

**NEW PERSPECTIVES ON ACADEMIC RESOURCES:
THE LINK BETWEEN MUSEUM COLLECTIONS,
ARCHIVES, AND DIGITAL CONTENTS/EXHIBITIONS**

SHUNSUKE YAMASHITA

The Kyoto University Museum

Email: ya.shunsuke@gmail.com

ABSTRACT

Museum collections are composed of specimens and cultural properties of obvious and established value. Keeping information about the collecting phase, including scholarly activities such as the field research through which the collections were obtained, is important. Despite their importance, research materials such as films, photographs, audiotapes, field notes, and research manuscripts tend to get lost amid the framework of the most commonly used repositories—museums, libraries, and archives (also known as “MLA” or “LAM”). This neglect does not imply that these materials are valueless: in fact, they provide valuable scientific data and important records of research activities (i.e., they show the “reality of research”). When combined with collection specimens, they could offer new perspectives on museum activities, especially the less-visible activities such as research, acquisition, and cataloguing. A new approach, the Research Resource Archive, Kyoto University (KURRA), demonstrates how producing digital exhibitions could bond research activities and their resultant specimens together.

KEYWORDS: archive, museum collections, research materials, collection-related information, university museum, MLA, LAM

INTRODUCTION

Academic organizations like universities produce and collect huge quantities of objects. In the course of research activities, they constantly collect various evidences of research like data, objects and specimens. Museums, especially university museums, store specimens and cultural properties collected by researchers themselves. Thus these collections have obvious values for the original academic fields whether they are objects for scientific analysis, or historical research, or aesthetic appreciation. Maintaining information about the collecting phase, including scholarly activities such as the field research through which the

collections were obtained, is important because it offers insight into the nature and quality of the specimens and artifacts collected. Research materials such as films, photographs, audiotapes, field notes, and research manuscripts record the collecting and research phases meticulously but tend to slip through the framework of the three conventionally used repositories—museums, libraries, and archives (known as “MLA” or “LAM”).

The MLA framework has recently been much discussed. Though this could have led to a resolution of the serious problem outlined above, the situation does not seem to have been observed: only art archivists are aware of the importance of the research materials attached to artworks. Few attempts have been made to resolve this “loss” problem. Despite the strong interest in MLA integration management, there is little interest in the research materials themselves. Admittedly, much effort has been made to build common platforms from which to search collection information that transcends the boundaries of MLA, through a kind of “new union catalog,” the main purpose of which is to maximize the use of resources that are already catalogued but are isolated in their individual repositories. Though it is very important to enhance the accessibility and connectivity of information, these efforts aim merely to cultivate existing resources; information scientists therefore dominate those projects, and the disappearing materials with which this paper is concerned continue to be neglected.

“Digital Archive” and “Digital Content/Exhibition” represent another remarkable trend relevant to this issue. They are designed to be attractive to the public, are given exhibition-like characteristics, and are an effective medium for letting public know the presence of materials and for educating them.. However, they are temporary and have nothing to do with keeping and archiving materials for future use. Though such exhibitions might communicate the importance of archival preservation, they also confound the means with the purpose and make the contents themselves the purpose. In short, they are no more than temporary exhibitions. These relatively new (decade-old) trends cannot arrest the loss of research materials.

We will discuss museums in detail in the next chapter, but we will point out two reasons why they often lose materials. First, museums’ resources are limited, and their priority is naturally on specimens, as they are “primary sources” of information; they cannot afford to take care of secondary sources of research materials. Secondly, materials with no relation to mainstream, conventional museum collections are rarely considered for preservation from the

outset, making their eventual loss inevitable. Although not conventionally considered part of a museum's primary collection, these underappreciated secondary resources are useful as potential sources for other research fields; photos could serve as primary sources in a survey of environmental changes, for example. Moreover, secondary sources display a unique dimension of researchers and their activities, the "reality of research," which could offer, for example, an intimate glimpse into researchers' motivations, ideas, and struggles. Digital contents and exhibitions have been produced using such secondary collections and archives, opening up new academic resources and suggesting potential future ones. For example, Kyoto University's Research Resource Archive, established in 2008, answered the need to preserve and use these unique resources.

This paper will discuss the nature and role of this kind of special research material in archives and repositories, focusing on their relationship with mainstream museum collections and activities.

STATUS AND CAUSES OF RESEARCH MATERIAL LOSS

Before discussing specific cases, we should define "archives." The term usually refers to a repository or organization that preserves official or administrative documents, while also referring to the documents in question. This paper focusses on repositories of research materials and thus uses "archives" to refer to them and their documents, though "traditional archive" is sometimes used to indicate the former.

The first point to be discussed is what the research materials that are vulnerable to loss actually are. Academic institutions such as universities feature various facilities that keep research and educational materials, including museums, libraries, traditional archives, and centers for cultural heritage and so on. Museums handle specimens and materials relevant to the humanities and related documents; libraries handle books, theses, and special collections; and traditional archives mainly handle official and administrative documents and materials on university history. However, these institutions preserve few materials about the processes of education and research, and materials that fall outside these facilities' scope of interest are being lost every day.

These materials come in many different forms. Let us try to define them by media type. There are 8 mm, 9.5 mm, 16 mm, and 35

mm films (including those deteriorating through the “vinegar syndrome”), audio cassette and reel-to-reel audio tapes, photographic films with contact prints, photo prints, letters and correspondence, expedition notes and diaries, and route maps—all of which have been created or collected by researchers. A few of these objects may be lucky enough to enter into a museum, library, or traditional archives collection but never as part of the main collection; most are abandoned.

We have discussed these materials from two different points of view. Though they are still ambiguous, we will call them “archives of research materials” and discuss them further. It is still unclear why these archives of research materials have been lost and why museums cannot maintain them as documents relevant to their specimens. Clear illustrations of the problem can be found in the two hypothetical cases presented below, each concerning museum identity and policy. In one case, rock specimens, the main objects of geological research, affect the evaluation of “supplemental” documents such as photos of the fieldwork through which the specimens were collected. After original scholarly works and their methods have been established, supplemental materials are usually regarded as less valuable than the primary materials. Due to museums’ limited preservation resources, these supplemental materials are consequently disposed of. Hypothetically again, research materials will be lost when there are no related specimens or when there is no appropriate museum department to take them, for instance, the manuscript of a physics thesis, which would seem appropriate for a natural history museum. A museum’s identity lies in its selection of collections; of course, museums’ limited resources force them to prioritize, causing them to prize their primary materials while abandoning others. Though they cannot be blamed for making this choice, the excluded materials disappear from the museums’ framework. Therefore, survival depends on individual efforts. Some discerning researchers privately preserve research materials that record the activities of their predecessors. They instinctively understand the importance of these materials but do not know how to make use of the older ones in cutting-edge research or simply have no time to do so, leaving the resources to pile up in office corners. Given the current situation in universities and other academic institutions, researchers transfer more often than ever, in a trend that will probably accelerate in the days ahead, making it more difficult to keep these research archives privately in one place. Experientially, these materials are near the end of their life-span when they are two generations away from the researcher who

produced them; for someone three generations away, the materials are almost meaningless, both for the researchers and for the original researchers' families. Eventually, these research materials disappear without being noticed, and unceremoniously.

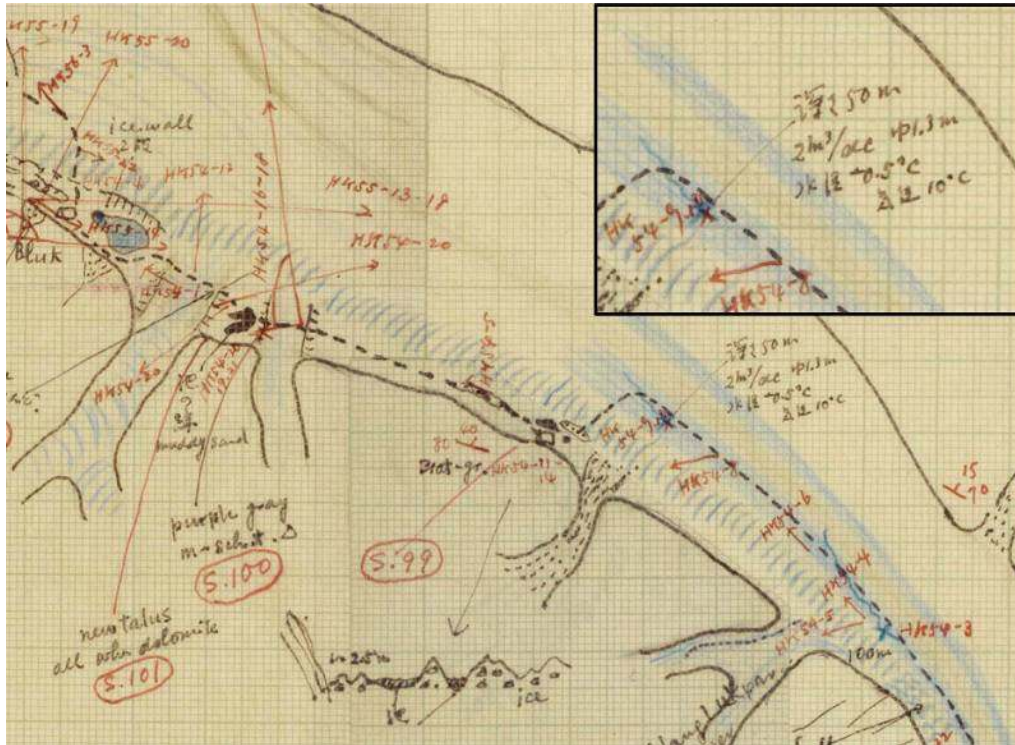


Figure 1. Route map of the Biafo Glacier documented by geological team of the Kyoto University Science Expedition in Karakoram in 1955.

WHY WE SHOULD PRESERVE RESEARCH ARCHIVES

Archives of research materials are valuable in two ways: as scientific data and as documentation of the “reality of research.” An illustration of the first case is a series of route maps documented in 1955 by geologists of the Kyoto University Science Expedition (KUSE) in Karakoram (see Fig. 1). A map records the famous huge glacier Biafo through an elaborate field survey. The line of dashes in the figure shows the team’s route, and the red arrow shows the location and direction of the photographs, with their photo identification numbers (e.g., HK54-8). The map allows us to integrate together the route and photographs taken by the researchers,

the sampling locations of the specimens (e.g., S. 99) and of the strikes and dips, and the shape and measurement of the glacier. There are zoom-in images at the top right of the figure, survey findings on the depth of the point, flow-per-second measurements with water widths, and the temperatures of the running water under ice and in the open air. Though one of the geologists was interested in snow and ice research, this route map has been used only once in a geological context. It is easy to imagine how these data, integrated with the photos, could be used for the scientific analysis of environmental or climate change. In addition, rock specimens sampled by this expedition and stored in a museum as conventional collections could be integrated into the route maps to enhance their scientific value (see Fig. 2). These maps have never been published as a series outside of archive programs. The official report on the expedition's geological survey shows more general information and includes, as an appendix, a broad geological survey map of the area; a few introductions have also appeared in researchers' general interest paperbacks. Otherwise, these materials have been left in a researcher's private hands.

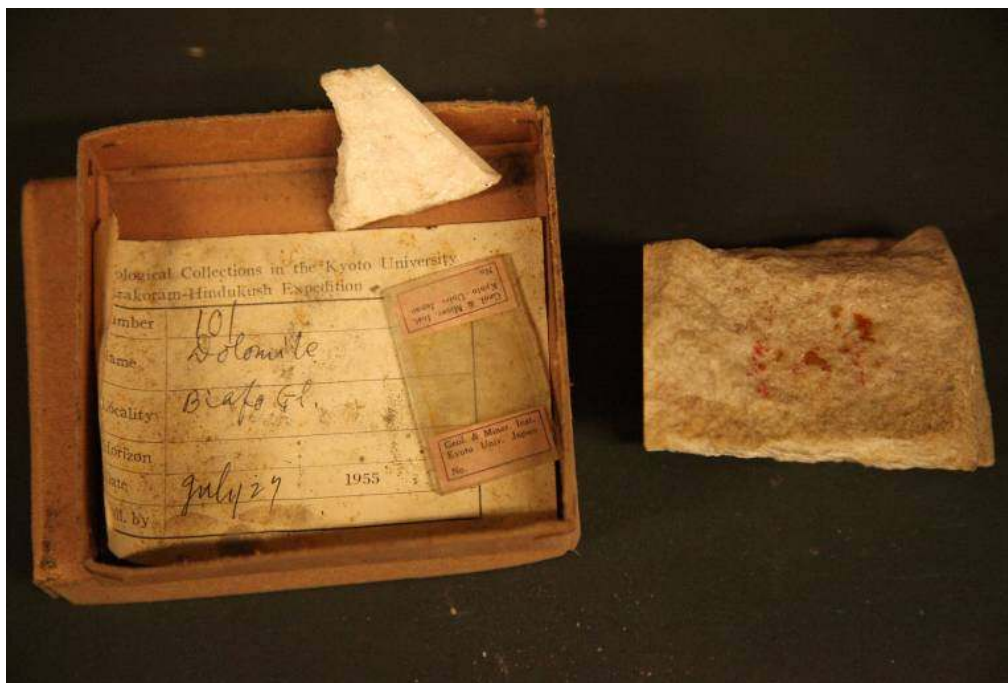


Figure 2. A rock specimen stored in the museum collection. Specimen number 101 on the label shows the actual sampling point on the route map in Fig. 1.

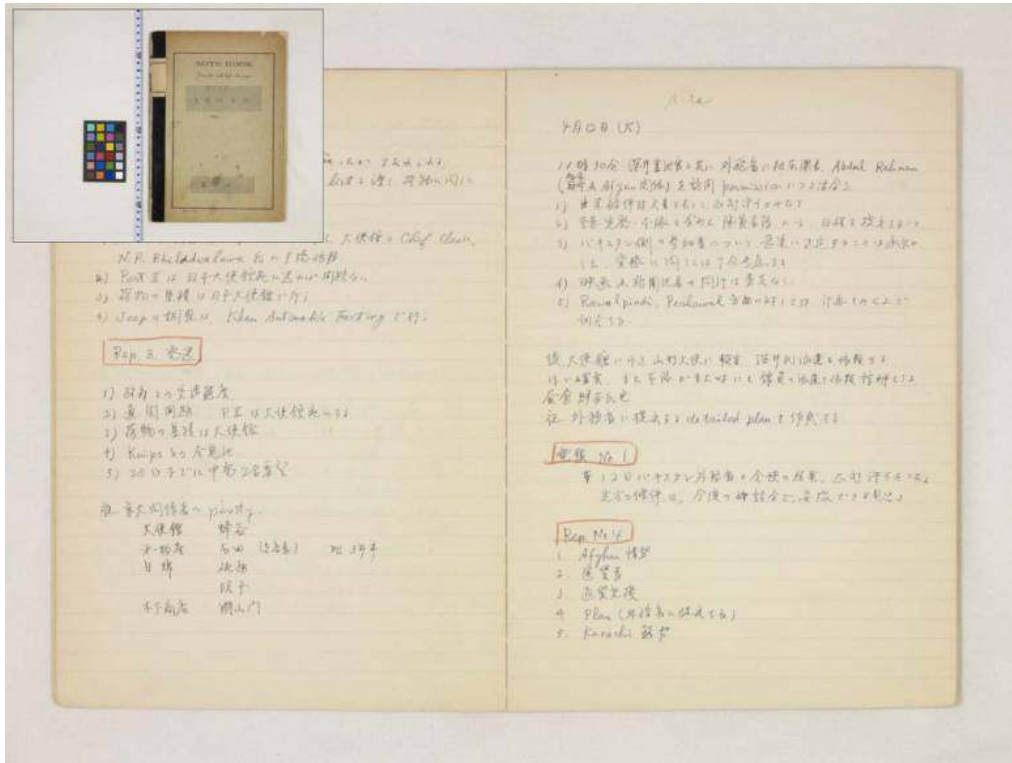


Figure 3. The expedition diary written by geologist Dr. KAZUO HUZITA stored in KURRA.

An example of the reality of research is seen in the diaries (see Fig. 3) written by the same geologist. He left three volumes of expedition diaries, which detail his personal agony of the survey and the coordination and organizing of the expedition team, as well as the procedures required to deal with the harsh desert and arctic alpine environments. Combined with photos (see Fig. 4) such as the scene of fieldwork in which a researcher sits on a chair with a parasol, these diaries allow us to reconstruct the reality of the expedition's research conducted 60 years ago. People may think of that photo's scene as a traditional representation of an old-fashioned European expedition; but, after reading the materials carefully, they will understand that the researchers had daringly brought chairs in order to create a comfortable environment and allow them to concentrate on intellectual work in the otherwise physically strenuous context of the expedition. In this way, these materials record the reality of research and are especially valuable when combined.



Figure 4. A scene of field work in KUSE (photo HK6-11) stored in the KURRA.

THE DISTINCTIVENESS AND FUNCTIONS OF ARCHIVAL MATERIALS

A further difference between specimens and archival materials must be observed. As conventionally and easily understood, specimens are physical representative of species and types for scientific study. They record a tangible kind of phenomenon of nature or of the earth, therefore they are scientific materials, but they cannot record the interactions, processes, activities, or events concerning researchers. Only archival materials can record these. Consider the interactions between humans and objects (see Fig. 5, in which the boxes with solid lines represent substantial elements). Humans exert an action on the object but their interactions are unsubstantiated. However, with archival materials, these interactions may be substantiated as shown in the boxes with solid line. In short, among various academic resources, archival materials could be the key materials for reconstructing the reality of research.

Museum exhibitions, and especially university museums, are both research and educational organizations. It is thus important that they exhibit not only the outcomes of research but also the activities of the researchers—the reality of research—for educational purposes. People are becoming increasingly aware that the living experience is as important as the objects; material plenty is still fundamental, but

people are spending significant resources of time and money on their living experience, as confirmed in the growth in the tourism and content industries.

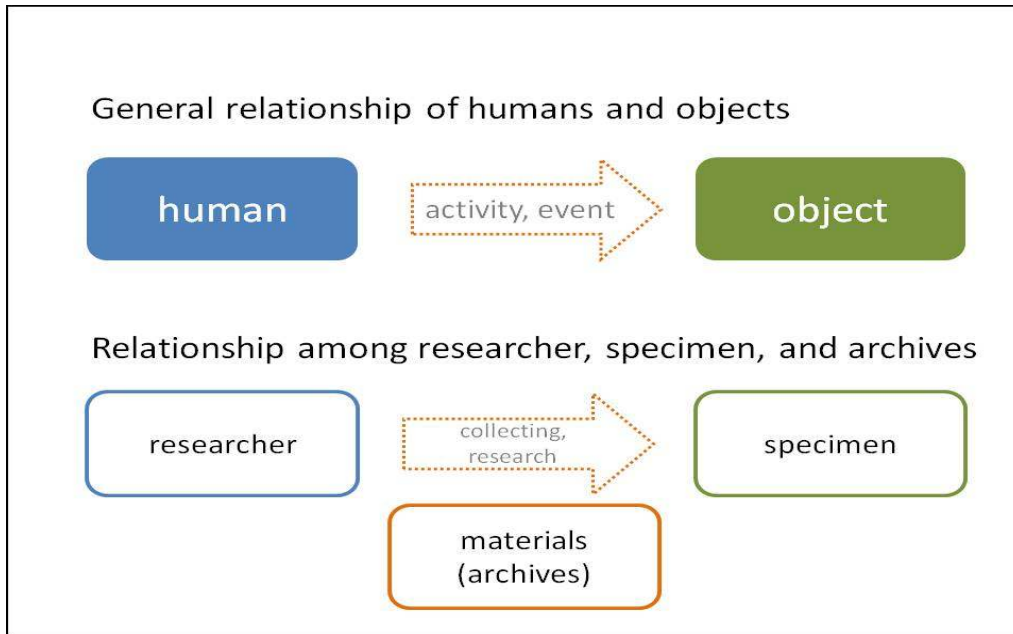


Figure 5. Relationship between humans and objects. Archives record interactions.

Another key point concerning the relationship between museum identity and archival materials has to do with museums' activities. Almost all museums have their own collections. The term "museum" is defined on the homepage of the International Councils of Museums (ICOM) the following way:

A museum is a non-profit, permanent institution in the service of society and its development, open to the public, which acquires, conserves, researches, communicates and exhibits the tangible and intangible heritage of humanity and its environment for the purposes of education, study and enjoyment. (According to the ICOM Statutes, adopted during the 21st General Conference in Vienna, Austria, in 2007.)

The first three activities mentioned above—acquisition, conservation, and research—are normally less visible to the general public and casual users, even to sponsors and stockholders, but are fundamental. The contexts in which these less visible activities take place could be shown through archival materials. Displaying museum activities is an important part of enabling museums to sustain their balance and need not be boring to the public; guided

tours to storage facilities could be organized, for example.

Therefore, all museums should eventually (as some are doing already) exhibit the experiences, activities, and interactions related to their collections by using research archives.

**A CASE OF RESEARCH MATERIALS ARCHIVES:
THE RESEARCH RESOURCE ARCHIVE, KYOTO
UNIVERSITY**

This chapter introduces the Research Resource Archive, Kyoto University (KURRA) as a pioneering approach to archiving research materials. The KURRA is a new and unique university-wide project to collect, preserve, and use materials produced through past education and research activities. A group of researchers who considered those materials important decided to establish a fourth university facility—in addition to the museum, library, and archive—designed to preserve the “processes of education and research.” The KURRA was founded as a university-wide function in 2008 and is now mainly run by the Kyoto University Museum.

The KURRA’s activities fall into three categories: collection, preservation, and services. Collection, simply a kind of search for materials, begins with an investigation and recording of the materials’ location. Next, in the appraisal, we decide what to keep by consulting the owners and relevant researchers about the materials. Then, we register the materials with common origins as a “collection,” while respecting the archival principles of original order and provenance.

We perform two kinds of preservation tasks: the documentation of information and the physical securing of materials. We digitize materials to create digital objects during this process, though digitization is not regarded as sufficient preservation but rather as a form of materials use. Afterwards, metadata such as documented information and digital objects are input into a digital archive platform system, the Kyoto University Digital Archive System (KUDAS), with archival standards, and the Encoded Archival Description (EAD). The KUDAS is essential software that manages archival materials, digitized data, and related movies in an appropriate, structured way. As the contexts and relationships of the materials are significant factors in preserving their archival potential, they are preserved using the KUDAS hierarchical structure system. Without this documentation process, the materials would be treated as trash. After these consistent and time-consuming routine of

preservation activities, we provide various services that make use of the materials.

In the service process, the KUDAS serves as the main interface for KURRA's archival collections. The KUDAS has two interfaces, one for general users (which is available) and another for researchers (which is in preparation). We have also released 23 movies created from archival collections (we edited the movies using archival materials and related items and images) and have created four online exhibitions/interactivities. Of course, this digital content has educational purposes, but the services, conceived when the KURRA began, were merely designed to show how rich these materials are and to gain enough popularity to sustain the KURRA project. Moreover, we conduct real exhibitions for services and outreach. A good illustration of the importance of museums' archival materials and of digital content and exhibitions was seen in 2011, during our special exhibition at the Kyoto University Museum to celebrate the opening of KURRA's digital collections to the public on the Web. The special exhibition, "Research Records of the Megalithic Tomb Ishibutai," was about the research excavation of large stone tombs conducted by Kyoto University researchers nearly 80 years ago. We hung photo-panels of digitized photographic glass plates over an enlarged excavation map spread on the floor to match up where the photos were taken. We thus reconstructed the excavation area and replicated the progress of the excavation chronologically according to the dates on the glass plates (see Fig. 6). We also screened contemporary documentary films of the excavation. All of these reality-of-research items were exhibited along with some of the excavated relics. This exhibition was possible only because we had created a digital collection of the materials. The exhibition showed the reality of excavation at that time by displaying both archival collections and specimens together. Nevertheless, every such event demonstrates the difficulty of keeping and recording these temporary exhibitions. These reconstructed contexts comprising archival materials and specimens undoubtedly have value but cannot be stored in the KUDAS.

ROLES OF DIGITAL CONTENT/EXHIBITIONS

Of the services mentioned in the previous chapter, we shall now focus on digital content/exhibitions. They have two roles: as outreach and as records. Digital content/exhibitions can serve as an important introduction to archival collections in outreach to the public and to students: they open windows to the collections and

provide access to the digital archive system. Some digital archives consist of dynamic content that is not searchable through Internet search engines (known as the “Deep Web”); providing explanatory text on the digital content/exhibitions that is searchable by Internet users could enable access to these. In their role as records, digital content/exhibitions express the relationships among materials, museum collections, and archival collections; they can in fact be used as the media for recording those relationships. For example, the relationships reconstructed in the exhibition mentioned above could be recorded in a digital content/exhibition. They also record the original purposes of archive materials. Pieces of photos originally intended to combine into one panoramic photo, for example, could be effectively re-expressed in digital content or an exhibition. A serious challenge must be overcome, however: preserving the digital content/exhibitions themselves. This will become an important task for museums and archives in the very near future.



Figure 6. A scene in the “Research Records of the Megalithic Tomb Ishibutai” exhibition room. On the left is the spatial reconstruction, and on the right is the chronological reconstruction.

THE FUTURE

In discussing the KURRA as a case of research archiving, we note that all of the activities mentioned in this paper occur towards a “sustainable archive,” reflect a balance among collection, preservation, and services, and form a “virtuous circle.” We also intended to make the KURRA collection larger and richer, so that it could serve effectively as a source for new research. We plan to create a storage area and a research room and offer more services for researchers and students. Most importantly, we hope that all researchers, especially young ones, become aware that their own research materials may be archived in the not-so-distant future and handle them in an appropriate way for upcoming next generations.

This is the most important legacy that present researchers can provide for the future.

ACKNOWLEDGEMENTS

I would like to thank the Research Resource Archive of Kyoto University and the faculty of the Kyoto University Museum for allowing access to information and for giving the opportunity to discuss this issue. I express my thanks most specially to the director of the Kyoto University Museum, Professor Ohno Terufumi, the secretary of the KURRA, Professor Nagamasu Hidetoshi, Professor Motokawa Masaharu, Professor Liao Lawrence, and KURRA archivist Professor Gotoh Haruyoshi for their valuable ideas and suggestions. Any shortcomings and errors in this paper are entirely the responsible of the author.

NOTES

For information on the Research Resource Archive, Kyoto University, visit the link below; <http://www.rra.museum.kyoto-u.ac.jp/>

Museum definition and its development according to ICOM Statutes, see the link below; http://archives.icom.museum/hist_def_eng.html

This is an expanded and revised version of a presentation given in 2013 at the 2013 annual meeting of the Association of Systematic Biologies of the Philippines (ASBP) in Baguio City.