especially in terms of lithics, with the relation between technology and raw materials), which are further supported with a number of figures and plates. The supplementary material also contributes to transparency of analyses and recording system details.

*The discussion* is the strongest part of the manuscript. It summarizes important aspects and key topics which were given in the introduction, such as technical traditions or learning networks to investigate the nature of cultural mechanisms on a bigger scale. This is done in a very successful way through nicely separated topics concerning the overall significant levels of comprehending the social background. The contextualisation of the main evidence from Belgium is provided by introducing previously published conclusions from different parts of central-western Europe, building up the stage to explain primary objectives of the paper, given earlier in the text. There are few arguments that push forward certain agenda regarding transition and local/exogenous origin of production techniques and technical tradition and behaviours, which could have been represented in

a more careful or delicate way. However, this attempt should not be evaluated with a negative note, taken that the authors possess a great knowledge of the broader region, which is clearly visible from cited bibliography and their own studies of other assemblages in a larger area, in and around the case studies.

*The conclusion* appropriately brings back the first aim of the study, concerning the evaluation of current models for the Neolithic transition in this particular part of Europe, and summarizes the results of the study by implying the significance of looking at detailed technological features of lithics and ceramics. It presents some open questions for further research and proposes carefully a few potential motives behind social dynamics to support the current argumentation.

I believe that this paper can be a strong reference for the future studies of interregional interactions and exchange which goes beyond traditional approaches, and opens up debates on different levels of production, from an individual, domestic to a general, broader and regional ones.

#### **Preprint's weaknesses**

There are several issues in the presentation of data, which occasionally brought difficulties in understanding the primary evidence, mainly coming from a detailed description of features coming through technological study. This is particularly affecting the clarity of the section *Materials and Method*:

-I presume that for the reader who is not particularly familiar with the region and chronology, despite the given map, would be crucial to recognise from the start that the two sites are not occupied at the same time, which will therefore bring the data in a certain way. The same is valid for the representation of details on lithics and ceramics, which, in my opinion, eventually ended up being presented in a slightly imbalanced way. This imbalance is overcome in the discussion, however I would suggest a little reworking of the materials and method section in relation to results. In the representation of data one can often get lost in the bulks of text especially due to switching from one to another site. This can be possibly resolved by either proposing a single line of data presenting (first one site, then the other, also for different questions and material categories), or by making sub-sections so the reader can easily follow the record.

-I don't necessarily see that the lack of latest pottery results from the Vaux-et-Borset made any harm for the study, however it would be much clearer for the reader if this was mentioned at the end of the introduction together with a line that the two sites provide different evidence in terms of chronology (see lines 134-137, a note on this issue can be introduced here for instance). On the other hand, sections on ceramics are shorter and are slightly easier to follow when it comes to presentation of the material, while both results on lithics and ceramics (section 3) were followed without any difficulties. In particular, lines 311-316 were slightly confusing, as the given figure and table only concerned the record from Verlaine, leaving the reader without sufficient understanding of the second assemblage, for which a reference is provided instead. Even if the material has been published, it would be good to see that explicitly written, with a brief demonstration of the main results on the material from that site.

#### **Comments on figures and tables**

This manuscript gives a good number of figures and tables, which support the text in most parts on an adequate way. Figure 5 related to lithics, and figures 6 and 7 concerning pottery are greatly designed to simply explain and visually present the technical traditions/ways of doing, which are given in the text by rich and sometimes long explanations and descriptions.

Further remarks on several unclear points are given in the PDF. They concern the moving of figure one below the paragraph which is currently ahead in the submitted version and mark typos in the text and issues with the clarity of basic statistics in the tables.

#### **Comments on the bibliography**

As previously said, a rich set of references, among which there is a coordinated citation between the older and more recent bibliography, represents a strong point of the manuscript. Moreover, the authors provide useful references for the reader who wishes to explore theoretical concepts apart from the references that relate to the particular geo-chronological framework of the study.

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## Reviewed by anonymous reviewer 1, 27 January 2023

**Title:** The title clearly reflects the content of the article.

**Abstract:** The abstract is concise and presents the main findings of the study. I suggest the Authors to write in the Abstract what BQY/VSG stands for, as they did for LBK.

**Introduction:** The introduction in my opinion should be improved by connecting the single case study to broader research questions pertaining the LBK- post-LBK debate. I would also improve the theoretical basis of your argument. This in my opinion is the weakest part of the introduction and of all the paper, the difficulties in connecting the single case study and its (very good) results to the wider picture.

line 81: Personally, I find Coudart's use of the terms "civilisation" and "European identity" quite controversial and I would not use it in a paper.

89: I am wondering if "change of paradigm" is the best expression to describe this phenomenon.

92: Transition means all and nothing, I would suggest to explicitly define here in the introduction what transition is, so you can connect in a meaningful way what are these social mechanisms you are referring to (102).

105: why is your case study relevant within the framework of the general problem you are addressing? I find the passage between the macro scale (LBK- post-LBK in Europe) and the micro scale (Middle Belgium) not addressed properly. Why the material evidence is unrivalled (104)? You mention a "debate" (108), what is this debate about? Only chrono-cultural connections? How this debate is connected to the general one concerning the LBK? From line 114 you are only referring to the region object of your case study, but it would be interesting to understand how the problems you address at regional level are connected to the research question of neighbouring regions and the entire phenomenon. Of course I am not suggesting to write extensively on this, but as it is your introduction looks detached from the bigger LBK issue that you are mentioning at the beginning.

118 to 130: I suggest to be more explicit in explaining what these scenarios are about. What does the authors you quote mean with "reconstruction of regional identities"? Is this e.g. a social or cultural identity? Which type of identity are they referring to? Group identity? How is the Mediterranean influx recognisable in the material culture?

131-132. I would suggest to write down more explicitly what endogenous and exogenous mean. I mean in terms of actual explicit formal models of cultural/societal change.

139-: This sentence reminds too much the structure of a project. I would suggest to rephrase it.

I would pay attention to consistency: 6th or sixth millennium? Use one way of writing it throughout the manuscript.

**Materials and methods:** 211-213: I would explain better the connection between these two crafts here. Why can lithic and pottery be addressed together? Which is the benefit of this cross-craft study based on chaînes-operatoires? You do this in the discussion (539-ff) but I strongly suggest to succinctly explain it also in the methods section.

238-239 : again, I think that identity should be better defined here, which type(s) of identity are you talking about? I suggest to refer to this by starting e.g. from the work of one of the Authors you quote, for pottery V. Roux.

244-246: how would you extend the conclusions of your study to other parts of Europe? In which way are you going to do this?

321: in my opinion far better results on ceramics could have been reached by combining manufacturing to petrographic analyses. I am of course not suggesting to undertake such study, rather to take into consideration that the data from ceramics are not that indicative if you take into account only the manufacturing process that you observe on the pots' surface.

**Discussion:** 566-567: explain what these mechanism are, it is not enough to name them.

587-588: permanence of techniques equal to continuity of population...what does "continuity of population" actually means? These general definitions are not enough to explain such complex phenomena as the ones

you are addressing in your paper. Change in techniques is for you equal to change in demography? Is it really a 1:1 equation?

**Conclusions:** 698-701: I find the use of labels like "continuity of the peopling", "migration", "syncretism" somehow problematic as these models are very generic and here they are even given for granted, without any reference to formal and explicit models. Taking for example "migration", in the last 15 years there have been so many publication targeting this topic, that referring only to literature published 20 years ago and not on the recent studies focusing on this period is not acceptable. Given the effort that the Authors put into the analysis of the material record, and their good and sound results, I suggest them to bring to the same level of scientific quality the discussion of their data against the existing state of the art .