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Contents

Foreword by Max Hebditch vii
Acknowledgements viii
Preface xi

Part 1 Chapters
1 Introduction 14
2 What is information in the museum context? 19
3 The users of information in museums 33
4 Managing information to make it accessible 43
5 A strategy for using information 68
6 Human resources in information management 78
7 Using today's technology to help the people resource 92
8 Procuring and installing a computerized information management system 108
9 Organizing and running a computerized information management system 120

Part 2 Case studies
Case studies topic finder 138
1 BEAMISH: The North of England Open Air Museum 140
2 Bradford Art Galleries and Museums 148
3 Callendar House, Falkirk 151
4 Ceredigion Museum, Aberystwyth 158
5 Hampshire Museums Service 164
6 The LASSI (Larger Scale Systems Initiative) project 170
7 The Manchester Museum 176
8 The Museum Documentation Association 181
9 The National Maritime Museum 190
10 The National Museum of Wales 210
11 Norfolk Museums Service 214
12 North Somerset Museum Service 223
13 Portsmouth City Museum and Records Service 229
14 The RAF Museum 232
15 The Royal Commission for Historic Monuments of England 244
16 St Albans Museums 249
17 Scienceworks (Museum of Victoria, Melbourne, Australia) 252
18 The Victoria and Albert Museum 259
19 The Theatre Museum 279

Index 286

What is information in the museum context?

In this chapter

Knowledge and information
What museums need to know to achieve their aims
Information to support knowledge
Who owns information?

Any organization – including any museum – that is serious about using information to help it to achieve its aims has first to make its own definition of what information means for it, in the light of what those aims are. The idea that 'information' can mean different things for different organizations is perhaps an unfamiliar one, but it grows out of the general definition of information as the 'essential food of knowledge' which is adopted in this book. That definition relates information to knowledge in the minds of human beings, because it is only when information is transformed into knowledge and consciously applied to purposes defined by humans that it has value and power to bring about desired changes. In organizations like museums, different groups and individuals need to apply different kinds of knowledge to do their work, and so they have particular 'stakes' in different kinds of information. If a museum is to make productive and profitable use of information, it needs not only to define what information means for it, but also to understand itself as a community of users of information, to recognize the 'stakeholders' in information, and to provide them with the means of negotiating over the use of information.

Knowledge and information – some theory

While the avowed orientation of this book is a practical one, because this is our sense of what the readers we are addressing mainly wish to have, that is not to say that there is no theory underlying the ideas about information and its management which we propose. For those readers who are interested in knowing something about it, we shall say something here about its derivations; those who want to get on with the business can safely move on to the definitions on the next page.

We claim no originality for the theoretical basis. Its roots lie mainly in information science and the thinking of some of its founding fathers who went on contributing into the 1980s (in particular Brookes, 1980a and b, and Farradane, 1980) as well as such contemporary theorists as Ingwersen, 1992; Belkin, 1990; Ginman, 1988; and Saracevic, 1992. Their ideas underlie the emphasis

we place on the transformations which human minds make of external information into internal knowledge, and of internal knowledge into information which can in turn be put into the outside world for others to transform to knowledge for their own purposes. The other contributing strand – which again is quite mainstream – comes from modern theories of organizations as what Eason (1988) calls 'socio-technical systems'. It draws on such concepts as the soft systems approach (see, for example, Checkland, 1969, 1985) and organizational learning (see, for example, Argyris & Schon, 1978; Fiol & Lyles, 1985; Senge, 1990; Garratt, 1994).

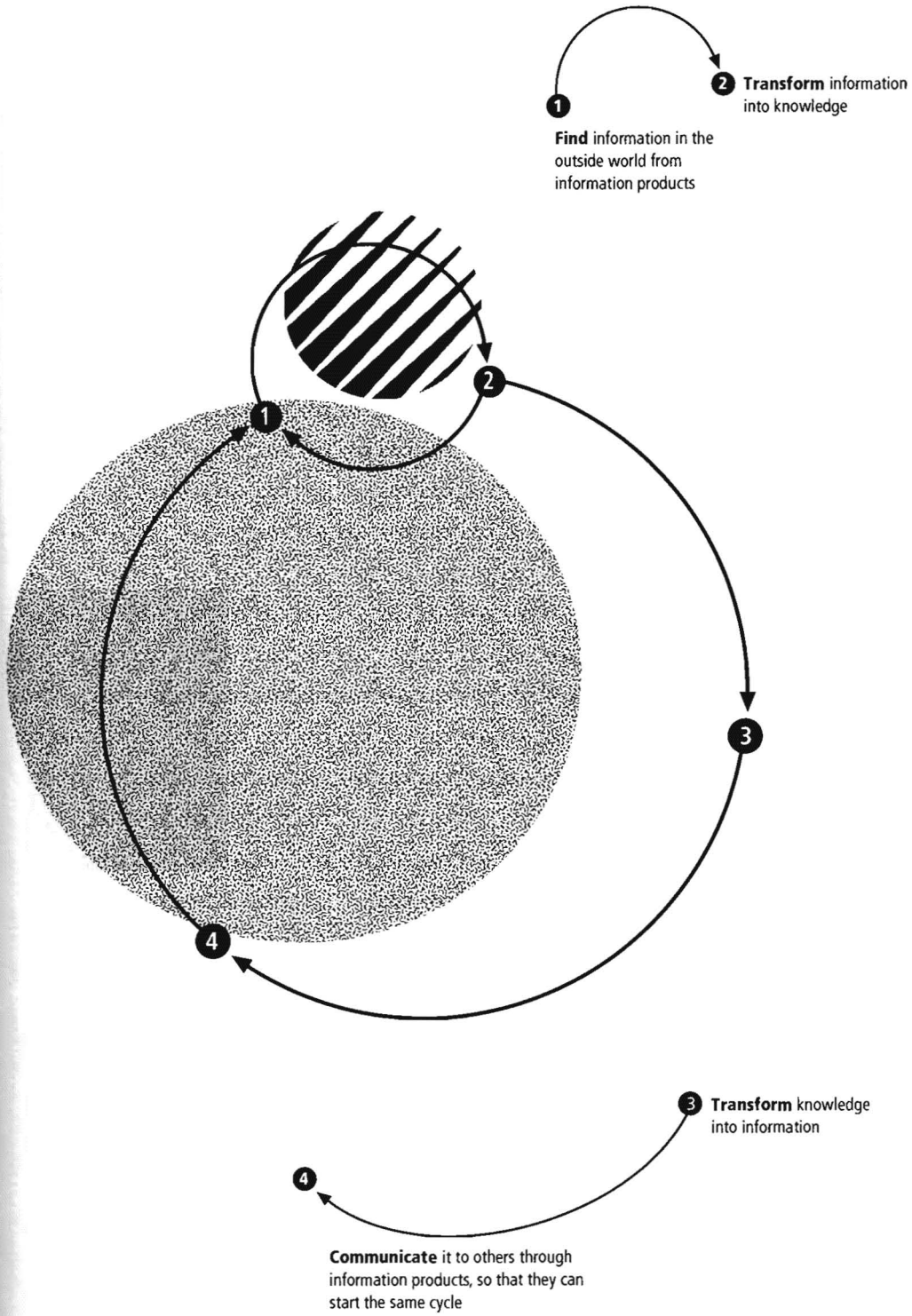
This strand underlies the attempt in this chapter to define what information means for a given organization. Organizations are seen essentially as consisting of human beings who are grouped together in socio-technical systems for explicit or implicit purposes. They interact both internally and with their 'outside world'; the interactions are of human beings with one another, and of human beings with technology. They create 'offerings' of products or services for their outside world; they have to seek 'sustenance' to keep in being; and they have a structure and a boundary. If these are the features singly necessary and jointly sufficient to make an organization, we can define the knowledge and the know-how they need in order to survive. They need to know what is happening inside their own boundaries, and in the 'outside world' on which they depend for sustenance; and they need to know how to recognize, interpret and act on significant changes within and without, how to create their 'offerings', and how to communicate. The actual content of the knowledge and know-how, and so the nature of the information they need to sustain it, will depend on their definition of their aims, of what they are in business for.

A general definition of knowledge and information

Knowledge is what we acquire from our interaction with the world; it is the results of experience organized and stored inside each individual's own mind in a way that is unique to each (though there are features common to how we all do it). It comes in two main kinds: knowledge *about* things, and *know-how*. We make it our own by *transforming* the experience that comes from outside into internal knowledge. Knowledge belongs to us more surely than most of our possessions, and is indeed the most precious and essential of all.

Information is what human beings transform their knowledge into when they want to communicate it to other people. It is knowledge made visible or audible, in written or printed words, or in speech, and put into external 'containers' like books, articles, conference papers, or databases. We can also usefully think of it as the *food of knowledge* because we need information and communication to nourish and maintain our knowledge and keep it in good shape for what we need to do in the world. Just as we have to transform food into energy before we can derive benefit from it, so we have to transform information into knowledge before we can put it to productive use. Figure 2.1. represents the process.

Transformations of information to knowledge and knowledge to information | **Figure 2.1**



As this general definition of information implies, the information required to feed knowledge has to be selected to meet the requirements of what we need to do with it – and they depend on our aims, purposes or objectives. The information that individuals and institutions need in order to maintain their knowledge will consist of different elements, according to their understanding of what they most need to do, that is, according to their value system.

Information is often spoken of today as a valuable resource, but in applying this description we need to be aware of some peculiarities and unique features which distinguish it from other material resources, and which are relevant to its value:[1]

Given those characteristics, organizations, including museums, need to be aware of the importance of interchange and negotiation among those with a stake in information. For examples of promoting interchange and negotiation, see the case studies of LASSI p170, the National Maritime Museum p190 and the V&A p259. They also need to know what their information assets consist of, and to realize their potential for adding value and avoiding risk. See Chapter 5, p68 for an example of an 'audit' of a museum's information assets.

Why organizations need to define information for themselves

For most organizations, the idea that they need to define information in their own terms, or indeed that they need to define it at all, is an unfamiliar one. Most discussion of information systems, information resources, etc. assumes that everyone knows what information is, and that they all agree on what it is. But the definitions that emerge by implication from what organizations say about themselves, or explicitly from the answers of managers if they are asked what information means to them, are mostly rather thin and impoverished, usually with an emphasis on such things as IT, MIS (management information systems), or financial results. And there is no agreed organization-wide definition – individuals will define information in differing ways, from the point of view of their own immediate experience, and some people may not recognize that they actually use information at all, because their understanding of the concept is so restricted. Richer, more comprehensive and so more useful defin-

[1]This description of the peculiarities of information is based on Orna (1995).

1. In order to have value, information has to be transformed by human cognitive processes into human knowledge, without which no products of tangible value can be produced or exchanged.

2. If it is hoarded for the exclusive use of a limited number of people, it can actually fail to achieve its full potential value for those who hoard it, but if it is exchanged and traded, the value resulting from its use increases for all parties to the transactions.

3. Information has no inherent value of itself. 'Its value lies in its use' (Abell, 1993, p53) and the parable of the talents is applicable to it.

4. Information is a diffused resource, which enters into all the activities of organizations and forms a component of all products and services. As McPherson (1994, p203) puts it, 'Information permeates all organizations; it is the raw material of cognitive activity ... and ... the means whereby the organization obtains its window on the world.'

itions start to develop only if organizations ask themselves: 'What do we need to *know* to survive and prosper'?

Aims and their knowledge implications – an example

A typical set of aims or objectives for a museum might be expressed in terms similar to those in the left-hand column of Table 2.1; shown on p24. The right-hand column sets out the 'knowledge-about' and the 'know-how' which it needs to have – in the minds of the people who work in the museum – in order to act effectively to achieve its aims. For other examples of museum objectives, see the case studies of Callendar House, Falkirk p151, National Maritime Museum p190, North Somerset Museum p223, and the V&A p259.

Questions essential for survival

A complementary way of arriving at a museum's knowledge requirements is to list the questions to which it needs to know the answers in order to survive.

The collections

1 What is in the collections?
2 Why was it collected?
3 Where did it come from?
4 Where is it now?
5 What has happened to it since it came into the museum?

People on whom the museum depends

1 Who are the visitors to the museum?
2 What do they do there?
3 What questions do they ask?
4 Who are the potential visitors?
5 Who does the museum need to influence?
6 Who are its key contacts?
7 Who are its suppliers?
8 Who are its 'competitors' and its potential 'collaborators'?
9 Who are its 'customers' and 'markets'?
10 What knowledge and expertise do its staff possess? What else do they need to know about?

Finance to support the museum

1 What are the museum's present sources of funding?
2 What is its financial situation?
3 Where can it find additional funding?

Table 2.1

Aims	Knowledge required to meet them
Displaying collections	Of collections themselves Of technologies relevant to display of museum objects Know-how relevant to display
Adding to them via gift, transfer, purchase	Of potential and actual donors Of other potential sources Of market prices, vendors, etc. Of 'acquisition history' of items in collection Of value of items Of the terms of gifts
Documentating, researching, publishing collections; encouraging development of scholarship	Of collection, and of subject background; of developments in scholarship in relevant fields Of modern documentation practice, and of technologies to support it Of 'history' of all items since they became part of the collection Publishing know-how
Providing suitable housing and storage, in keeping with modem conservation requirements	Of modern conservation techniques, environmental requirements of materials/object
Complementing the collections by loan exhibitions from other museums	Of collections of similar museums, in all countries
Interpreting the collections so as to engage the interest of visitors, provide education and inspiration and encourage them to continue to visit	Of the subject areas of collections, of collections themselves, of 'visitor profile', of interpretation methods Of the education system Know-how in presentation of information
Promoting the museum to a range of audiences, from first-time visitors to scholars	Of actual and potential visitor profile (including local population) Of strengths of collections, and ways in which they can engage interest of different audience Of PR know-how and skills
Securing resources from a range of sources to allow maintenance and development of the museum's activities	Of museum's actual financial and other resources, and of its financial position Of potential sources and methods of approaching them Of relevant legislation
Observing and contributing to the development of standards which affect the museum's field of interest	Of existing standards, requirements, regulations, legislation Of bodies concerned with developing and maintaining standards

Note: The aims in this table are based on those of the Tate Gallery, as set out in the gallery's *Forward Plan/Biennial Report.* Permission to use them in this context is gratefully acknowledged

Standards and obligations

1. What legal obligations does the museum have to meet?
2. What standards must it meet?
3. What conditions must its collections be kept in?

Scientific and technological support

1. What areas of scientific knowledge does it need to keep abreast of?
2. What is the state of the relevant technologies to support its work?

The knowledge base and the information to support it

We can describe the knowledge which a museum needs to master if it is to achieve its objectives as its 'requisite knowledge base'; it forms a useful standard against which to test its 'actual' knowledge base. We can also derive from it a statement of the kinds of information which it needs to take in so as to maintain its knowledge, and again, that forms a standard against which to set the *actual* information which the museum collects and uses in its work (see Table 2.2 on pp26–27).

The heart of the knowledge base

At the centre of the museum's requirements for knowledge and information are the collections; all the other kinds of knowledge and information which any museum requires depend on them. If that core is not properly maintained, none of the aims can be achieved; instead of a rich store which justifies and rewards all the promotional, interpretive, commercial, financial and administrative uses of information, there will be a black hole in the middle. Current developments in the technology will certainly bring new ways of using collections and of creating 'offerings' based on them, and their form may also change, but they will still remain the core.

A threefold store of information and knowledge

We can think of the core of a museum as a threefold store of information and knowledge, as shown in Figure 2.2 on p28.

The immediately visible store is what confronts us as soon as we enter a museum. Within that store – in art treasures, objects of daily life, machinery, mineral specimens, or dinosaur bones – is a store of 'embodied' information: what artefacts are made of, who made them, how, where and for what purpose they were made; where natural objects originate from, how and when they were formed, the material of which they are composed; how once-living organisms functioned, where and when they lived. Behind that again is an invisible store of knowledge in the minds of the people who are responsible for the care and presentation of the collections – supported by information sources that feed their knowledge, and made visible in the form of products

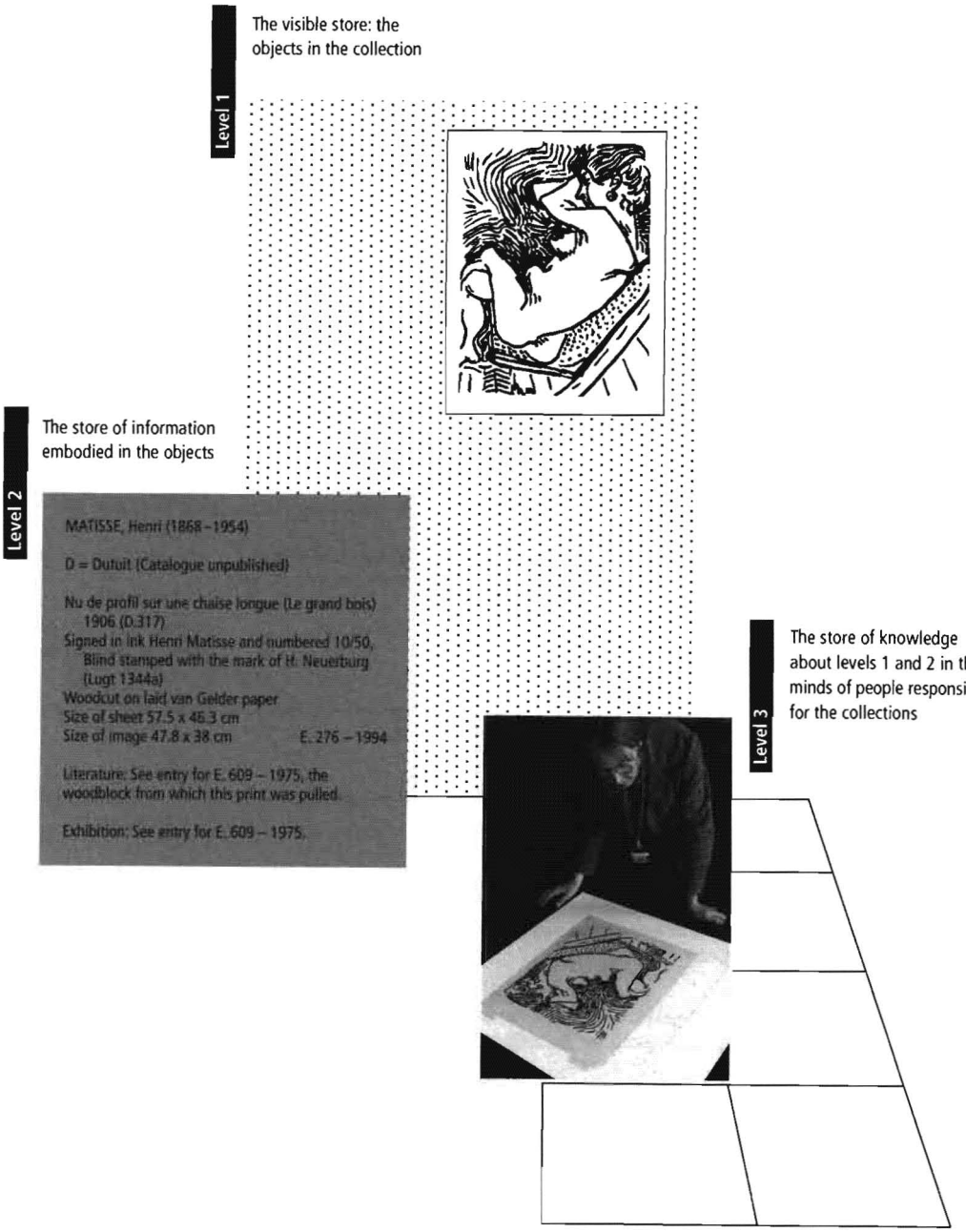
Requisite knowledge for meeting aims	Information required to feed the knowledge	
	Information content	Container or vehicle for information
Of collections themselves	Comprehensive and complete details	Records, manual or in database
Of technologies relevant to display of museum objects. Know-how relevant to display	Current developments	Periodicals, conference papers, communication with professionals
Of potential and actual donors	Comprehensive and complete details	Records, manual or in database
Of other potential sources Of market prices, vendors, etc.	'Current awareness'	Press, conversation, contacts databases
Of 'acquisition history' of items in collection	Comprehensive and complete details	Records, manual or in database
Of value of items	Valuations plus 'current awareness'	Records, manual or in database; other documents
Of the collections, and of subject background; knowledge of scholarly developments in relevant fields	Past and current literature	Books, periodicals, conference proceedings – held in libraries and personal collections; communication with professionals
Of modern documentation practice and of technologies to support it	'Current awareness'	Periodicals, conference proceedings, products of specialist organizations
Of 'history' of all items since they became part of collections	Comprehensive and complete details	Records, manual or in database
Pulishing know-how	'Current awareness' of developments in technology; past and current literature	Periodicals, books, trade literature, training courses, communication with professionals
Of modern conservation techniques, environmental requirements of materials/objects	'Current awareness' of scientific and technological developments	Periodicals, books, communication with professionals
Of collections of similar museums, in all countries	'Current awareness'	Periodicals, conference proceedings, communication with professionals

Note: This table, like Table 2.1, is based on the aims of The Tate Gallery

Information required to support the 'requisite knowledge base' **(continued)** **Table 2.2**

Requisite knowledge for meeting aims	Information required to feed the knowledge	
	Information content	**Container or vehicle for information**
Of 'visitor profile'	Complete and comprehensive	Records; survey results details of visitors
Of interpretation methods	'Current awareness' of methods	Periodicals, conference proceedings, communication with professionals
Of the education system	'Current awareness' of developments in curriculum, teaching methods, etc.	Press, periodicals, communication with professionals
Know-how in presentation of information	'Current awareness'	Books, periodicals, training courses
Of actual and potential visitor profile (including local population)	'Current awareness' of local demography, employment, etc.	Local press, local organizations
PR know-how and skills	'Current awareness'	Communication with professionals, training courses
Of museum's actual financial and other resources, and of its financial position	Complete and comprehensive financial details	Records of transactions; accounts
Of potential sources and methods of approaching them	'Current awareness'	Press, contacts databases
Of existing standards, requirements, regulations, legislation Of bodies concerned with developing and maintaining standards	'Current awareness'	Government publications, published standards; database of organizations

Figure 2.2



Visual material reproduced by permission of the V&A Museum

that help visitors to relate to what they see before them, from captions and labels to catalogues, from interactive displays to guided lectures.

Similar ideas were expressed by Lytle (1981) in his 'recommendations for development of information resources at the Smithsonian Institution':
'The Smithsonian Is Information ... Museums select objects because they convey information. Artifacts, specimens, models, paintings, photographs and texts all are chosen because they convey information through their uniqueness or representativeness, their historical significance, or their aesthetic appeal. Museums conduct research to add information to their holdings, whether by identifying them more precisely or by discerning more accurately their relationship to human society. Museums disseminate information through scholarly and popular publications, films, lectures and exhibits. One objective in their educational programs is to bring objects together in a way which increases their information content.'

The full range of knowledge and information as described in Tables 2.1 and 2.2, and not merely that relating to the collections themselves, is essential if the threefold store which forms the core of museums is to function properly. The relationship between information about the collections and information about the visitor profile, or sponsorship funding, or the latest interactive multimedia technology, is one of mutual support – not only are all the kinds of knowledge and information essential, they have to interact if the museum is to gain full value from them (see Figure 2.3 on p30).

Who owns museum information?

There is a good deal of fairly loose talk at present about 'ownership' of information in organizations. If we define knowledge and information as they have been defined in this chapter, we can perhaps arrive at a clearer view of who owns what. Besides the concept of owners of information, we also need to consider two other groups – 'stakeholders' and 'guardians'.

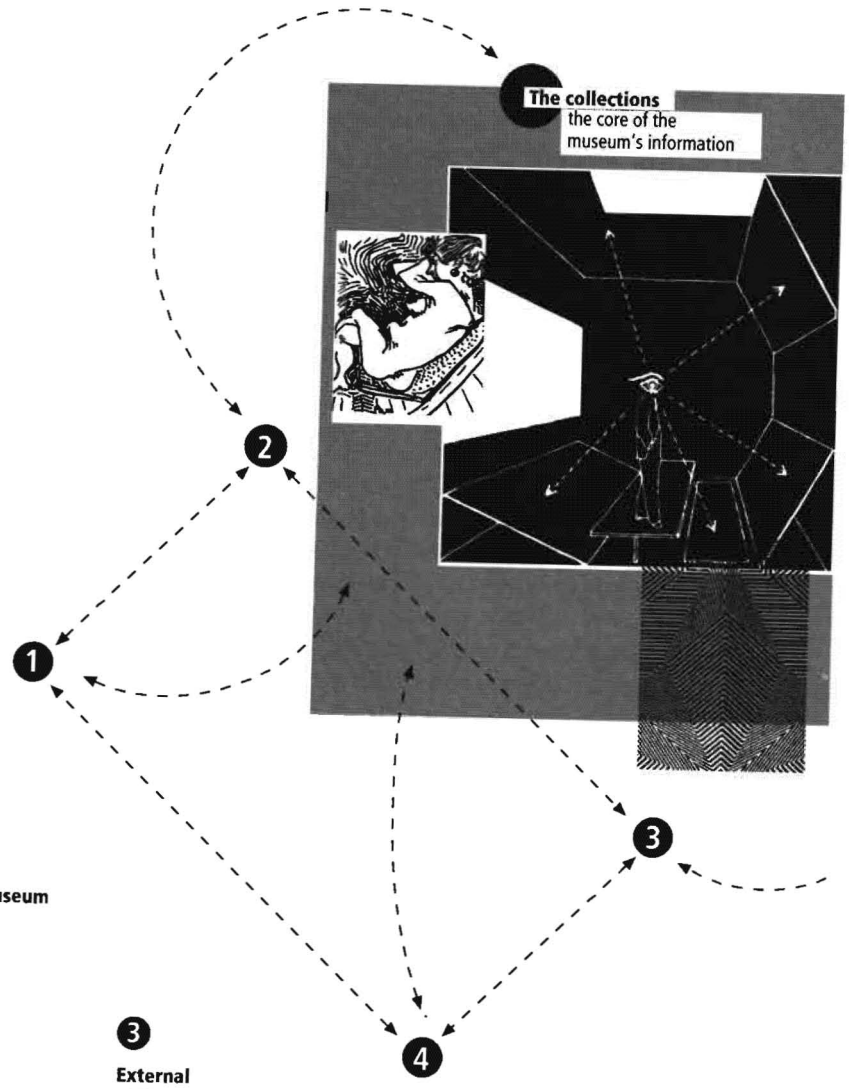
Ownership

The museum is the owner of all *information* that it acquires and generates as an institution (though it must pay due regard to copyright in the case of what it acquires). Individual *knowledge* is the property of the person who holds it in his/her mind. The *information products* into which individuals who work for the museum transform their knowledge in the course of their work become the property of the museum.

'Guardians' and 'stakeholders'

The museum as an institution delegates responsibility for managing certain kinds of information to particular individuals or groups. In exercising responsibility for particular types of information (for example, information about donors, or about enquiries received), they have authority over acquiring, re-

Figure 2.3



1

People the museum depend on:
Visitors
Donors
Sponsors
Friends
Staff
Suppliers
Trading partners

2

Finance:
Income and expenditure
Grant-giving bodies
Sources of sponsorship/donations
Commercial activities

3

External obligations:
Legislation
Regulations
Standards

4

Scientific and technical support:
Display
Storage
Conservation
Information management systems
Publishing

Matisse woodcut, reproduced by permission of the V&A Museum
Multi-view diagram based on an original drawing by Herbert Bayer

cording, and amending the information in question, and oversight of the ways in which it is used. They are, in effect, the 'guardians' of this information.

In addition to the guardians of any particular kind of information, there are usually many people who have a vital stake in it, because they need it in order to maintain their essential knowledge for doing their job. A documentation department, for example, may be the guardian of the master records of the objects in the collection. The stakeholders will include curators who provide cataloguing information, the registrar's department which is responsible for the inventory, acquisition and accessioning aspects of the records database and for keeping movement and location information up to date, conservators who provide conservation details, and the fund-raising department which needs information from the database for developing its strategy and products.

Organizations of all kinds should take into account the position of guardians and stakeholders in relation to information, but often their 'organizational culture' does not recognize it, and the way in which they are managed does not provide a forum where stakeholders and guardians can negotiate about their access to and use of essential information. That creates the potential for conflicts of interest and brings the danger of information not being well used to support the aims of the organization. It is essential for those who manage museums to be aware of the multiple and legitimate interests of information stakeholders and guardians, and to develop equitable organizational forms which ensure that they meet one another and negotiate over the information they need.[2]

Applying this chapter in the small museum

This chapter is primarily about asking yourself questions, thinking, and applying what you know in answering them. Everyone can do that, no vast resources of technology are needed, and indeed small institutions have something of an advantage here, simply because fewer people are involved and the number of things they need to take into account is not too daunting. This is a case where 'small is manageable', so all you have to do is draw on your knowledge and write down the answers as briefly as possible!

[2] While the ideas set out here arose from discussions with colleagues in museums, they find an interesting echo from the world of business in a report from the Hawley Committee (1995) on the use and value of information assets by businesses, which also distinguishes the roles, rights and responsibilities of three groups of people: owners, custodians and users of information.

Summary

The essential points of this chapter:

1. The 'requisite knowledge base' of the museum consists of what it needs to know, about itself and its outside world, in order to achieve its aims; it forms a standard against which to compare what it actually knows.
2. Information from the point of view of the individual museum means whatever it needs in order to maintain its knowledge base. Once that has been defined, it too forms a standard against which to compare the information it actually possesses.
3. The people with an interest in the museum's resources of information and knowledge consist of 'guardians' who hold responsibility for particular kinds of information, and 'stakeholders' who have a special interest in particular kinds of information. They need to negotiate with one another over the use of information, and senior managers need to provide a forum where they can negotiate.

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