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Shamanic knowledge: The challenge to information science

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Abstract

Shamanism, a form of healing involving soul travel and trance found in many traditional societies the world over, has been studied by anthropologists and scholars of religious studies. Shamanic traditions are characterized by specialized, restricted, and esoteric knowledge domains that are encoded and communicated through condensed and mystified symbols and reproduced in ceremonies. Shamanic knowledge is acquired through direct experience of the numinous, usually in the process of overcoming personal affliction. Information science so far has been silent on shamanic knowledge. This is understandable given the latter discipline's focus on formal documentary information systems and advanced information technologies. But in view of its mandate to encompass the study of all modes of knowledge in terms of information behavior and processing, it holds out an unfulfilled promise to expand our understanding of knowledge and information to include shamanic knowledge, complementing the perspectives of anthropology and religious studies and shedding fresh light on the nature of shamanism. Drawing on the author's own studies of shamanism among the Taman of West Kalimantan, Indonesia, this article argues that objects play an important documentary function in fixing technical and arcane knowledge when writing is absent. This finding can enrich information science in rounding out its approach to knowledge.

Keywords: shamanism, information science, anthropology of knowledge, material culture

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I

In their *Reader in Comparative Religion*, Lessa and Vogt (1979, 301) hint at the problem of shamanic knowledge by contrasting shamans and priests, viewing the two types of religious practitioners as polar endpoints on a spectrum. The powers of the shaman, they write, “come from direct contact with the supernatural, by divine stroke, rather than from inheritance or memorized ritual.” Priests, by contrast, must master “a body of codified and standardized ritual knowledge from older priests,” which they later transmit to their successors (Ibid.).

Shamanic knowledge, unlike priestly knowledge, is not encoded in any scripture. This makes it an unlikely topic for examination from an information science perspective. However, it is not outside the scope of information science. Data presented here from the author’s ethnographic study of shamanism as practiced by the Taman people in Borneo support the claim that material culture embodies, organizes, and helps preserve shamanic (and perhaps other ceremonial) knowledge. This case material challenges us as information scientists to broaden our notions about traditional knowledge and its transmission, distribution, and social organization.

At its basis, information science depends on theories about knowledge. For information scientists, knowledge is what is gained mentally from understanding sources of information. These sources may be first-hand experience, oral communication, or, most important in our field, records. From this disciplinary viewpoint, knowledge is information that placed in context or transformed through some process. There is, in Rowley and Hartley’s (2008, p. 4) words, a “tight coupling” between concepts of knowledge and information, with knowledge being

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something developed out of information through synthesis, structuring, study, internalization, or another process. Knowledge in this view is a refinement of information.

Following Marcia Bates (1999), we can say that all human activities produce information, and that it is the function of information science to study all this information that originates from human agency and people's relationships to it. Most of this work involves the product of information, "information entities." Information entities need not be documents, but are somehow traces of it. Bates (*Ibid.*, p. 1048) writes, "In comparison to other social and behavioral science fields, we are always looking for the red thread of information in the social texture of people's lives. When we study people, we do so with the purpose of understanding information creation, seeking, and use. We do not just study people in general." Information science, in other words, is a social science like anthropology or sociology,[1] but those disciplines cannot take its place because of its unique focus on the roles and functions of information in people's lives.

As the field is practiced up to the present time, no information scientist has yet focused on shamanism. The subject is far more likely to come to the attention of practitioners of other social sciences, especially anthropology. Bates, however, promotes a vision or agenda for information science in which the information entities produced by shamanism (a human activity) would come under its jurisdiction.

The information science approach to knowledge is based on communication and artifacts of knowledge—embodied information. As an applied field, information science involves new and emerging technologies for communicating, storing, retrieving and representing information. However, it could have much broader applications. Information science holds out a promise to

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explain behavior, processes, artifacts, and transactions involving all modes of knowledge and information, not limited by the container or vehicle of transmission or by genre.

II

Information science is not the only discipline to have problematized the concept of knowledge. Coming from a different direction, anthropology has also made the nature of knowledge a problem of central concern. One could even argue that the entirety of anthropological description and analysis, focusing as it does on cultural rules, values, beliefs, and practices is nothing but the study of a kind of knowledge. Anthropology is a behavioral science, and anthropologists generally reconstruct knowledge from their observations of practices, following up observations with interviews and sometimes more formal instruments (Bernstein, 2010).

Unlike information science, anthropology does not stress the connection between knowledge and information. Additionally, anthropologists studying knowledge in cultural context are usually unworried about the absolute truth, factuality, or verifiability of knowledge claims, especially as they pertain to folk concepts (Ibid.). Instead, they concentrate on how knowledge or belief informs practice (Pelto & Pelto, 1997) and the criteria that determine validity. Inspired by the distinction between phonemic and phonetic description of language, anthropologists created a distinction between emic and etic, corresponding to the insider's view using vernacular terms and the external, observer's view. Cosmological, metaphysical, and spiritual concepts are always emic: their objective reality cannot be verified, much less measured, but they are factors in people's thought, decision-making, and behavior, so it is part of their everyday reality. A recent paper by Fredrik Barth (2002) on the anthropology of

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knowledge stresses the need to transcend purely emic analysis of knowledge, which he finds flawed by circular reasoning since putative conceptual structures are substantiated by the concepts abstracted from the same data. More productive, he says, is to “identify the salient processes of production, reproduction, and use of knowledge” (Barth, 2002, p. 6). We can see a potential common ground between the approaches to knowledge of anthropology and information science.

III

The meaning and scope of „shamanism“, like that of „knowledge“, can be debated endlessly and is the subject of a large literature. Shamanism is a form of healing in which the healer’s soul exits his or her own body and travels to locate, capture, and return the errant soul of a patient. The travel of the soul involves induced altered states of awareness and mastery over spirits. Shamanism exists in many forms around the world, but one can generalize that shamanism as an institution depends on specific notions about the soul, spirits, and illness, and these notions have been the chief focus of academic notions of shamanism. Although shamanism is not in itself a religion it is properly considered a religious phenomenon (Hultkrantz, 1988), since it involves premises about ultimate realities and realms of existence to which humans do not ordinarily have access. Shamanic practices and related concepts about illness are very widespread among traditional peoples. Thus, shamanism is a standard topic for researchers of ways of life in traditional, non-literate societies, chiefly anthropologists and scholars in religious studies, but also some psychologists, psychiatrists, and scholars of the performing and visual arts. To the extent that it focuses on the causes and treatment of illness, shamanism is a kind of medicine, and a few intrepid pharmacologists and botanists have

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attempted to mine the shaman's traditional, unwritten medical knowledge of efficacious medicinal plants and concoctions for their active compounds. However, the domain of medicine in traditional societies does not generally map accurately onto scientific or academic medicine but rather is fit into medical or psychological anthropology.[2]

As a domain of practice, shamanism is associated with a knowledge base that is specialized, restricted, and mystified to non-initiates. Shamanic practices involve particular ways of knowing, using an altered state of awareness to contact and communicate with spirits; training in shamanic techniques and education in shamanic knowledge is achieved through inducing these altered states (Winkelman, 2004). The shamanic state of awareness enables shamans to take on the identities of spirits, "becoming" them in performance, a phenomenon known as ecstatic role-taking (Siikala, 1978), and enables them to cultivate visions or mental images that are essential to their understanding of spirits (Noll, 1985). Shamans acquire their status as practitioners through individual experiences of suffering and affliction that they have overcome through initiation as shamans. Initiation is frequently likened to death and rebirth (Ripinsky-Naxon, 1997), and the shaman's work is considered fraught with danger. Through illness and initiation, shamans acquire some of the knowledge that typifies their occupation and that sets shamans apart from laypersons.

Shamanic knowledge is not scriptural or doctrinal, but it involves complex ceremonies restricted to initiates and knowledge of dimensions of reality not apprehended by non-shamans.[3] Knowledge of the cosmological concepts and practical details of shamanism is somehow stored, transmitted, accessed, organized, and operated on in the absence of writing. How is this possible? How is shamanic knowledge represented? What cognitive or social structures enable it to persist and be accessed and activated? To quote McGarry (1991, 134),

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“There has to be a physical medium to freeze in time the produce of human brainpower and act as a vehicle for its storage and transfer.” To examine the problem I will revisit my ethnography of the Taman of West Kalimantan, Indonesia (Bernstein, 1997), which looked at these issues from an anthropological perspective. I will suggest that the material objects used in shamanism play an important role in fixing shamanic knowledge for organization and retrieval.

To introduce my approach I cite a recent article by Fiona Kerlogue (2011) describing how material culture is connected to social memory, which is based on shared experiences or a shared project. Kerlogue, studying Malay villagers in Jambi, Sumatra, states that household objects used in everyday life “may trigger memories of people or events” (p. 93). Kerlogue found that the key components of rituals in the Malay villages she studied were ephemeral objects such as flower petals rather than durable objects such as swords, but that the durable objects had important attributes in fixing memory as objects of intrinsic power, as tools, as templates, and as props in rituals. But her larger point is that everyday household objects that are traded, inherited, or used in ceremonies “contain or signify shared cultural values” (p. 99; cf. Csikzentmihalyi & Rochberg-Halton, 1981). Kerlogue’s study reaches for a theory to explain the role of material culture in fixing and accessing social memory (see also Connerton, 1989).

Material culture is very important in shamanism. In the literature on shamanism, for example, many scholars have remarked on the importance of drums and costumes (see Eliade, 1964; Finch, 2004; Maginnis, 2004). The objects and material culture of shamanism are laden with information and meanings that come into play in shamanism and constitute much of the knowledge base. This material culture comes into play in all aspects of shamanic knowledge, including séances, disease diagnosis and treatment, oral recitation, and ecstatic role taking. I argue that material culture documents and unifies the diverse, complex, and elaborate corpus of

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Taman shamanic knowledge. My approach complements a standard anthropological approach, which would focus on oral recitation in chanting as the main vehicle of shamanic knowledge (see Sather 2001; cf. Turner 2009). I also question the standard anthropological assumption that ceremonial objects are best explained in terms of their symbolic meanings and attributes. Instead, I suggest, following Kerlogue (2011), that objects play an important documentary function in fixing technical and arcane knowledge when writing is absent. The strong biographical connection with stones through psychological projection and connection with dreams enhances their informational load.

For the Taman, the central shamanic objects are stones. Stones in general, including beads and boulders, are objects of fascination, mystery, and folklore concerning transformation among the Taman and other traditional societies in the Upper Kapuas region in Borneo. Shamans' stones are shrouded in an ideological aura of mystery. They are not considered ordinary stones but spirits that have been materialized during the shaman's initiation ceremony. These stones are supposed to be lighter than ordinary stones. Ideology has it that shamans' stones are frightened off by regular stones and will spontaneously disappear if placed alongside natural stones. According to this ideology, spirits are afraid to descend if natural stones are on the premises. For stones to come into being in ceremonies shamans would have to knowingly hide stones in their garments and catch them using sleight-of-hand techniques. Shamans participating in the ceremony would also be responsible for any carving or other molding of stones prior to the ceremony (see King, 1975, 108). This deceitful aspect of shamanic knowledge (which comes with the risk of being discovered and discredited) cannot be separated from belief in the overall reality of shamanism, but it is difficult if not impossible to investigate.

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In two years of ethnographic research among the Taman, I found no dissent among villagers regarding claims about the reality of the shaman institution, including its miraculous aspects.

Much information is locked up in these stones, and only the shamans who own them can activate their powers. During the course of an initiation ceremony, over 100 stones are collected by being tapped with leaves of the *Cordyline fruticosa* plant during dances around a ceremonial structure, itself filled with various leaves, foods, and other objects to attract spirits. The stones, purportedly moist and warm when caught in the ceremony, are immediately anointed with cooking oil, hardening them and making them a gleaming black, before they are put on display. The individual names and identities of many of the stones reveal themselves to the novice shaman in dreams. Several categories of stones represent the different kinds of spirits. To catch the stones representing the various spirits, shamans enact the behavior of certain animals, for example, in clawing motions or making characteristic animal sounds. At the conclusion of the ceremony, all the stones are given to the novice shaman, who participates in the ceremony and catches a stone. These stones are kept in a large basket, and a small number, which have proper names and which look different by being smooth and polished, are kept in a small container within that basket.

Stones from the smaller kit are believed to be not only captured spirits but also soul-doubles of the shaman's family members. In a simple healing ceremony, a shaman rubs these stones over the body of a patient after dipping them in an herbal decoction to remove spirits or objects injected by spirits that caused the illness. The ceremony begins with an intonation said over the stones, and the nature of the illness is defined and specified by the kind of stone used to remove it. Special practices also pertain to each of the stones and the objects removed by them. No one who is not a shaman can activate the power of these stones, and a shaman who loses his

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or her stones must be re-initiated. These stones also help guide the shaman's soul in traveling to locate the lost soul of a patient, and are addressed individually by name in incantations.

These stones, which are instruments in the work of shamanism in several ways (disease diagnosis, object extraction, conjuring, and séance), do not merely function as reminders of spirits and illness but are equated with them and with their treatment. They inscribe and materially represent shamanic knowledge to shamans through the ideology of their transformation from wild spirits. They are psychologically potent objects, creating for each shaman a collection of tools that recall memories of that shaman's own illness, spirit encounters, and recovery process. As enduring objects, they have biographies through being used to treat patients and to locate and lure back their errant souls. In chants, shamans address their own stones and the stones of other cooperating shamans by name; they claim the stones talk to them, eat food, and drink liquor. They embody a vocabulary, classification, and set of practices regarding spirits and treatments.

The stones are not just ritual objects with referents external to them that can be used in action; objects whose symbolism condenses and unifies disparate referents, some with opposite meanings (Turner 1969, 52). A semiotic perspective that goes beyond symbolism is needed to make sense of the knowledge-bearing qualities of objects (Keane, 2005). Shamans' stones do not merely symbolize but construct and contain meanings and information in the domain of shamanism. In effect, they create a discourse on illness, a representation of knowledge summing up the shaman's profession. Created afresh each time a shaman is inaugurated, they reproduce the shamanic cycle, renewing and perpetuating shamanic knowledge system. The process by which shamans' stones come into being in a mystified, symbolic, and dramatic way, in the shaman's own initiation ceremony, along with how they are ascribed meanings and identities is a

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socially institutionalized means in a traditional, preliterate society for encoding specialized knowledge, complementing oral tradition.

The bold suggestion that an instrument can store information or knowledge must be scrutinized. What does it mean? We would not say, for example, that a musical instrument stores information on the melody of a piece of music just because one needs that instrument to play the music.

Other instruments of shamanism enable a shaman to perform but do not represent knowledge in such significant ways. A crucial instrument in Taman shamanism is a wooden pole tipped with a forged metal piece shaped like a fishing hook. This pole, grounded in a basket of the stones, is used to help carry the shaman's soul and enable it to communicate with spirits. This object facilitates altered awareness needed to enter séances. It activates and helps access knowledge, and I have argued that the hook motif reverberates "through all phases of the [shaman's] activities . . . evoking complex meanings specific to the [shaman's] domain" (Bernstein 1997, p. 103). Though the hook tip has symbolic meanings related to the symbolic piercing of shamans' eyeballs and fingertips to enable them to perceive spirits, it does not represent detailed knowledge of shamanism in the same way that stones do.

The ceremonial tray around which shamans dance in the initiation ceremony also contains much information. It is specially constructed and must be decorated with specific kinds of leaves as well as species of fish and is filled with food offerings such as eggs and sago cake. It is suspended from ceiling rafters in the center of the area in which the initiation ceremony is held, and the candidate shaman sits underneath it while the assembled shamans intone a chant. The ephemeral objects used decorating the tray also embody knowledge and information pertinent to shamanism. Additionally, shamans gather information essential in their work from

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other ceremonial devices, such as oracles, which are also ephemeral, made of areca palm blossoms.

But the Taman shaman's stones seem to have a special relationship to knowledge beyond their instrumentality. They serve as markers of knowledge to guide memory. They have a complex nomenclature and taxonomy and their classification involves identities, practices, and illnesses or body parts associated with particular illnesses. For Taman shamans, stones have a unique role in material culture in giving them their authority and social recognition.

These objects are the chief physical reminders of the shaman's illness and initiation, and of spirit torment. Stones remain as artifacts of shamanic knowledge, materials that must be referred to in language and practice. By being created anew for each inductee, they reproduce the whole system of knowledge in a customized way for each shaman. They do not record historical knowledge as heirlooms do but as "biographical objects" (Hoskins, 1998), uniquely putting material form to cosmological and shamanic concepts. They are evidence of the reality of spirits and their efficacy in curing disease by extracting small object such as pebbles representing the disease object.

We can see that Taman shamanic knowledge is codified not in documents but in material objects. Certain kinds of material culture, like fabrics decorated with motifs (Adams, 1969) or rock art (Tilley, 1991), lend themselves fairly easily to being viewed as texts, but not the kinds of objects used by Taman shamans. Nor would one say they have the primary function of recording or documenting information. While the contemporary concept of the document has been expanded to encompass different means of reading or receiving information (Hjerpe, 1994), I think it would be a distortion to characterize shamanic regalia, equipment, accoutrements, or provisions as documents. They are not inscribed in a legible code. No one but the shaman who

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owns the stones can “read” them by examining or handling them. But for the owner, handing them individually and collectively enables recall of spirit encounters and facilitates the altered state of awareness essential in shamanic knowledge and cognition (see Harner, 1980). The content of shamanic knowledge is intricately connected to, even activated by, these objects. This does not mean that shamanic knowledge is only active knowledge, knowledge of how to use these objects. Rather, theoretical, classificatory, and descriptive knowledge otherwise held only in memory is condensed, represented, and activated in these objects. Stones are memory aids reminding practitioners of shamanic knowledge. For patients and other attendees at a healing service the stones represent the shamans’ healing powers and the mystery of their transformation rather than shamanic knowledge itself. They are objects of fascination and curiosity, but they are not treated reverently.

Michael Buckland (1991, pp. 43-54) has considered objects that are not documents as potentially being informative, whether or not they were created with the purpose of conveying a message. He calls this “information-as-thing.” For Buckland, pure knowledge is intangible and is distinct from its representation in an object (see also Jones, 2009; Saab & Riss, in press). His examples come from science, as in a collection of fossils in a museum or an antelope studied, described, and displayed in a zoo. As we have seen, the models of knowledge in information science have been disconnected from those of anthropology, making it difficult to apply Buckland’s discussion to a ritual domain such as shamanism.

IV

For the Taman, ceremonial objects have a documentary function in that they aid in organizing and recalling knowledge needed to understand and perform shamanic ceremonies.

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They sum up and represent the specialized, technical and procedural knowledge in this domain.

This finding may be useful in understanding objects and artifacts in other cultural traditions.

In the absence of texts, stones are the closest thing to documents of Taman shamanic knowledge, since they are artifacts and traces of knowledge serving as placeholders for recalling, visualizing, and reconstructing information. Visualization is an important means for memorizing and organizing information in oral societies (see Yates, 1966), and stones or other such occult objects can help in the arts of memory required for expertise and mastery of complex ritual knowledge.

The fact that shamanic knowledge is found in practices involving objects that are neither texts nor documents presents a challenge to information science to adjust its notions of knowledge. To fully understand information behavior and knowledge representation, especially as it pertains to ceremonies and non-literate traditions, it is necessary, I argue, to look beyond texts and apply information science concepts and methods to the use of other artifacts and material culture. Such objects could play a significant role in accessing knowledge, as is the case with Taman shamans's stones. Another intriguing example of ceremonial objects having a crucial role in organizing memories is the *malanggan*, a kind of funerary effigy common in New Ireland (see Kuchler, 2002).

Given their focus on standardized and published information sources and advances in technology, it is not surprising that information scientists have not looked at modes of knowledge and information in traditional small-scale, societies without writing. But recent developments in information science show an openness to considering the broadest context of information and knowledge domains in terms of fields of activity (Hjørland, 1997), and in this context shamanism holds out potential to enrich our understand of knowledge as a social

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practice. For anthropologists and religious studies scholars, shamanism represents a profound heritage of accumulated knowledge and even wisdom that has enduring value. To the extent that material culture helps store, organize, and reproduce this knowledge, however different it may be from our standard notions about knowledge, it is a proper subject matter for information science and can help broaden our understanding of human information behavior.

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References

- Adams, M. J. (1969). *System and meaning in East Sumba textile design: A study in traditional Indonesian art*. Cultural Report 16. New Haven, CT: Yale University Southeast Asia Studies.
- Barth, F. (2002). An anthropology of knowledge. *Current Anthropology* 43, 1-18.
- Bates, M. (1999). The invisible substrate of information science. *Journal of the American Society for Information Science* 50, 1043-1050.
- Bernstein, J. H. (1997). *Spirits captured in stone: Shamanism and traditional medicine among the Taman of Borneo*. Boulder, CO: Lynne Rienner.
- Bernstein, J. H. (2010). Folk concepts. In H. J. Birx (Ed.), *21st century anthropology: A reference handbook* (pp. 848-855). Thousand Oaks, CA: Sage Publications.
- Buckland, M. (1991). *Information and information systems*. New York: Greenwood.
- Connerton, P. (1989). *How societies remember*. Cambridge: Cambridge University Press.
- Czikszenmihalyi, M. & Rochberg-Halton, E. (1981). *The meaning of things: Domestic symbols and the self*. Cambridge: Cambridge University Press.
- Eliade, M. (1964). *Shamanism: Archaic techniques of ecstasy* (Trans. W. R. Trask). Princeton, NJ: Princeton University Press.

SHAMANIC KNOWLEDGE

- Finch, R. (2004). Drum, shamanic: Form and structure. In M. N. Walter & E. J. N. Fridman (Ed.), *Shamanism: An encyclopedia of world beliefs, practices, and culture* (pp. 101-105). Santa Barbara, CA: ABC-CLIO.
- Flaherty, G. (1992). *Shamanism and the eighteenth century*. Princeton, NJ: Princeton University Press.
- Harner, M. (1980). *The way of the shaman: A guide to power and healing*. San Francisco: Harper & Row.
- Hjerpe, R. (1994). A framework for a description of generalized documents. *Advances in Knowledge Organization*, 4, 173-180.
- Hjørland, B. (1997). *Information seeking and subject representation: An activity-theoretical approach to information science*. Westport, CT: Greenwood.
- Hoskins, J. (1998). *Biographical objects: How things tell the stories of people's lives*. New York: Routledge.
- Hultkrantz, Å. (1988). Shamanism: A religious phenomenon? In G. Doore (Ed.), *Shaman's path: Healing, personal growth, and empowerment* (pp. 33-41). Boston: Shambhala.
- Jones, W. (2009). No knowledge but through information. *First Monday* 15 (6). Retrieved from <http://firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/article/viewArticle/3062/2600>
- Keane, W. (2005). Signs are not the garb of meaning: On the social analysis of material things. In D. Miller (Ed.), *Materiality* (pp. 182-205). Durham, NC: Duke University Press.

SHAMANIC KNOWLEDGE

Kerlogue, F. (2011). Memory and material culture: A case study from Jambi, Sumatra.

Indonesia and the Malay World 39 (113), 89-101.

King, V. T. (1975). Stones and the Maloh of Indonesian West Borneo. *Journal of the Malaysian*

Branch of the Royal Asiatic Society, 48, 104-119.

Küchler, S. (2002). *Malanggan: Art, memory, and sacrifice*. Oxford: Berg.

Lessa, W. A. & Vogt, E. Z. (Eds.) (1979). *Reader in comparative religion: An anthropological*

approach (4th ed.). New York: Harper and Row.

McGarry, K. (1991). Epilogue: Differing views of knowledge. In A. J. Meadows (Ed.),

Knowledge and communication: Essays on the information chain (pp. 132-152).

London: Library Association Publishing.

Maginnis, T. (2004). Costume, shaman. In M. N. Walter & E. J. N. Fridman (Ed.), *Shamanism:*

An encyclopedia of world beliefs, practices, and culture (pp. 57-61). Santa Barbara, CA:

ABC-CLIO.

Machlup, F. (1980). *Knowledge: Its creation, distribution, and economic significance* (v. 1:

Knowledge and knowledge production). Princeton, NJ: Princeton University Press.

Narby, J. & Huxley, F. (Ed.) *Shamans through time: 500 years on the path to knowledge*. New

York: Jeremy P. Tarcher/Putnam.

Noll, R. (1985). Mental imagery cultivation as a cultural phenomenon: The role of visions in

shamanism. *Current Anthropology* 26, 443-461.

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Pelto, P. J. & Pelto, G. H. (1997). Studying knowledge, culture, and behavior in applied medical anthropology. *Medical Anthropology Quarterly (n.s.)*, 11, 147-163.

Ripinsky-Naxon, M. (1997). *Sexuality, shamanism, and transformation*. Berlin: VWB.

Ripinsky-Naxon, M. (1998). Shamanic knowledge and cosmology. In H. Wautischer (Ed.), *Tribal epistemologies: Essays in the philosophy of anthropology* (pp. 119-161).

Aldershot, Hampshire: Ashgate.

Rowley, J. & Hartley, R. (2004). *Organizing knowledge: An introduction to managing access to information*. Aldershot, Hants: Ashgate.

Saab, D. J. & Riss, U. W. (in press). Information as ontologization. *Journal of the American Society of Information Science & Technology*.

Sather, C. (2001). *Seeds of play, words of power: An ethnographic study of Iban shamanic chants*. Kuching, Sarawak, Malaysia: Tun Jugah Foundation in cooperation with the Borneo Research Council.

Siikala, A. L. (1978). The rite technique of the Siberian shaman. *FF Communications*, 220. Helsinki: Suomalainen Tiedekatemia.

Tilley, C. (1991). *Material culture and text: The art of ambiguity*. London: Routledge.

Turner, D. (2010). Orally-based information. *Journal of Documentation* 66, 370-383.

Turner, V. W. (1969). *The ritual process: Structure and anti-structure*. Chicago: Aldine.

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Winkelman, M. (2004). Neuropsychology of shamanism. In M. N. Walter & E. J. N. Fridman (Ed.), *Shamanism: An encyclopedia of world beliefs, practices, and culture* (pp. 187-195). Santa Barbara, CA: ABC-CLIO.

Yates, F. A. (1966). *The art of memory*. Chicago: University of Chicago Press.

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Endnotes

[1] The social sciences are less frequently called behavioral sciences or human sciences.

“Behavioral sciences” suggests a materialist or behaviorist orientation typically found in some sectors of psychology and economics, which “human sciences” implies an idealist or humanistic orientation deriving from history and philosophy. As used in anthropology and sociology, these synonyms suggest not only a theoretical but ideological emphasis.

[2] Gloria Flaherty (1992, 215) has suggested that shamanism provides such a distinctive analytical lens that is alternative to existing academic disciplines as presently constituted that “shamanology” has the potential, as yet unrealized, to contribute to human knowledge as a scholarly field in its own right, combining “in its own peculiar way . . . the best of the humanities with certain aspects of the social sciences, medicine, and the physical sciences.” Shamanology as a so-called new field of knowledge would actually re-integrate several existing disciplines: religion, medicine, and the arts—especially the performing arts but also visual arts and crafts.

[3] See Ripinsky-Naxon (1998) for an overview of and statement on shamanic knowledge from the standpoint of religious studies. For primary source material, see Narby and Huxley (2001). In Machlup’s (1980) typology of modes of knowledge, shamanic knowledge would fall into the category of spiritual knowledge, which is “related to [the knower’s] religious knowledge of God and of the ways to the salvation of the soul” (p. 108). A full study of shamanic knowledge would also encompass its neurobiology (see Winkelman, 2004).

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Biographical Statement

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