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Studying the diversity of Central African harps¹.

Salomé Strauch & Sylvie Le Bomin²

Human societies share the ability to develop cultural traits and to make them evolve in different geo-cultural environments.³ Given the geographical dispersion of human societies and their vast cultural diversity, these changes are variable depending on both the populations in question and the nature of the cultural domains being studied. The mechanisms involved in the transformations of cultural artefacts are still relatively poorly understood.⁴ While it is easily possible to describe the diversity and therefore the results of cultural evolution at a given moment, the processes established by human societies to culturally distinguish themselves from one another have been little studied to date. Music and language are two of the cultural domains shared by all human communities on the planet.

Musical instruments are the material witnesses of the musical practice of human communities, be they of oral or written traditions. Few studies are yet devoted to geo-cultural area-specific comparisons in order to understand the existing diversity and variability in musical instruments. This is even more true in societies with an oral tradition, where studies can usually only

¹ The data for this article have been collected thanks to the financial support of several institutions: fieldwork in Gabon (Sylvie Le Bomin, 2017 to 2019) and documentary research in the Museum collections and the private collections by the Muséum national d'Histoire naturelle (ATM programme Kundi), the Labex BcDiv, the Alliance Sorbonne Universités directly (GeacMus Chair and the Emergence programme Kundi). The documentary research in Museum collections and private collections have been made by Géraldine Robic, Noé Coussot, Marie France Mifune, Sylvie Le Bomin and Salomé Strauch. Fieldwork in Cameroon (Susanne Fűrnis, 2018 and 2019) was financed by the Muséum national d'Histoire naturelle (ATM programme NGI) and the Alliance Sorbonne Universités directly (Kundi programme) or via the Institut for Heritage OPUS (ARCHIFANG), and documentary research by Susanne Fűrnis in the collections and the Phonogramm-Archiv of the Ethnology Museum in Berlin was financed via the *Collegium Musicæ*.

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³ Philippe Poutignat & Jocelyne Streiff-Fenart, *Théorie de l'ethnicité: suivi de les groupes ethniques et leurs frontières* (Paris, 2005); Jean-Christophe Tamsier, *Dictionnaire des peuples: sociétés d'Afrique, d'Amérique, d'Asie et d'Océanie* (Paris, 1998).

⁴ Luigi L. Cavalli-Sforza, *Evolution biologique, évolution culturelle* (Paris, 2005); Luigi L. Cavalli-Sforza & Marcus W. Feldman, *Cultural transmission and evolution: a quantitative approach* (Princeton, 1981).

be based on an analysis of the objects with incomplete information – either because this information was not collected at the same time as the objects, or because the information itself is not necessarily known to the instrument owner at the time of the survey. There are thus not only biases in terms of completeness and representativeness in the collection of objects, but also significant gaps in the contextual information. The harp is found throughout Central Africa, where we find the greatest diversity and variability of this musical instrument, in terms of forms, uses, functions and societies that play it. These are societies with oral traditions, which means that relatively little is known about their history and, consequently, about the history of the harp. The aim of this article is first to review existing descriptions and attempts to classify harps in Central Africa. Secondly, it presents the perspectives of a vast interdisciplinary research programme carried out over the last few years on the evolutionary history of Central African harps, which brings together ethnomusicologists, organologists, systematists, linguists and acousticians.⁵ This article aims to explain the process of creating more than 460 parameters for the description of the morphology, the context of use and the vernacular vocabulary associated with the constituent parts of the harp. These parameters have been defined and elaborated in order to obtain an objective, exhaustive and systematic description of this musical instrument, which has never previously been done. More than 500 harps have been described in European and African museums, in private collections and in the field in Gabon and Cameroon⁶. This dataset is the cornerstone of statistical and phylogenetic analyses, which will facilitate a global understanding of the origin and diffusion of Central African harps, their diversity and variability, their history and evolution as cultural objects.

1. Some generalities.

Central African harps that are in existence today – and which are present in historical forms in museum collections – bear witness to a great diversity of morphological and acoustic character-

⁵ The team is composed by Sylvie Le Bomin, Jean Loïc Le Carrou, Salomé Strauch, Susanne Fürniss, Rémy Jadinon, François Fabre, Evelyne Heyer, Florence Gétreau, Baptiste Chomette, Pierre Darlu, Guillaume Lecointre, Cyril Gallut, Régis Ollomo-Ella, Kisito Essele and Laurent Quartier.

⁶ This study was carried out in early 2021, on a dataset of 511 harps from 13 Central African countries. Visits to collections in European and African museums were organized between 2022 and 2023, as well as field missions to Gabon and Uganda: this enabled the corpus to be extended to 700 harps from 19 African countries. The analyses presented here have therefore been updated since the article was written.

ristics, repertoires and denominations. The harp in Central Africa is evident in 150 populations and it seems impossible at the moment to try to quantify the number of forms in which it is found. The factors include structural and decorative aspects in their construction, which may be intertwined. According to *The Grove dictionary of musical instruments*⁷, the harp represents a tradition that is at least five thousand years old. In sub-Saharan Africa harps have been played for thousands of years.⁸ In this case, the maintenance of the harp in African oral-tradition societies would come from its very important socio-cultural functions in these societies. The oldest tangible trace of the presence of a harp in Central Africa in literature is the representation of a harp by Praetorius in *Syntagma musicum*,⁹ certainly coming from Gabon, the only area in Central Africa where this form of harp – which is still found elsewhere – has been collected.¹⁰

Thus, the current situation shows a distribution of the harp in a belt that crosses Africa from Mauritania to Uganda, and even Kenya, and which appears mainly north of the Equator.

Despite this diversity, it is nevertheless possible to establish groupings on the basis of certain similarities, including the shape of the soundbox, the symbolic representation of the instrument and the names and themes of the associated songs. Various studies have shown that these family of tunes can not only transcend the identity characteristics of the populations that use them (ethnonyms, linguistic families), but also their geographical dispersion.¹¹

⁷ Sue Carole Devale, 'Harp, §III: Africa' in Laurence Libin (ed.), *The Grove dictionary of musical instruments* (2nd ed.; Oxford, 2014), pp 557–61.

⁸ Eric de Dampierre, 'L'humanité des harpes' in P. Bruguière & G. Speranza (eds), *La parole du fleuve: harpes d'Afrique centrale* (Paris, 1999), pp 21–34; Francis W. Galpin, 'The Sumerian harp of Ur, c.3500 B.C.', *Music and Letters*, 10:2 (1929), 108–23; Jan L. Grootaers, 'L'univers musical zandenzakara: A la recherche d'une esthétique perdue' in Bruguière & Speranza (eds), *La parole du fleuve*, pp 121–7; Christiane Ziegler, *Catalogue des instruments de musique égyptiens* (Paris, 1979).

⁹ Michael Praetorius, *Syntagma musicum II: de organographia* (Wolfenbüttel, 1619).

¹⁰ Pierre Sallée, 'Éléments pour une histoire de la musique africaine: la harpe de Praetorius et la musique du Gabon' in M. Lieth-Philipp (ed.), *Ethnomusicology and the historical dimension: papers presented at the European Seminar in Ethnomusicology, London, 20–23 May 1986* (London, 1989), pp 33–46.

¹¹ Bruguière & Speranza (eds), *La parole du fleuve*.

2. Critical analysis of previous studies

Central African harps have been studied by geographical areas, by types represented and/or by the repertoires with which they are associated.¹² Some of the museum instruments have been described and presented in terms of their morphology.¹³ Some studies have dealt with their evolution from different aspects, combining organology and linguistics¹⁴ or from an ethnomusicological point of view through the myths of an initiation society.¹⁵ The linguist France Cloarec-Heiss¹⁶ has shown that the more similar the morphological characteristics of harps are, the more similar their names are. The evolutionary dimension of non-Western musical instruments has been the subject of very few studies.¹⁷

¹² Simha Arom, *Polyphonies et polyrythmies instrumentales d'Afrique centrale: structures et méthodologie* (Paris, 2019), vol. 1; Monique Brandilly, 'Les harpes du Tchad' in Bruguière & Speranza (eds), *La parole du fleuve*, pp 139–45; Paul Collaer, *Enquête sur la vie musicale au Congo belge, 1934–1935 (questionnaire KNOSP)* (Tervuren, 1968), vol. 1; Andrew Cooke & James Micklem, 'Ennanga harp songs of Buganda: Temutewo Mukasa's "Gganga alula"', *African Music*, 7:4 (1999), 47–65; Eric de Dampierre, *Harpes Zandé* (Paris, 1992); Nathalie Fernando, 'Les harpes du Nord Cameroun' in Bruguière & Speranza (eds), *La parole du fleuve*, pp 145–50; Gerhard Kubik, 'Harp music of the Azande and related peoples in the Central African Republic', *African Music Society Journal*, 3 (1964), pp 37–76; Gerhard Kubik, 'Ennanga music', *African Music*, 4:1 (1967), 21–4; Sylvie Le Bomin, 'La harpe kunde des Banda Gbambiya' in Bruguière & Speranza (eds), *La parole du fleuve*, pp 129–34; Sylvie Le Bomin, 'La harpe ngombi des Ngbaka ma'bo' in Bruguière & Speranza (eds), *La parole du fleuve*, pp 135–38; Marie-France Mifune, 'Harp performing techniques as cultural markers in the Bwiti cult: comparison of musical practices in three Gabonese populations', communication presented at the International Conference on Musical Gesture as Creative Interface, 17–19 Mar. 2016 (Porto, 2016); Hervé Rivière, 'Notes sur l'instrumentarium musical des Ntumu du Cameroun', *Journal des Africanistes*, 69:2 (1999), 121–45; Stanislaw Swiderski, 'La harpe sacrée dans les cultes syncrétiques au Gabon', *Anthropos*, 65:5/6 (1970), 833–857; Klaus P. Wachsmann, 'Harp songs from Uganda', *Journal of the International Folk Music*, 8 (1956), 23–5; Klaus P. Wachsmann, 'Human migration and African harps', *Journal of the International Folk Music Council*, 16 (1964), 84–8.

¹³ Susanne Fürniss, 'Les instruments de musique de Centrafrique au Musée de l'Homme (Paris): collections et collecteurs', *Journal des Africanistes*, 63:2 (1993), 81–119; Jean-Sébastien Laurenty, *L'organologie du Zaïre* (Tervuren, 1997); Ulrich Wegner, *Afrikanische Saiteninstrumente* (Berlin, 1984).

¹⁴ France Cloarec-Heiss, 'Les harpes: ce que leur nom révèle' in Bruguière & Speranza (eds), *La parole du fleuve*, pp 35–47.

¹⁵ Pierre Sallée, 'L'arc et la harpe: contribution à l'histoire de la musique du Gabon' (PhD, Nanterre University, 1985).

¹⁶ Cloarec-Heiss, 'Les harpes: ce que leur nom révèle'.

¹⁷ André Schaeffner, 'Note sur la filiation des instruments à cordes' in L. Laurencie, *Mélanges de musicologie offerts à M. Lionel de la Laurencie* (Paris, 1933); André Schaeffner, *Origine des instruments de musique* (Paris, 1936); Ilya Tëmkin & Niles Eldredge, 'Phylogenetics and material cultural evolution', *Current Anthropology*, 48:1 (2007), 146–53.

In 1964, the English ethnomusicologist Klaus Wachsmann, a specialist in the music of Uganda, postulated in his article that the ways in which the neck, soundbox, string holder and pegs are assembled vary according to the harp and the region, these variations being an indicator of human migration.¹⁸ This is followed by various hypotheses and assertions that maintain a certain vagueness between what Wachsmann wants to assert and what his data actually allow him to demonstrate. For example, one of his hypotheses is that the dispersal of harps simply followed the Bantu expansion, but did not survive at a too great distance from Sudan and southern Lake Chad. He then seeks to link these harp types with the ancient harps of Egypt, again more or less skilfully bypassing what does not fit into his original idea. He concludes, however, that ‘Ideally, our aim should be to trace the migration of musical instruments detail by detail and stage by stage’,¹⁹ which is rather reassuring.

The advantage of Devale’s article is that,²⁰ like any encyclopaedic article, it offers a synthesis of the information available to better describe the instruments and thus allows access to different headings such as construction materials, playing techniques and performance contexts. While Wachsmann’s typology, as used in Devale’s article, is not called into question, his hypotheses of instrument migration are not really taken up. On the other hand, none of the parameters used to better describe the instrument are used in any comparative perspective. Other ethnologists/ethnomusicologists have published descriptions of instruments, often on a scale limited to that of their field or the provenance of their museum collections, in more or less comparative forms.

An anthropologist by training, Jean Sébastien Laurenty was head of the collection of musical instruments at the Africa Museum (then the Royal Museum for Central Africa) in Tervuren (Belgium). This collection concerns instruments collected since the nineteenth century by various administrators, missionaries and then scientific collectors, mainly in the Belgian Congo and later in Rwanda and Uganda. From this very rich collection, he started a systematic description work that led him to typologies aiming to account for a possible congruence between

¹⁸ Wachsmann, ‘Human migration and African harps’, p. 88.

¹⁹ *Ibid.*, p. 88.

²⁰ Devale, ‘Harp’, pp 557–61.

characteristic features of harp families and geo-cultural distribution areas. From the beginning of the argumentation of his classification process,²¹ we understand that the approach is empirical and pursues the objective of a characterization of the harps coinciding with the distribution in geo-cultural areas of the populations that use them. Laurenty then describes the seven categories he arrives at from these two criteria. Note that there is no definition of the criteria of distinction and very quickly he diverges from these two criteria to include others. This shows that he confuses the elements he thinks he is using to characterize these categories, but that he is implicitly aware that it is necessary to describe the instruments as fully as possible. This implies an unsystematic and imprecise comparison of objects, which is confirmed by the vocabulary used to define the categories, including ‘generally’, ‘often’, ‘almost always’.

Although he mentioned that the distinction between his categories should be based on the soundbox and the neck, he bases his distinction between the first and second categories directly on the presence or absence of a carving at the top of the neck. There is a shift in the description of the first and second categories and the following ones (third to seventh), where he gradually integrates into the description multiple factors as mentioned in his initial protocol, and applies them to all the elements. Thus, the seven categories are based on elements that he eliminated from the outset from his comparison, which leads him to use completely different classification criteria depending on the categories he wants to emphasize, without these criteria being made explicit or described. Moreover, he includes the shelf (which is often sculpted) in his description of the soundbox, even though these two parts should not be organologically confused. Laurenty then maps the different types, which was one of his major preoccupations and which contributed to his methodological choices. He thus arrived at a perfect geographical delimitation of his categories. The section devoted to names highlights the predominance of the term ‘*kundi*’ and its variants. Other names are described as aberrant. It is however curious that the term ‘*ngombi*’ does not appear, even though it is the term used by the Ngbaka Mabo mentioned for category three.

²¹ Jean-Sébastien Laurenty, *L’organologie du Zaïre*, Annales Sciences Humaines, 158 (Tervuren, 1997).

Pierre Sallée, an ethnomusicologist at ORSTOM²² (the forerunner of the IRD), devoted his PhD thesis to establishing a history of the harp in Gabon based on the ritual practices with which it is associated and the myths of which it is the subject.²³ He very quickly considered a comparative perspective of the ritual practices of the different Gabonese populations thanks to his extensive knowledge of the territory. He based his work on numerous parameters to make his comparisons while having the merit of taking into account the important circulation of ritual and musical practices between the populations of Gabon. Thus, he places his work in a dynamic perspective, which is one of his great merits.

He devotes an entire chapter to what he calls ‘The Gabonese harp’, which provides a fairly exhaustive description of the instrument’s organological characteristics. However, he introduces two facts that are not justified throughout the work: he generalizes the harp described by Praetorius to all Gabonese harps; and he adopts one of the symbols attributed by certain populations of Gabon to the harp, which he compares to a boat: ‘Lying on its dorsal face, the instrument thus evokes, above all in its southern variants, some vessel with a flat or rounded hull, a vertical stern and a raised prow rigged with a bowsprit [...]’²⁴ His concern to characterize the Gabonese harp then led him to define a sort of model based on specific traits, despite significant local variations, ‘the Gabonese instrument is identifiable by different morphological traits, some of which are relevant in distinguishing it from other African harps’.²⁵ However, each trait that he identifies as particular to Gabon can also be found in another geo-cultural area Central Africa, making his characterization of the Gabonese harp obsolete.

Written for the 1999 exhibition *La Parole du Fleuve*, the catalogue of the same name published by Bruguière and Speranza²⁶ is resolutely multidisciplinary. It takes up the hypotheses on the origin and diffusion of Central African harps, characterizes the new knowledge acquired in different populations of this region, and studies the diversity of these instruments in fields as va-

²² ORSTOM: Office de la Recherche Scientifique et Technique Outre-Mer; IRD: Institut de Recherche pour le Développement.

²³ Sallée, ‘L’arc et la harpe’.

²⁴ *Ibid.*, p. 28.

²⁵ *Ibid.*, p. 29.

²⁶ Bruguière & Speranza (eds), *La parole du fleuve: harpes d’Afrique centrale*.

ried as ethnomusicology, linguistics and the restoration of objects. Passionate about these harps and in particular about the aesthetics of some of them and some of their symbolic features, the two curators of the exhibition have allowed themselves to be guided by their enthusiasm, which gives their articles a particular content. Indeed, although they have the merit of being descriptive and of embracing a large number of areas of contextualization of harps, the globalizing perspective that emerges at certain moments produces deductions and even false assertions. This catalogue also includes descriptive articles produced by ethnomusicologists specializing in the regions concerned, which provide access to first-hand data. These articles concern Chad,²⁷ northern Cameroon,²⁸ the Central African Republic,²⁹ Uganda³⁰ and Gabon.³¹ They do not cover all the populations present on these territories, but are oriented according to the research of the various authors.

The article by the linguist France Cloarec-Heiss³² is based on her own data and that of various linguists and ethnomusicologists. She compares the names of harps with their linguistic areas of distribution in order to evaluate the relevance of a hypothesis of congruence between names shared by populations and their belonging to the same linguistic grouping. She also uses this tool to try to answer different hypotheses about the circulation and origins of instruments and their names. The inventory of terms used to designate harps shows that there is a very uneven distribution which can only be explained by different hypotheses of diffusion and not a linear movement. Cloarec-Heiss points out that it is therefore necessary to treat each case in isolation, which goes against any global approach. Thus, she does not propose a hypothesis based on the characteristics of the harps, but by linking the names to the main characteristics of the construction.

²⁷ Brandilly, 'Les harpes du Tchad'.

²⁸ Fernando, 'Les harpes du Nord Cameroun'.

²⁹ Le Bomin, 'La harpe *kunde* des Banda Gbambiya'; Le Bomin, 'La harpe *ngombi* des Ngbaka-Ma'bo'.

³⁰ Jos Gansemans, 'La harpe royale ennanga du Buganda' in Bruguière & Speranza (eds), *La parole du fleuve*, pp 115–20.

³¹ Philippe Bruguière, 'La harpe du Gabon, pirogue de vie' in Bruguière & Speranza (eds), *La parole du fleuve*, pp 151–5.

³² Cloarec-Heiss, 'Les harpes: ce que leur nom révèle'.

3. Towards a taxonomy of Central African harps

In view of these attempts to compare and classify Central African harps, various pitfalls appear. First of all, we have seen that the different authors have focused on the salient features of the harps in their corpus, without considering the fact that these features were perhaps those that the collector had wanted to emphasize, for various reasons. This led to a lack of systematic description based on clearly defined parameters applied to each of the examined harps. Secondly, the fragmentary knowledge of the corpus of the different authors led them to an exaggerated globalization of certain features or, on the contrary, to unclear identity characterizations. Moreover, the analysis of the literature shows that harps are never described in the same way, whether in terms of vocabulary, considered parameters or measurements. It also shows the need to take into account the representativeness of objects collected in the past from various perspectives and to ensure that the bias of these collections is not reproduced, by observing a systematic methodology that is as strict as possible.

In a process of exhaustive and precise description, these pitfalls can be avoided by identifying the range of descriptive parameters of the instruments and their variants. Only then can comparisons be considered: this is the approach we have followed through different research programmes and whose first results are presented here.

4. The dataset and its limitations

Our dataset includes 511 harps from thirteen countries, either held in museum collections or described in the field as part of the project.³³ Of the total corpus 71 per cent of the harps can be attributed to a known population and of these, 78 per cent come from the Democratic Republic of Congo (see figure 1). Although we are fortunate enough to have several hundred specimens

³³ Museum of Music of the Philharmonie de Paris; Musée du Quai Branly-Jacques Chirac in Paris; Africa Museum in Tervuren; Musical Instruments Museum in Brussels; Musée de l'Homme in Paris; Ethnological Museum of Berlin; National Museum of Yaounde; Forest Peoples Ethnographic Museum of Yaounde; and private collections of Gianni Montovani and Simha Arom. In the field, data was collected in Gabon by Sylvie Le Bomin and in Cameroon by Susanne Fürniss.

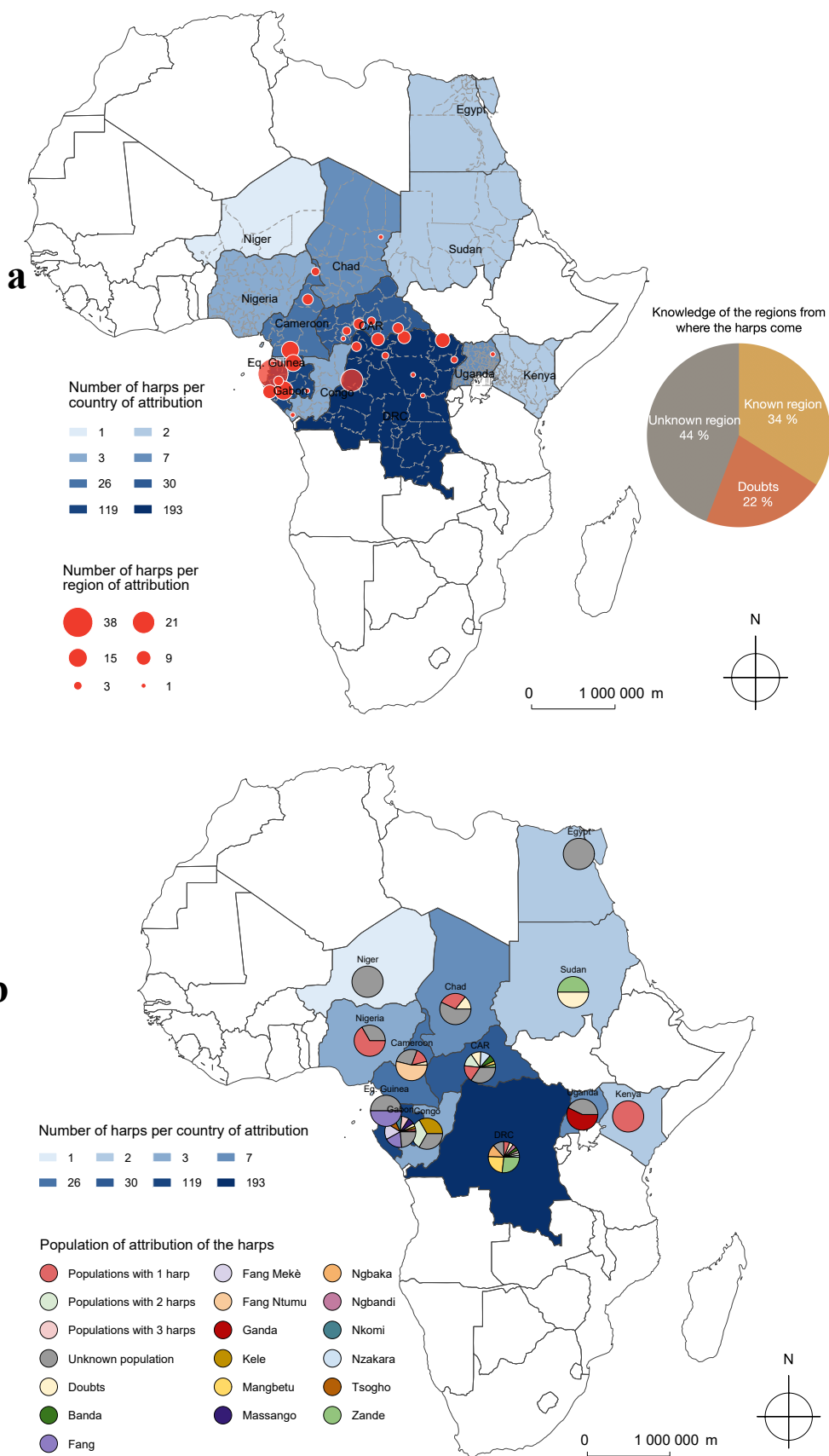


Figure 1 Maps of the regions (a) and populations (b) of origin of the 511 harps in the corpus³⁴

³⁴ All maps were made using C&D online.

in the collections, their representativeness of the concerned areas is uneven. Firstly, we note that when the collecting regions are known, this collection took place unevenly between the different regions, as shown on the map in figure 1a. The same is true for the representativeness of the harps by population (fig. 1b), where we can see great disparities between the populations without being able to explain this in particular, as we have no trace of the protocols put in place for the choice of the collected specimens.

Furthermore, our field experience in Gabon and Cameroon shows us that certain populations such as the Fang, due to the multiplicity of representations that the harp materializes, have a higher density of harps in the areas where it is present than other populations where it represents only one entity.

Thus, although we are fortunate enough to have many examples in museum collections, it appears that their representativeness in the areas concerned is largely uneven. As the majority of harps were collected during or just after the colonial period, their presence, aesthetics, morphology and number are due to the choices made by the collectors and/or sponsors. In the perspective of the time and of a growing interest in 'black arts', we can see that this context undoubtedly played a role both in the number of objects collected in different countries, and in the selection of these objects and the more or less symbolic messages that were intended to be conveyed. The aesthetic value judgements of the time, and even the way in which certain populations were viewed rather than others were undoubtedly also factors. But these collectors were not scientists either and were likely guided by both their personal perspectives and their encounters. Thus, an absence in a collection cannot be considered as a real absence until it has been verified by a real approach. While we cannot compensate for these potential gaps by extensive and intensive new collections in the sub-region, it is nevertheless extremely important to keep these biases in mind so as not to globalize local observations to the whole sub-region. There is no doubt that this particular atmosphere of colonization and recent post-colonialism, this appetite for the 'mysteries' of certain African practices (and their market-value among African art dealers) played an important role in the study and reporting of these artefacts.

The problem we identify as an ethnomusicologist and systematist on the one hand, and being in the twenty-first century on the other, is that the descriptions, typologies and classifications mentioned above are reinstated without complimentary epistemological work that would allow us to relativize the initial data and thus better adapt the proposed approach, and discourse. It is inconceivable for us in 2021 to write a title such as ‘Zande-Nzakara: a perfect instrument’³⁵ or to mention that Mangbetu harps seem unplayable because of their constructional characteristics, and not to clearly put forward the hypothesis that they are an artefact intended to satisfy the desires of Western collectors,³⁶ all the more so since there has never been any evidence of repertoires for harps among the Mangbetu.³⁷

5. The ‘*Guide de description organologique des harpes d’Afrique centrale*’³⁸

In order to describe Central African harps there was therefore a need to develop a homogeneous, exhaustive and clarified description process. This led to the writing of the *Organological guide to Central African harps*, a document that brings together all the parameters to be considered when describing a harp. It is divided into seventeen chapters: two explaining how to use it, three to provide contextual data for instrument identification, nine to describe the morphology of each constituent part, one to describe the context of use of the harp, one to describe the vernacular vocabulary associated with it and one to provide information on the genealogy of the person who made the harp or who plays it.

The parameters are defined and explained, including examples. There are several types of parameters:

- quantitative parameters where a value must be entered (number of strings, curved length of the neck, etc.). The *Guide* explains how the measurements should be taken and which measuring instrument to use;

³⁵ Gaetano Speranza, ‘Les harpes’ in Bruguière & Speranza (eds), *La parole du fleuve*, pp 59–94.

³⁶ *Ibid.*, p. 63.

³⁷ Personal communication from Didier Demolin.

³⁸ ‘Organological description guide to Central African harps’.

- qualitative parameters where the possible values are logical and binary (such as presence of a base, engraving of the pegs): the format used is usually 0/1, for No/Yes;
- qualitative parameters where the possible values are multiple (including morphology of the soundbox, string holder attachment method): the number of possible values depends on each parameter;
- qualitative parameters where the values are left free (such as the name of the harp in the vernacular language, or the name of the animal from which the skin comes for the soundboard): when the different possible values are too numerous or when there is a risk that there may be new ones in the future, the text is said to be ‘free’ for the parameter in question; this is also the case for the ‘remarks’ parameters, present at regular intervals in the *Guide*, allowing descriptors to add additional information not required by the *Guide*, for future use.

The 511 harps of the dataset were described between 2016 and 2019, in international museums, in the field (Gabon and Cameroon) and in private collections. For the writing of the third version of the *Organological description guide of Central African harps*, it was necessary to modify some existing parameters and to create new ones: for the qualitative parameters with binary and multiple values, the photographic images of the 511 described harps were used to classify the instruments in different categories (the possible values) imagined a priori. At the end of this classification and according to its coherence, each category was defined, in order to include the harps that were classified in it and to exclude the harps from the other categories.

The division of the *Guide* into chapters makes it possible to describe each instrument in a homogeneous way, wherever it is found. Indeed, the nature and level of information is different depending on the physical location where the instrument is described: in museums and private collections, one generally only has access to the instrument itself, with little or no information on how it was played, for example. This is why, for better readability of the document, the chapters related to the context of use, the vernacular vocabulary associated with the harp and the genealogy of the informant are separated from the other chapters dealing with the morphology of the instrument. All this information thus offers a better understanding and knowledge of the harp as a whole. In fact, the chapter on the context of use explains how the instrument can be played: by whom, where, when, how, in what position and on what occasion. The sec-

tion on vernacular vocabulary concerns all the words associated with the harp in the language of the informant (such as the name of the harp, the neck, the strings), but also their translations and meanings. Finally, the chapter on the genealogy of the informant allows us to learn about their life history, relationship to the harp as a harp maker, harpist, ritual leader, but also the processes of transmission of all types of knowledge and skills related to the harp.

6. First results

The results presented are intended to illustrate our approach and to provide the first steps in a study on the diversity and origin of Central African harps. Here we will only present a part of the results obtained, in order to illustrate our approach. They concern the shape of the soundbox, the number of strings and the carvings of two constituent parts, the top of the neck and the shelf.

Diversity and distribution of the soundbox shapes

Central African harp soundboxes are made from different types of trees depending on what is available in the environment of the instrument maker, and sometimes on the choice of the client, as a maker or a population may make use of different types of trees whose properties are recognized as being suitable for making instruments.

The morphology of the soundbox has often been used to describe and distinguish types of harps, often by implicitly associating it with several other structural elements because they are connected to it (for example: soundboard, neck, string holder). We have identified four main types of soundbox shapes:

1. Cylindrical: the soundbox has the shape of a cylinder cut lengthwise. Its base and top are flat and more or less parallel to each other. Its corners are not protruding or visible. The soundbox can be more or less curved. The sides of the cylinder are straight, but may not be completely parallel.

2. Naviform: The soundbox is shaped like the hull of a boat. Its top and bottom can be straight, rounded or angular, but they cannot both be flat. The corners are not prominent or visible. The soundbox can be more or less curved.
3. Parallelepipedic: the soundbox is more or less rectangular in shape. The top and bottom are flat and parallel to each other. The corners are visible but may be more or less prominent. The body is not curved, or only slightly. Trapezoidal shapes are considered parallelepipedic, with the apex shorter than the base;
4. Ellipsoid: the soundbox is spherical or ovoid in shape, like a football or rugby ball cut in half. The body has no angle and may be more or less curved.

The naviform shape (see fig. 2b) is the most represented. Next comes the cylindrical shape (see fig. 2a), followed by the parallelepipedic (see fig. 2c) and ellipsoidal shapes (see fig. 2d). This coincides with the level of diffusion of these shapes: the naviform shape is present in all countries except Kenya and Equatorial Guinea and is rare in Gabon. The cylindrical form is present on a north-east/south-west diagonal from Egypt to southern Gabon. In the dataset, harps with an ellipsoidal soundbox are only found in one country, Uganda.

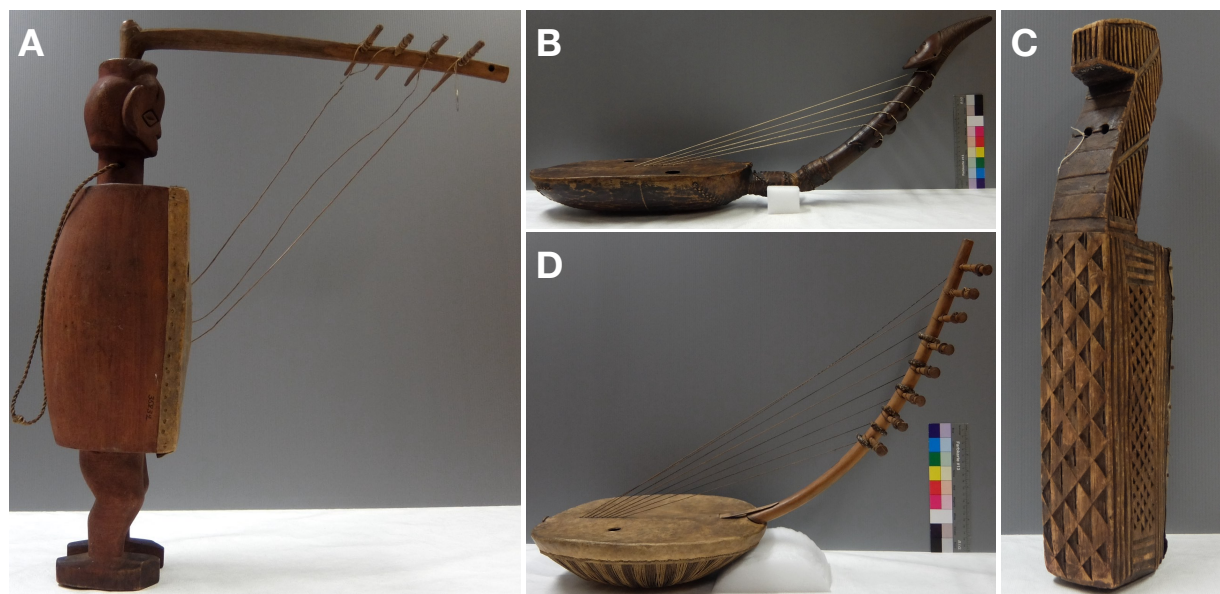


Figure 2 Illustrations of soundbox shapes. *A* : Cylindrical soundbox (Ngbaka Manza, Democratic Republic of Congo). *B* : Naviform soundbox (Mangbetu, Democratic Republic of Congo). *C* : Parallelepipedic soundbox (details unknown). *D* : Ellipsoid soundbox (Ganda, Uganda). Illustrations by Noé Coussot.

Four countries have only one shape of soundbox:

- Niger and Sudan, the naviform shape;
- Kenya, the parallelepipedic shape;
- Equatorial Guinea, the cylindrical shape.

Seven countries present a greater or lesser diversity with always a dominant shape, except for Chad where the three shapes are in equal parts (see figure 3).

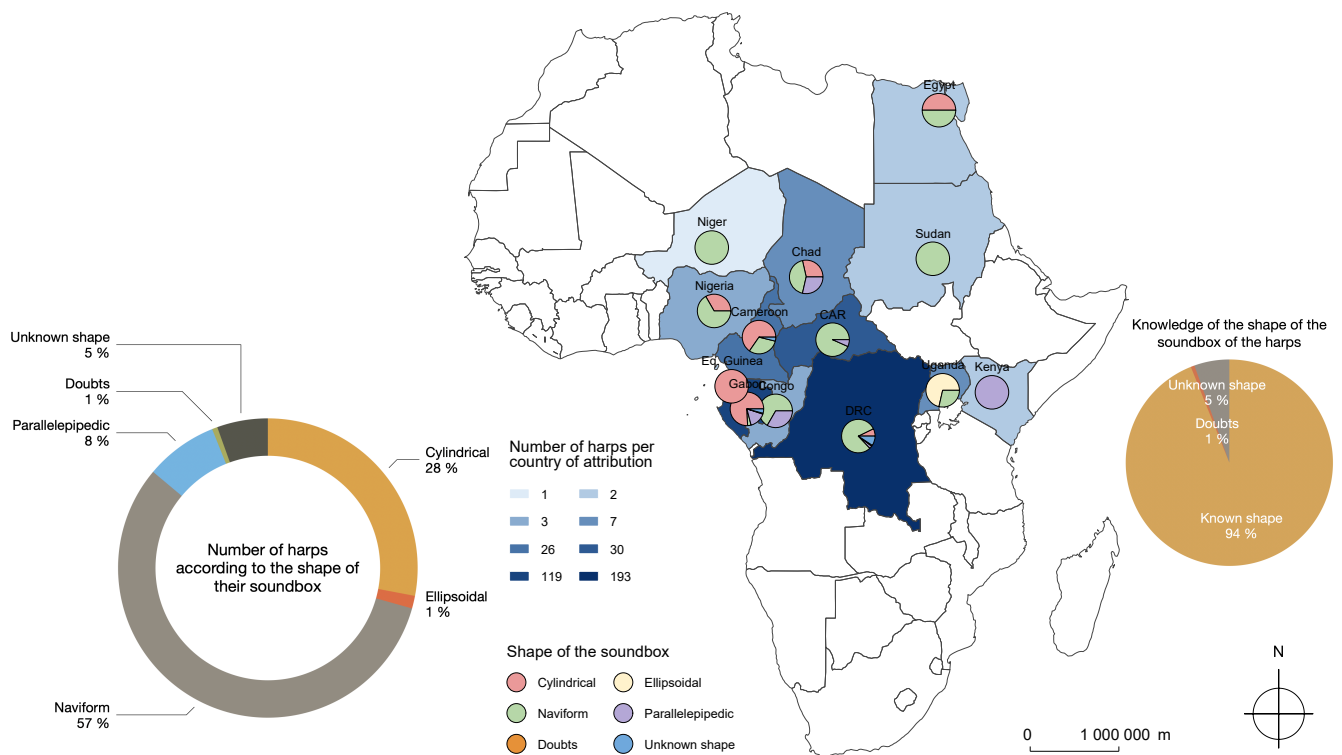


Figure 3 Distribution and mapping of soundbox shapes

There appears to be a strong opposition between very widespread shapes that are sometimes the only shapes present in certain countries (the naviform shape for Niger and Sudan, for example) and shapes that are not very widespread and exclusive to a country. In our corpus, this is the case of the ellipsoidal shape, which is only found in one country, Uganda. The question arises as to whether this shape, despite the heterogeneity of the sampling in general and the few instruments collected in Uganda, can be considered as coming exclusively from this country. For this, it is necessary to compare at least with the corpus from the surrounding borderlands, knowing that the populations and their cultural artefacts do not know state borders. The collections carried out in the Democratic Republic of Congo show that the south-eastern

region bordering Uganda has not been covered and that only three harps have been described there.

Indeed, it can be hypothesized that the ellipsoidal form may be endemic to some Ugandan populations that may be on the other side of the border with Kenya. It is also possible that this form is present in other Ugandan populations, which remains to be confirmed by new quantitative and extensive collections. In any case, the ellipsoidal form remains a rare form specific to a particular geocultural area. In fact, it seems impossible to globalize a form to the whole sub-region, even less to a country which is only an administrative entity. Unfortunately, the data from the museums do not allow us to identify the populations who made the harps (71 per cent). It is likely that future phylogenetic analyses will provide a better understanding of this distribution in terms of population groupings and/or geographical area.

String numbers: diversity and distribution

The number of strings is a common parameter used to describe harps and to make typologies. Regardless of the soundbox shape or the way the neck is attached, the strings are stretched diagonally between the neck and the string holder which is placed under the soundboard or crossing it. If the copies that are preserved in museums or old descriptions describe harp strings as made of different types of plant material depending on the ecosystems involved, they are now mostly made of nylon thread or even metal.

The number of strings depends on the scalar systematics of the populations. The strings represent a mode of realization of the musical scale of a population or of one of the musical scales of this population.³⁹ The existing literature on Central African harps shows that they materialize scales of different types,⁴⁰ mainly pentatonic anemitonic and hexatonic hemitonic. This obviously conditions the number of strings on the instruments, a pentatonic system requi-

³⁹ Simha Arom, *La boîte à outils de l'ethnomusicologue* (Montréal, 2007); Simha Arom, *Polyphonies et polyrythmies instrumentales d'Afrique centrale: structures et méthodologie* (Paris, 2019), vol. 1; Brandilly, 'Les harpes du Tchad'; Fernando, 'Les harpes du Nord Cameroun'; Gansemans, 'La harpe royale ennanga du Buganda'; Kubik, 'Harp music of the Azande and related peoples in the Central African Republic'; Kubik, 'Ennanga music'; Sylvie Le Bomin & Florence Bikoma, *Musiques Myènè: de Port-Gentil à Lambaréné (Gabon)* (Paris, 2005).

⁴⁰ We will not discuss here the materialization of the tuning, which is yet another problem.

ring at least five strings to materialize it and a hexatonic system at least six. Some populations design their harps with this minimum number (such as the Zande, Banda and Nzakara harps from the Central African Republic and Democratic Republic of Congo) of strings or else double a certain number of degrees in the octave (such as the Ngbaka Mabo from Central African Republic). Thus, two factors influence the diversity of scales: the number of degrees in the scale of harp repertoires and the number of octave doublings. This is easily verifiable when collecting data in the field, but completely impossible for harps held in museum collections. In this case, we will analyze the diversity of the number of strings, sometimes based only on the number of pegs or holes observed in the soundboard. Due to collection and conservation constraints,⁴¹ it is impossible to determine the number of strings for 15.3 per cent of the harps studied (see fig. 4).

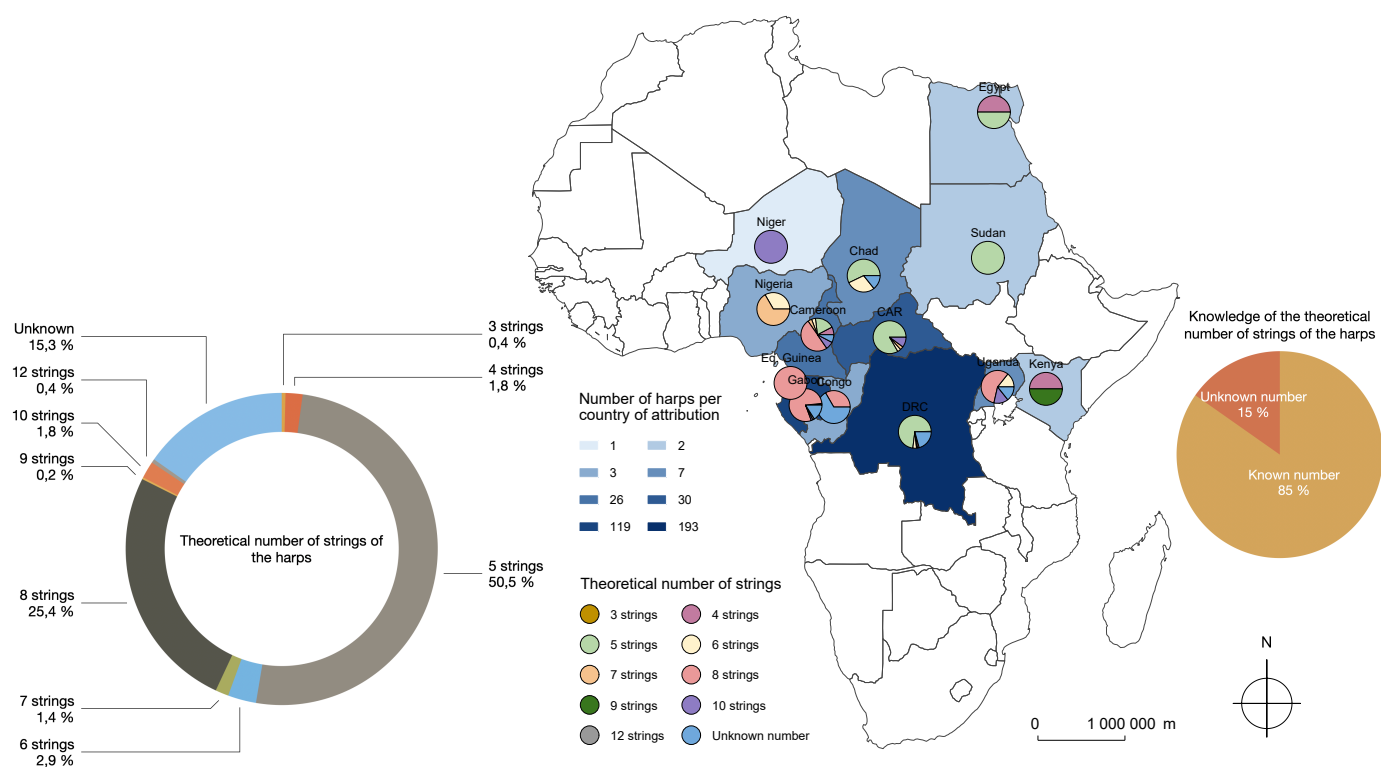


Figure 4 Distribution and mapping of the number of harp strings

Among others, harps can have three, four, five, six, seven, eight, nine, ten or twelve strings. Harps with five strings represent half of the corpus and those with eight strings, a quarter. Next come the six-string harps, which represent 2.9 per cent of the corpus (fifteen harps), those with

⁴¹ Gaetano Speranza, 'Sculpture africaine: blessures et altérité: au-delà de l'exposition "Objets blessés: la réparation en Afrique"', *CeROArt /Conservation, exposition, Restauration d'Objets d'Art*, 2 (2008), available at journals.openedition.org/ceroart/624, accessed 17 June 2021.

four and strings (1.8 per cent each, nine harps in each case), and finally the harps with three, nine and twelve strings, which are much more anecdotal.

Five-string harps are present in six of the thirteen countries concerned: Egypt, Sudan, Chad, Cameroon, Central African Republic (CAR) and Democratic Republic of Congo (DRC) (see fig. 4). By being present in five countries (Cameroon, Equatorial Guinea, Gabon, Republic of Congo and Uganda), eight-string harps are almost as widespread as those with five strings.

Despite their low frequency, six-string harps are also present in six countries: Chad, Nigeria, Cameroon, CAR, DRC and Uganda. Although representing only 1.8 per cent of the corpus, ten-string harps are present in four countries (Niger, Cameroon, CAR, Uganda), which suggests that their low percentage in the corpus is not necessarily indicative of their representativeness in the sub-region. This is not the case for four-string harps, which, representing 1.8 per cent of the corpus, are only present in two countries (Egypt and Cameroon). Overall, the harps with the fewer strings are less widespread. However, this cannot be correlated with poorly sampled areas, since the three-string example comes from the DRC and the two twelve-string copies from Gabon, the two countries with the most collections. We could therefore consider that these harps are rare, their number of strings being innovations that have not been disseminated or that are in the process of disappearing.

Comparing the frequencies of the string numbers and their level of dispersion, it appears that the two types of results are not necessarily correlated. In other words, an infrequent string number may not be more correlated with its dispersion than a much more frequent string number. It could be hypothesized that this low-frequency dispersion is either a sampling bias with instruments that have been of little interest to collectors, but are potentially more frequent in the field; or that they are present in a small number of uncommon populations, isolates of sorts where few specimens have been collected. For example, this could be the case for the ten-string harps of the Ngbaka Mabo of the Central African Republic, for which we have a certain amount of information on practice and collection. It is a large, rather heavy instrument, which has not been the subject of any monographs and has only been studied in the context of a gene-

ral taxonomy of Central African music by Simha Arom.⁴² This is radically different from the five-string harps found in several populations, which have been collected for a longer period of time by different collectors, some of whom focused primarily on aesthetic criteria. This result raises many questions about the origin of harps with these numbers of strings: it may be a common origin, with contacts between the populations that hold them, which would have provoked borrowing phenomena; or it may result from the appearance of independent innovations, without the concerned populations having been in contact from a historical or geographical point of view, which corresponds to convergence phenomena. Until now, the methods used have not allowed us to answer this type of question, but we intend to tackle them in our future analyses using statistical and phylogenetic tools.⁴³ Except for three countries (Sudan, Niger and Equatorial Guinea) that have few specimens in the dataset, there is no exclusive number of strings for harps from a given country, contrary to explanation in a number of previous studies.⁴⁴

It appears that even with a low number of harps described in a given country, there is a very high variability in the number of strings, even if one number of strings always remains dominant in a given country (see fig. 5). Thus, five-string harps are dominant in Chad, CAR and

⁴² Arom, *Polyphonies et polyrythmies instrumentales d'Afrique centrale*.

⁴³ Thomas E. Currie, Andrew Meade, Myrtille Guillon & Ruth Mace, 'Cultural phylogeography of the Bantu languages of sub-Saharan Africa', *Proceedings of the Royal Society B: Biological Sciences*, 280:1762 (2013); Pierre Darlu & Pascal Tassy, *La reconstruction phylogénétique: concepts et méthode* (Paris, 2019); Antonella Gaillard- Corvaglia, Jean-Léo Leonard & Pierre Darlu, 'Testing cladistics on dialect network and phyla (Gallo-romance and southern Italo-romance)', *Proceedings of the Ninth Meeting of the ACL Special Interest Group in Computational Morphology and Phonology* (2007), pp 23–30; Guohua Jin, Luay Nakhleh, Sagi Snir & Tamir Tuller, 'Inferring phylogenetic networks by the maximum parsimony criterion: a case study', *Molecular Biology and Evolution*, 24:1 (2007), 324–37; Sylvie Le Bomin, Guillaume Lecointre & Evelyne Heyer, 'The Evolution of musical diversity: the key role of vertical transmission', *PLoS ONE*, 11:3 (2016). Franz Manni, Etienne Guerard & Evelyne Heyer, 'Geographic patterns of genetic, morphologic, linguistic variation: how barriers can be detected by using Monmonier's algorithm', *Human biology*, 76:2 (2004), 173–90; Tom Rzeszutek, Patrick E. Savage & Steven Brown, 'The structure of cross-cultural musical diversity', *Proceedings of the Royal Society B: Biological Sciences*, 279 (2011), 1606–12; Tëmkin & Eldredge, 'Phylogenetics and material cultural evolution'.

⁴⁴ Alan P. Merriam, 'African music re-examined in the light of new materials from the Belgian Congo and Ruanda Urundi', *African Music Society Newsletter*, 1:6 (1953), 57–64; Pierre Sallée, 'Deux études sur la Musique du Gabon', *IRD Editions*, 85 (1978); Henri Lecomte, 'Anthologie de la musique congolaise (RDC)', *Cahiers d'ethnomusicologie. Anciennement Cahiers de musiques traditionnelles*, 22 (2009), 295–9; Klaus P. Wachsmann, 'An equal-stepped tuning in a Ganda harp', *Nature*, 165 (1950), 40–1; Jean Omasombo Tshonda (dir.), *Sud-Ubangi. Bassins d'eau et espace agricole* (Brussels, 2013).

DRC, while eight- string harps are dominant in Gabon, Cameroon, Equatorial Guinea and Uganda.

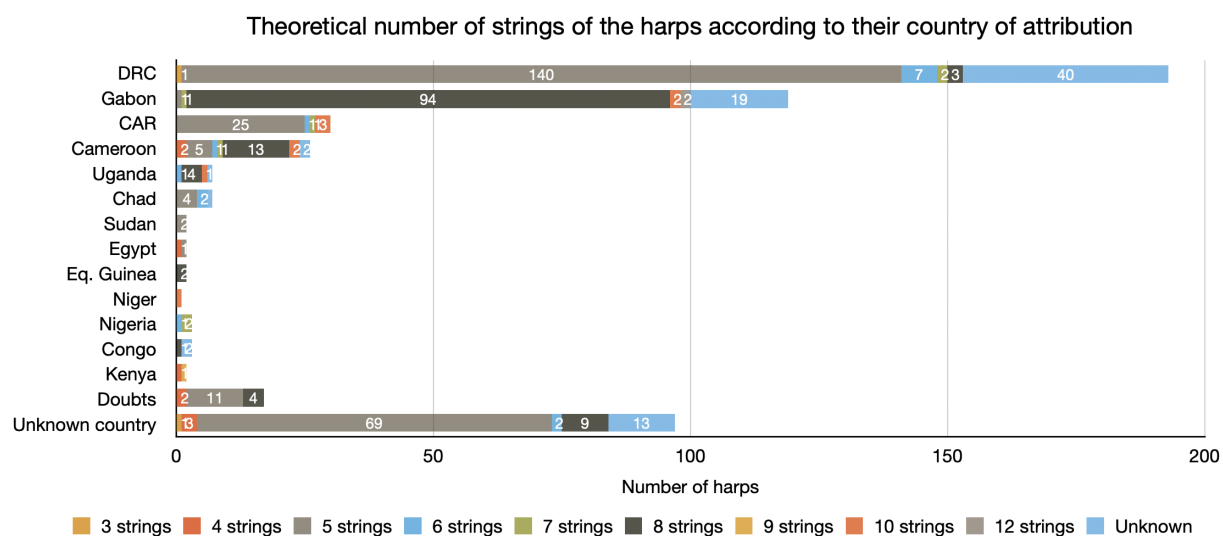


Figure 5 Theoretical number of strings on harps according to their country of attribution

In order to better understand the dispersion processes of these numbers of strings, one possibility for research would be to compare these variants at different scales (such as ethnonym/language family/region), for example by testing the statistical association between the number of strings and these geographical or linguistic variables. This will be the subject of further studies.

Variability and dispersion of carvings/sculptures

The carvings (also described as sculptures) of Central African harps, although not structural, have guided many descriptions and attempts to classify them.⁴⁵ As a particularly salient feature, it has attracted authors and guided their reflections, often adding aesthetic considerations that are not relevant to this type of approach. These carvings have focused so much attention that they have incorrectly become the classification criterion for categories that are not defined, or are poorly defined, without taking into account the rest of the harp's morphology. Thus, in the vast majority of writings, carvings are only considered at the top of the neck and on the

⁴⁵ Eric de Dampierre, *Une esthétique perdue. Harpes et harpistes du Haut-Oubangui* (Paris, 1995); Louis Perrois, 'La statuaire des Fang du Gabon', *Arts d'Afrique Noire*, 7 (1973), 22–42; Speranza, 'Les harpes'.

shelf (sometimes at the base of the harp when it is particularly developed) and all have been declared anthropomorphic even though fig. 6 shows that this is not always the case.

Thus, our work consisted in making an inventory of the different parts of the harp with carvings and in making a typology of the different forms presented in the *Guide*. Taking into account all the carvings observed, whatever their location, it appears that 86.7 per cent of the harps include at least one carving (see fig. 6). Only in Chad did none of the harps have any carvings.

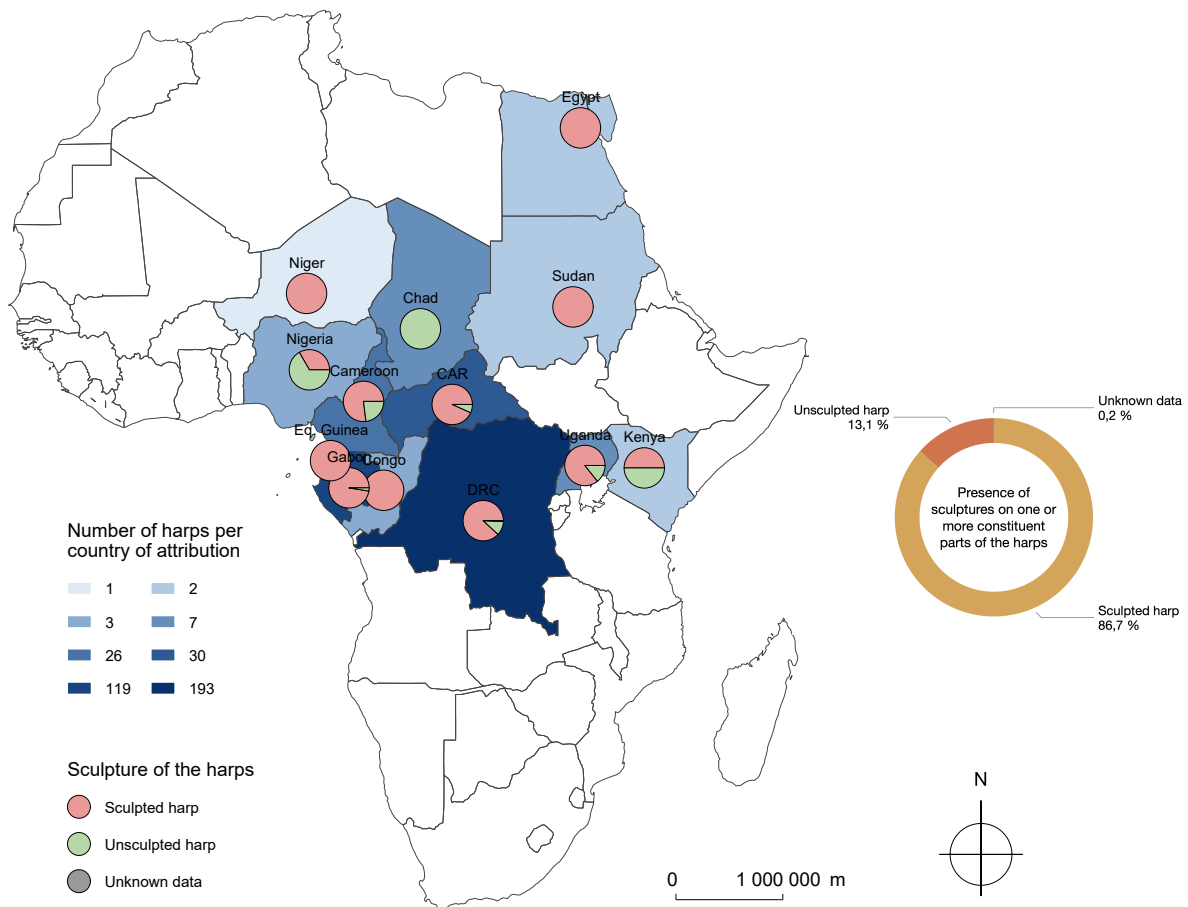


Figure 6 Map of harps with one or more carvings

Aside from Chad, Nigeria, Cameroon, Kenya and Uganda are the countries with the highest percentage of uncarved harps. Although the Central African Republic, the Democratic Republic of Congo and Gabon are generally considered to be the countries where harp carving is ubiquitous, there appears to be a small percentage of harps with no carvings. Moreover, our exhaustive description of the 511 harps in the corpus has shown that it is not uncommon for several parts of the same harp to be carved.

Of all these parts, we will only deal with two here as examples, namely the carvings at the top of the neck and those on the shelf. The layout of these carvings has led many authors to define styles referring to populations (Zande, Nzakara, Mangbetu for the first case)⁴⁶ or to geographical areas (Gabon for the second case).⁴⁷ Over time, the anthropomorphic carved representations even became the emblem of the Central African harp. In most cases, the description of this musical instrument has almost been reduced to its anthropomorphic carvings, even though the first representation in the literature of a Central African harp shows a carving of the shelf with a geometric shape, not an anthropomorphic one.

Neck carvings

The carving of the top of the neck is present in 36.8 per cent of the harps described in our corpus.⁴⁸ Mainly mentioned in the literature in CAR, DRC and Congo, they are actually present in our corpus in Egypt, Sudan, Nigeria, Cameroon, CAR, Gabon, Congo, DRC and Uganda.⁴⁹ However, they remain in higher percentages in CAR and DRC (see fig. 7).

There is a much greater diversity of carvings than has been described so far, since in addition to anthropomorphic carvings, we have identified carvings of geometric and zoomorphic forms. Depending on the area concerned, certain forms are more represented than others, bearing in mind that this may be a bias linked to the collection, as anthropomorphic carvings have provoked a certain fascination among collectors:

- Anthropomorphic (65 per cent): Sudan, Democratic Republic of Congo, Central African Republic, Congo and Gabon.
- Geometric (14 per cent): Egypt, Sudan, Nigeria, Cameroon, Gabon, Democratic Republic of Congo and Uganda.
- Zoomorphic (0.4 per cent): unknown country.

⁴⁶ Eric de Dampierre, *Harpes Zandé* (Paris, 1992); Speranza, 'Les harpes'.

⁴⁷ Sallée, 'L'arc et la harpe'; de Dampierre, *Harpes Zandé*.

⁴⁸ Only known and doubtful types are considered here. The other cases correspond to harps for which we do not have the neck and where therefore the presence of a carving or not is not determinable.

⁴⁹ Speranza, 'Les harpes'; Bruguière, *La harpe du Gabon, pirogue de vie*; Laurenty, *L'organologie du Zaïre*; de Dampierre, *Une esthétique perdue*.

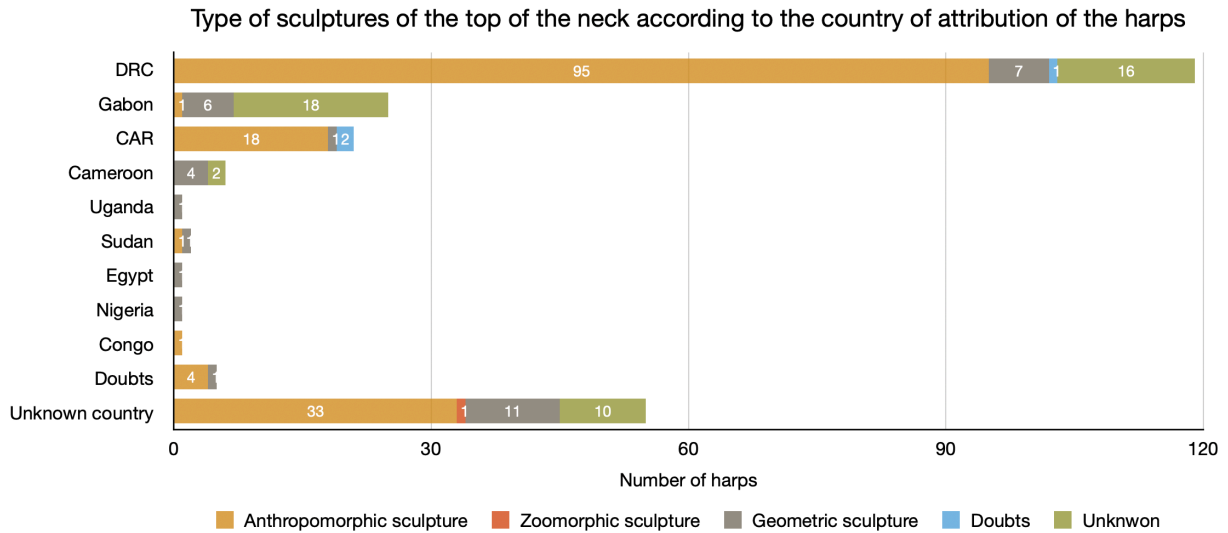
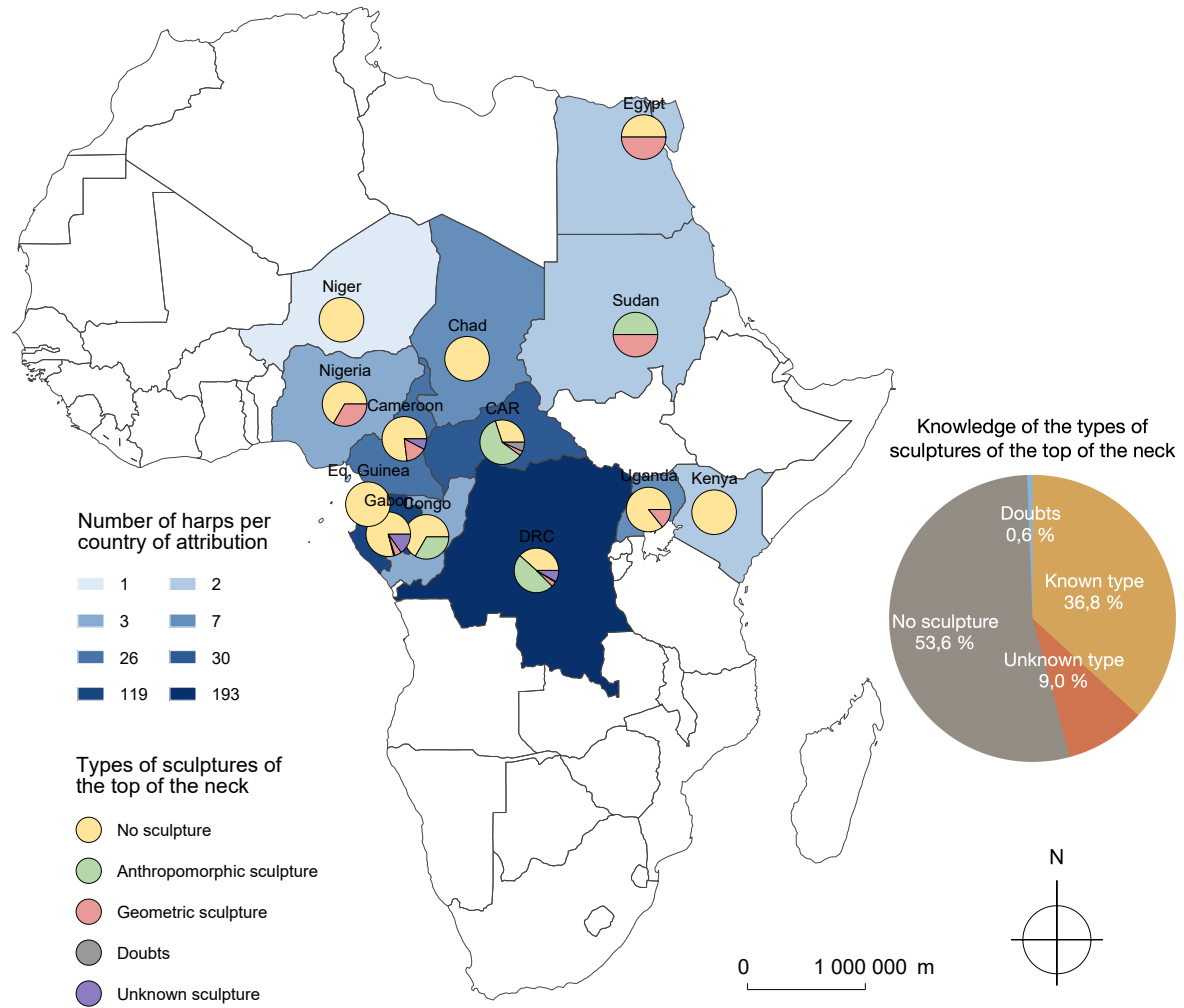


Figure 7 Diversity and mapping of neck-top carvings

While anthropomorphic carvings are in the majority in CAR, Congo and DRC, geometric carvings are in the majority in Egypt, Nigeria, Cameroon and Uganda. Thus, we have shown that

the carving of the top of the neck is much more frequent than what has been described so far, much more widespread and that it can take very different types of forms.

Shelf carving

The carving of the shelf is present in 44 per cent of the harps in the corpus, while the other 66 per cent of the harps in the corpus do not have a shelf (see fig. 8). Generally considered as emblematic of Gabonese harps, it is also present in Niger, Cameroon, CAR, Equatorial Guinea, Congo and DRC. All harp shelves are subject to special woodworking and are therefore all carved, the wood never being presented in its raw state. None of the harps from the eastern fringe of the study area (Chad and Nigeria) have a shelf.

As with the top of the neck, there is a greater diversity of carving types than has been discussed in the literature.⁵⁰ Anthropomorphic carvings (47 per cent) are the most frequent and ubiquitous, but also geometric (32 per cent), zoomorphic (2 per cent) and geometric (5 per cent). Geometric carvings are present in CAR, Gabon and Congo. Some examples of zoomorphic carvings are also present in Gabon and Cameroon.

Thus, although for more than half of the countries from which our corpus comes, harps do not have a shelf, this type is much more frequent than what has been described until now. If indeed this type of harp is more present in some areas than others, it can in no way be considered as the prerogative of a particular geo-cultural area.

7. Conclusion

The data we have presented here confirms the extreme diversity and variability of Central African harps. Contrary to the prior literature, which tended to classify this diversity into types referring either to populations, denominations, countries, or geo-cultural areas based on more or less arbitrarily selected traits, we have shown that it was necessary to adopt new methodological perspectives in order to better account for this diversity. Firstly, by describing as ex-

⁵⁰ Speranza, 'Les harpes'; Sallée, 'L'arc et la harpe'.

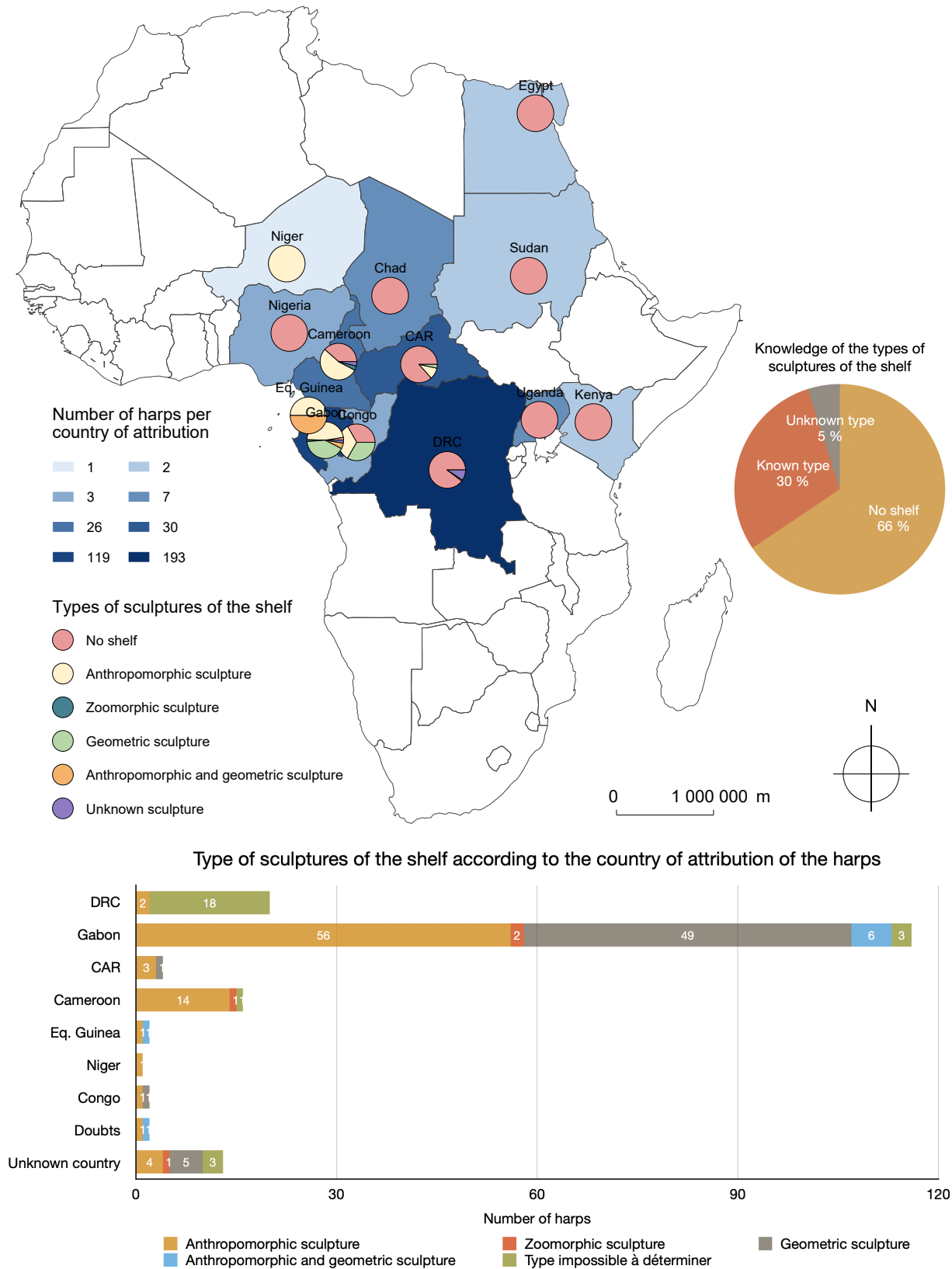


Figure 8 Diversity and mapping of shelf carvings

haustively as possible all the harps at our disposal and then, by not neglecting the important biases induced by the history of relations between Africa and the West. This concern for ex-

haustiveness has made it possible to avoid the pitfall of problematic globalization and the extrapolation of characteristics of one example to a heterogeneous whole. By producing a descriptive *Guide* based on a detailed observation of the existing situation, we were able to define a set of analytical parameters that could be applied systematically. This is thus a first work of musical systematics applied to a musical instrument of populations with an oral tradition. By giving four examples of our results (shape of the soundbox; number of strings; carving at the top of the neck; carving of the shelf), we have shown that these characteristics are much more common in the sub-region than what was previously described and cannot a priori be selected as representative of a category. These first results also allow us to make assumptions regarding the evolutionary history of these harps and encourage us to further investigate the questions related to the transmission of these characters by statistical and phylogenetic methods already used on other types of musical objects. These musical instruments could then also be considered in their own right as cultural objects that could contribute to the reconstruction of the evolutionary history of human communities.