



An insight into traditional method of food production in India

Otis Crandell based on peer reviews by **Atefe Shekofte**, **Birgöl Ögüt**, **Andrea Squitieri**, **Antony Borel** , **Atefeh Shekofteh** and 1 anonymous reviewer

Norbu Jamchu Thongdok, Gibji Nimasow & Oyi Dai Nimasow (2021) Ran-thok and Ling-chhom: indigenous grinding stones of Shertukpen tribes of Arunachal Pradesh, India. Missing preprint_server, ver. Missing article_version, peer-reviewed and recommended by Peer Community in Archaeology. <http://doi.org/10.5281/zenodo.5118675>

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This paper [1] covers an interesting topic in that it presents through ethnography an insight into a traditional method of food production which is gradually declining in use. In addition to preserving traditional knowledge, the ethnographic study of grinding stones has the potential for showing how similar tools may have been used by people in the past, particularly from the same geographic region.

[1] Thongdok Norbu J., Nimasow Gibji, Nimasow Oyi D. (2021) Ran-thok and Ling-chhom: indigenous grinding stones of Shertukpen tribes of Arunachal Pradesh, India. Zenodo, 5118675, ver. 4 peer-reviewed and recommended by PCI Archaeo. doi: <https://doi.org/10.5281/zenodo.5118675>

Reviews

Evaluation round #2

DOI or URL of the preprint: <https://doi.org/10.5281/zenodo.5118675>

Version of the preprint: Ran-thok and Ling-chhom: indigenous grinding stones of Shertukpen tribes of Arunachal Pradesh, India

Authors' reply, 21 July 2021

The point-to-point reply has been attached as a PDF file. The questionnaire has been mentioned in the text as Supplementary 1 but it could not be uploaded as there is no option in the submission system. However, it has been appended at the last page of the reply to the recommender's and reviewers' comments. In case a copy of questionnaire is required at the later stage, we will be happy to submit it at any point of time.

Regards,

[Download author's reply](#)

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Decision by [Otis Crandell](#), posted 19 July 2021

Revisions recommended - [Ran-thok](#) and [Ling-chhom](#)

Recommendation - 2nd round

This paper has been reviewed again (second and final round of reviews). Two of the reviewers recommended that the authors make a few additional revisions that they didn't make after the first round of reviews. The reviews are copied below.

If the authors make the suggested revisions, the paper should be ready for publication.

Reviewed by [Antony Borel](#) , 12 May 2021

This revised version of the paper "**Ran-thok and Ling-chhom: indigenous grinding stones of Shertukpen tribes of Arunachal Pradesh, India**" has been improved from the previous one. Illustrations have been added and/or improved.

However, we can regret that the methodology is still not very clear. The interviews or at least the questions asked are still not provided and are lacking to properly assess the reported results.

In my previous review of this manuscript, considering this paper as a small descriptive report, I had no much comment but I have pointed out in particular the sentence: "However, declining availability of raw materials such as wood and bamboo has encouraged Shertukpen artisans to adapt to their environment and become skilled experts in making stone tools.". I mentioned that this statement could be interesting after clarification to precise if this was the authors' observation or suggestion or if the Shertukpens explained that to them. In this revised version this has been modified into "The availability of raw materials such as stone and wood in the surroundings has encouraged the Shertukpen artisans to become skilled experts in making stone tools.". This new statement is contradictory with the previous one as, before, the decline of wood and bamboo led to the stone tool production expertise while now this expertise is the results of the availability of both stone and wood. Therefore, which is closest to reality?

I still think that such report is important to "secure" this heritage and also because it may give clues to interpret better archaeological materials. However, in its present form, it is a descriptive and potentially subjective report rather than a research paper which would provide clear, precise and rigorous methodology with assessable statements.

Minor comments:

Table 1: This table is not well formatted which makes it difficult to read and confusing. The list of the villages in the first column is useless, they are provided in the text. Then, the types of grinding stones could be the first column with each type as different separated lines. The other columns could be their different information of size and the raw material corresponding to each type could be given. In the present format, it is not clear if each raw material is used for each type of grinding tools.

Actually, this table may be removed as all the details are already provided in the text.

Page 6-7: "The the wooden tool is 20cm in diameter and 60cm in height" => remove one "the"
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Reviewed by [Andrea Squitieri](#), 26 May 2021

I can see that the paper has been greatly improved from the first version. The terminology is now more clear, and I like the use of the table to sum up information.

Only small corrections:

1. grinding-stone / grinding stone. Both forms appear in the text. Only one should be used and I think it should be grinding stone (much more common than with "-")
2. Line 236: craftspeople -> craftspeople

Reviewed by [Atefeh Shekofteh](#), 18 June 2021

I have reviewed the paper entitled "Ran-thok and Ling-chhom: indigenous grinding stones of Shertukpen tribes of Arunachal Pradesh, India" for the second time.

In my opinion, now, it is acceptable for publishing.

Evaluation round #1

DOI or URL of the preprint: [10.5281/zenodo.4529202](https://doi.org/10.5281/zenodo.4529202)

Authors' reply, 09 May 2021

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Decision by [Otis Crandell](#), posted 05 April 2021

Revisions significant recommended needed

This paper requires some significant revisions. I have summarised the recommendations of the peer reviewers in the attached file. The paper should be reviewed again following revisions.

Otis Crandell

[Download recommender's annotations](#)

Reviewed by [Antony Borel](#) , 12 February 2021

Overview and general recommendation: In this paper, Thongdok, Nimasow and Nimasow are reporting the results of their observations of the traditional use of grinding stone implements by the Shertukpens, an Indigenous tribal group from Northeast India. They explain how such grinding stones are build and how they work. They also briefly discuss the relationship between these traditional grinding stones and the quality of the produced flour as well as their place in the socialization processes within the group. The paper is concise, clear and well structured. The descriptions and illustrations are well selected and informative. I think that such

report is important to “secure” this heritage and also because it may give clues to interpret better archaeological materials. I have only a minor comment to do (see below) so I think that this paper can be recommended.

Comments: In the Introduction: “However, declining availability of raw materials such as wood and bamboo has encouraged Shertukpen artisans to adapt to their environment and become skilled experts in making stone tools.” Could you please make clear if this is your observation or suggestion or if the Shertukpens explained that to you? Indeed, the direct link between the increase of stone tool production and decrease of woody raw materials is an interesting observation if this link is supported by concrete data. This may bring interesting element of discussion for the interpretation of some archaeological material in certain cases (for example concerning the bamboo hypothesis in South-East Asia, even if the contexts are different).

p.5 line 3: “The the wooden tool is 20cm” => one “the” should be removed

p.6 line 3 and 4 from bottom: “which noticeably improve the flavour” & “gives it a subtle smokey flavor” => please normalize choosing between “flavor” (US) or “flavour” (UK)

Reviewed by **Andrea Squitieri**, 26 March 2021

Overall, the topic of this paper is very interesting as it sheds light on a traditional grinding practice that is dying out in modern times. There is, however, margin of improvement.

1. The information provided in the introduction, results and discussion should be better organised and laid out in a linear way.

2. The terminology is not consistent throughout the paper. Only in the end, a glossary is offered. Terms in local language should be distinguished from those in Hindi, and both should go in italics. The reader has to know before reaching the glossary what language is being used.

3. The English terminology referring to grinding devices is not consistent. Once a term is chosen, then this has to be used throughout the paper. There are terms that appear at mid-paper that have not been introduced before (e.g. what is the relation between chakki mills and ran-thok? different languages for the same device? is the ran-thok a form of chakki mills or a part of them?). The same applies for modern devices: these are referred to in many ways, which brings confusion while reading, e. g. is “roller-milled” referring to mechanical devices? I guess so, but it is not clear as the term “roller-milled” appears towards the end for the first time. Perhaps the authors can introduce the terms in the beginning of the paper, they may choose to use “traditional mills” vs “mechanical mills”. Then they may divide traditional mills in categories (Neolithic “back-and-forth querns”, then “rotary mills”). The reader is left with some terminological doubts: for example, are Chakki Mills always rotary mills?. Terminology is fundamental and should really be clarified in the beginning of the article.

4. The mentions to the ancient (pre-modern) grinding devices are not precise. The paper mainly focuses on a type of rotary device which does not appear in the Middle East and Central Asia before 1-2 century AD. Perhaps the same applies to India? This should be briefly discussed by the authors. The reference made in the paper to the Neolithic grinding devices is not clear: grinding rotary devices did not exist at that time. If the authors mention the Neolithic in order to speak about generic, pre-modern milling devices (but not specifically rotary devices), then this should be made clear.

5. I have the impression that the two main points that the authors want to highlight are: the link between traditional grinding and socialising, and the quality of the flour, which is higher when traditional grinding tools are used. Are these two aspects that have the Shertukpens maintain this traditional technology? Not clear if the authors think this. In any case, these are two very interesting aspects that should really be highlighted with more emphasis as results of the paper.

6. Concerning the quality of the flour produced with traditional grinding devices, the authors say that this flour is preferred by people as it has a better taste; however, they add, flour from mechanical devices is much more consumed. This sounds like a contradiction. Perhaps the authors want to say that, despite the taste, people tend to consume more flour from mechanical devices as this is cheaper and more accessible? If this is the case, it should be explained better.

6. Finally, there are some recurrent mistakes: "grounded" instead of "ground" (p.p. of "to grind"). "Ground flour" does not make much sense: flour comes out of grinding, it is not ground itself. "Bedostone" does not sound very well. I would suggest the authors to use "lower stone" to name the stone on which the "upper stone" is used for grinding (rolled or pushed).

7. A revision by an English native speaker is highly recommended.

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Reviewed by **Birgöl Ögüt**, 22 March 2021

The article is concise and easy to understand. It provides interesting insights into the use of stone objects in an otherwise little known region of the world. It highlights the traditional use of stone objects to extract flour and process nuts and other foods by part of the population of the Shertukpen tribe, thus offering insight into the still-preserved tradition of using these objects and the people who use them.

However, in the first place I had difficulty classifying the article into a specific research area. I am not sure if this article is a documentation of "cultural heritage", a kind of ethnological study/cultural anthropological study or a sociological study. Although the objects are studied, it is very interesting that the users are also included. However, it is not clear from the text what the goal of the study is. Especially in the abstract and in the introduction, I miss a clear statement of the goal of the work.

The literature cited often refers to archaeological work. However, the subject is about modern objects and modern people. The interviews with the people who create and use these stones are a plus. But the data basis and the systematic evaluation of these is missing. The questionnaire with the questions that were asked to the people could be attached and then the evaluation, according to which criteria the statements that occur in the text were worked out. This would make the relation between the people and these objects better understandable.

In the description of the stone objects I also lacked a methodical approach and a data basis on which a systematic evaluation could be made. For example, I can well imagine that a simple *chaine opératoire* description could be used here for the manufacture. Little information is given about the manufacturers.

After that I would also separate the usage. I was wondering, are the manufacturers and users the same? Is there a specific professional group that makes these stones? Or do people make these objects according to their own needs? Are they also sold or traded?

In terms of use, I could very well imagine the description of the exact sequence of gestures that the users perform in order to use a particular object could be a good contribution.

After that, I would describe the manufactured product more precisely. All these steps would have to be gone through for each category of stones (once for Ran-thok and once for Ling-chhom).

Indispensable is to explain why these objects are so unique and why they are worth preserving. While this is implicit in the text, it should be made explicit. This can be done very well with comparisons from the region that could emphasize the special nature of the objects in the study.

In general, I find the material and the authors' dedication worthy of support and would recommend that after a thorough revision of the article, it should be submitted to someone working in the cultural anthropology field for review.

[Download the review](#)

Reviewed by anonymous reviewer 1, 25 March 2021

Dear editor and authors,

The article entitled "Ran-thok and Ling-chhom: indigenous grinding stones of Shertukpen tribes of Arunachal Pradesh, India" reports indigenous technology use and tradition on grinding stones where 2 instrumental

stone technologies are described for food processing, particularly cereals which by this mean acquire specific characteristics and qualities. The study is very interesting from an anthropological, ethnographic and ethnoarchaeological point of view by reporting an endangered material culture.

Overall, the article is interesting and has potential but shows some logical reason problems. Some phrasing needs revision as the message it is trying to convey is not always clear. There are also methodological information gaps that I express below in the form of questions. For this reason, I propose major corrections which include adding more information in the results section and rewriting sections of the article, particularly the introduction and conclusion.

A - Major corrections

Introduction and background:

As it was my understanding, the authors are introducing the reader to grinding stones and nutting stones technology from Shertukpen tribes. It is easy for the reader to get lost in the section. Particularly in the first paragraph: there is a lack of connection between ideas and some sentences seem isolated in a paragraph that becomes circular and repetitive (see e.g. minor corrections) 3).

- it is not clear whether the grinding stones and nutting stones technology presented in the introduction refers to a global or particular form of technology or particularly to the one developed by the tribes under study. In this sense, are the raw materials referred to in the second paragraph (beginning in "Nutting stones have...") the ones used in the study region in India or Texas (from the cited author)?

- In the 3rd paragraph authors indicate there are 26 major tribes and proceed to name 15 of them – what is the criteria of choice? I suggest rephrasing this.

- (last paragraph of intro) Authors indicate that the Shertukpens are "good at wood carving and stone sculpting". Then carry on with "However, declining availability of raw materials such as wood and bamboo has encouraged Shertukpen artisans to adapt to their environment and become skilled experts in making stone tools". - It is not clear whether stone technology is a tradition or a more recent adaptation. Overall, this paragraph is confusing.

Going forward there is also a lack of information about the area of study which I suggest being moved to after the intro and before the methods.

Methods:

This study is based on personal interviews, Focus group discussions and field observations.

- Authors indicate 120 households from 12 villages? Which?
- What questions were included in the interviews? What are the details of the interview population (gender, age, occupation)?

Results:

It would be interesting to see more details on the interviews described in the method section. Are there differences between villas in terms of raw material used; stone tool mean size; proportion of grinding tools and nutting tools.

Discussion:

Some of the problems with the introduction are present in the discussion – discourse needs to be reorganised to have a clear thread and to answer questions that are only implicit throughout the text.

- Suggest moving the first paragraph of the discussion to the introduction of the article.
- Not clear what "take care" means in this sentence. I suggest the authors rewrite the second paragraph – is confusing.
- Discussion focuses on women interaction during grinding activities. Some questions arise that could be answered in the results section such as: is this an activity performed only by women? What is the labour division – e.g. one group produces the tools, another group uses them?

- Are there differences or similarities between the households interviewed? If this is a first approach to the region technology from an ethnographic and anthropological point of view then it should be referred to in the introduction.

Conclusions:

In this section, I suggest avoiding having references or new information not mentioned prior in the article.

- The conclusion focuses too much on modern mechanical technology. What are the conclusions drawn from the analysis on stone technology?

- This first sentence seems to be a cited conclusion from other authors and for this reason, I suggest it be moved to the discussion sections.

- Authors conclude the technology is "environmentally friendly" – I suggest exploring more this idea in the discussion and elaborate more on this sentence.

B - Minor corrections

1 – 3rd line of introduction section: "...to human survival during the past years" suggest remove the word "years"

2 – 6th line of introduction section: change order to "Upper Palaeolithic and Neolithic" (for chronological consistency).

3 - 8th line of introduction section: remove "these implements are often called grinding stones".

4 - 4th paragraph of introduction section: remove ", etc."

5 - 7th line in results section: typo in "gething" - should be getheng

6 - 12th line in results: "both the stones" – remove "the"

7 - 13th line in results: remove "by the stones".

8 - 2nd paragraph in results: last sentence starting in "Further reports ...)" seems to be missing a verb.

9 - 3rd paragraph in results: "So, they (...)" change to "interviewed villagers" or similar expression to detail who "they" is referring to.

10 - Nixon-Darcus, 2014 thesis should be cited in the discussion paragraph about Ethiopia and removed from the conclusion.

Reviewed by Atefe Shekofte, 25 March 2021

The paper is a good report about indigenous grinding stones in Arunachal Pradesh of India, but before publishing it needs major revision:

Abstract: it doesn't include the method of investigation and the results of it.

Keywords are not accurate, I suggest: India, Arunachal Pradesh, Shertukpen tribe, Indigenous culture, Grinding stone;

Introduction: the motivation and question are not clearly presented. The history of grinding stones and their types of tools is poor.

Results: The type of stones is important on the quality of grounded flour and the reason that people choose them is fundamental when you want to do an investigation on the grinding stone. Also, it would be interesting if the origin places of these grinding stones were specified on the map. In addition, the types of wooden planks and the variety of them are important.

- The caption of the figures is too short, please explain a bit.

- The text inside the map is not readable.

- It needs a table including the places and the types of grinding tools with some more details such as size, types, materials, etc.

Discussion: the discussion needs to revise, it focused mainly on social interactions. But it needs to discuss the manufacturing of grinding stones and traditional methods as well as the reasons for the utilization of

grinding stones until now in some regions. Also, the types of stone should be considered and the accessibility of the stone from the mountain must be investigated because is effective in the usage of them.

Conclusion: is poor, it included some sentences from some references! It is better to revise and explain the achievements of your investigations.

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