Chapter **18**

Hopewellian Panpipes from Eastern North America

Their Social, Ritual, and Symbolic Significance

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Songs, like rivers, are paths through the forest.
—*Marina Roseman*[1]

Panpipes found in Hopewellian ceremonial sites of eastern North America have long intrigued archaeologists and led them to various suppositions. They have been taken as a hallmark of Hopewell, "uniquely Hopewellian" (Seeman 1979a:327), because they are not found outside the Middle Woodland period. They have been used, with a few other artifact classes and mortuary practices, to define Hopewell as a unitary interregional phenomenon—the Hopewell Interaction Sphere: "panpipes in Ohio, Illinois, and Georgia are virtually duplicated in Florida" (Caldwell 1964:137), and "the size and construction of these instruments are similar across this territory" (Seeman 1995:136). Panpipes have also been used to infer the specific cultural nature of the broadest kinds of Hopewellian interaction over the Eastern Woodlands: nonlinguistic messages that were communicated through visual and musical symbols that might elicit a predictable, ritualized, behavioral response (Seeman 1995:136, 138). Finally, panpipes have given some general insight into the roles and gender relations played out in Hopewellian societies, and whether the social structures of Hopewellian peoples were uniform across the Woodlands and diagnostic of Hopewell. Griffin (Griffin et al. 1970) held that panpipes across the Woodlands were recovered exclusively with adult males.

These generalizations and others triggered the research presented here. In order to evaluate them, a thorough search was made for all instances of Hopewellian panpipes and related forms in the Eastern Woodlands. A total of 105 panpipes from 55 sites in all of the major Hopewellian cultural traditions was documented (Turff 1997). The purpose of this chapter is to report the basic information obtained, including the construction, materials, proveniences, and artifactual contexts of the panpipes, and then to analyze and interpret them culturally in a personalized and locally contextualized manner. Eight cultural topics are considered, in the following order: (1) ownership of panpipes; (2) recruitment into the social position of panpiper; (3) the social roles marked directly by panpipes and the roles with which they were associated; (4) the categories of rituals in which panpipes were used; (5) the symbolic meanings of panpipes, both specific and

general; (6) the stylistic diversity of panpipes; (7) whether panpipes were exchanged as finished items interregionally; (8) and the geographic origins of the panpipe concept. These topics are addressed by examining the contexts of deposition, artifactual and skeletal–demographic associations, materials, and styles of panpipes.

Our analyses show, most importantly, that interregional Hopewell was not a unitary, shared social organization, cult, artistic style, exchange system, musical form, or meaning system—interpretations that have been posed for interregional Hopewell over the decades. Panpipes were fluidly associated with a great diversity of social roles, both within and among regional traditions. Varying shaman-like, sodality, leadership, and other prestigious roles were bundled with the role of the panpiper. The roles with which that of the panpiper did and did not associate, and other social aspects of their use, distinguish four large regions of differing social organization over the Eastern Woodlands: the northern Midwest, the Northeast, the central Midwest, and the Southeast. Panpipes also varied greatly among locales in the kinds of rituals in which they were used. The rituals differed in the size and role diversity of those who gathered, the funerary and/or nonfunerary functions of the rituals, whether multiple panpipers gathered, and whether a deceased child, very old person, or female was anomalously the focus of the ceremony. Stylistic characteristics of panpipes are found to have differed systematically across the Woodlands, defining passive and active networks of artisan interaction that largely correspond to the four above-named regions where different roles were associated with the panpiper. In addition, the unique band style of panpipes in the Trempealeau area may have actively expressed the cultural identity of Hopewellian peoples there. Panpipes clearly had diverse social and ritual meanings in different regional traditions, given the diverse roles and rituals in which they were used. They also probably varied among Hopewellian traditions in the specific religious meanings attributed to them, especially between societies of the northeastern and those of the southeastern Woodlands, where different particular meanings were attributed to copper ethnohistorically. At the same time, the copper, silver, and melodies of panpipes may have evoked some similar, basic ideas that reflected upon the nature of panpipers when they met distant foreigners and that smoothed and motivated interactions among them. These essential ideas could have included power, the power obtained by long-distance journeying, the power of the panpiper in his/her ability to manage power, and/or humanness.

Some additional, key conclusions about panpipes and Hopewell society are also drawn here. Panpipes were found through stylistic study to seldom have been exchanged as finished goods interregionally among Hopewellian traditions. Also, it is more likely that the idea of panpipes did not originate in the elaborate, central Scioto tradition of Ohio, where panpipes are most concentrated by count, but instead, in the Upper Great Lakes area. Further, across the Woodlands, panpipes were likely owned individually rather than communally. Finally, the role of the panpiper was likely recruited through achievement, and its bundling with other social roles of importance was only weakly institutionalized, given the fluidity with which panpipes were associated with markers of other social roles.

This chapter is an outgrowth of the Masters' thesis research undertaken by Gina Turff (1997) at Trent University. All of the labor of hunting down and compiling the basic data on panpipes reported here was undertaken by her. The contextual analyses of the functions and social–ritual role associations of panpipes, panpipe ownership, and recruitment of the panpiper, as well as the style analysis of artisan networks and panpipe exchange, are the contributions of Christopher Carr. The symbolic interpretations and ethnographic analogs presented are the combined efforts of both authors.

DATA COLLECTION AND DATABASE

The data for this study were assembled by examining curated panpipes, original field notes, site reports, and conference papers. These sources were cross-referenced and cross-verified

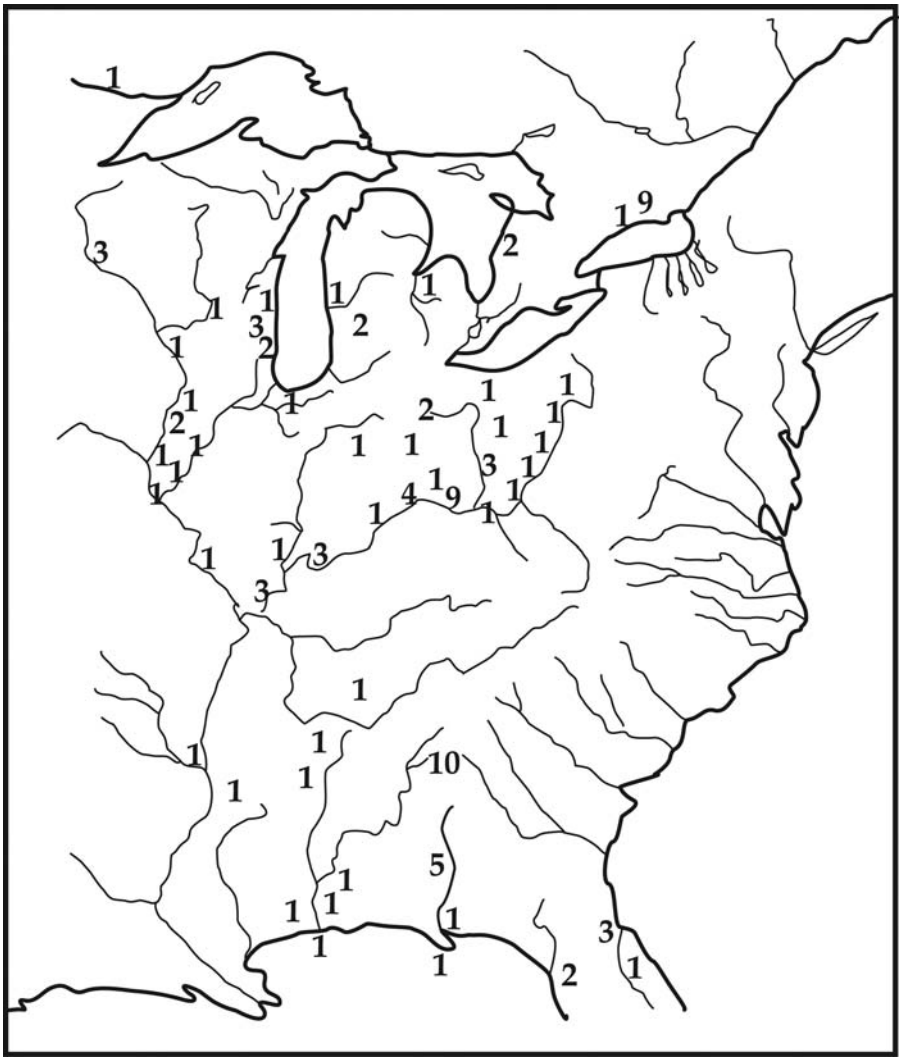

Figure 18.1. Fifty-five Middle Woodland archaeological sites in the Eastern Woodlands with panpipes studied here.

whenever possible. Authors of relevant literature were contacted to corroborate the published data and to obtain critical unpublished data. This search resulted in a database of 105 panpipes from 55 sites and 65 known intrasite proveniences within all Hopewellian traditions in the Eastern Woodlands (Figure 18.1). The geographic distribution of panpipes extends from the banks of the Mississippi River to the western flanks of the Appalachians, and from northern Wisconsin and south–central Ontario to the Gulf Coast. Temporally, all of the site components with panpipes belong to the Middle Woodland period, to the extent knowable.[2]

DEFINITION AND MORPHOLOGY OF PANPIPES

The search for examples of Hopewellian panpipes necessarily involved developing a precise definition of what constitutes a panpipe in actuality and in literary descriptions. Identifying panpipes was not always easy because written

descriptions of them are so variable in nomenclature and accuracy, especially those before 1950. Often, reports noted the presence of folded or corrugated sheet metal objects, the attributed functions of which are bewildering to us today. For example, one antiquarian report suggested that a sheet metal object, now recognized as a panpipe, was part of a sword scabbard (Atwater 1820:168–178). Other objects were described as "ornaments of sheet copper, bent over and repousse" (C. B. Moore 1896:507) and as "conjoined copper tubes" (McKern 1931:261). One object was said to have been as "accurately corrugated as though pressed by machinery" (Snyder 1898:20). Much later, Fowler (1957) recognized such metal-covered, corrugated artifacts to functionally have been "panpipes," a term still used today.

As studied here, panpipes are artifacts with multiple tubes made of cane, reed, or bone that were held together by a jacket made of copper, silver, iron, or a combination of these (Figure 18.2). The jacket might be corrugated on one side, with the number of corrugations usually matching the number of tubes, or a simple band that was wrapped around the tubes (Turff 1997:29; Young 1976:3). Band-jacketed panpipes are less consistently recognized in the archaeological literature than are corrugated-jacketed ones, because band jackets are more open and leave their organic interiors susceptible to decay. No reference was found to a band panpipe having had its organic materials, whereas corrugated panpipes sometimes still retain their organic parts.

Panpipes, in having multiple tubes, are distinguished from flutes with only one tube. All Hopewellian panpipes for which the number of tubes can be determined have three or four tubes. Three is most common. Corrugated jackets that are complete can be divided for analytical purposes according to their length in the direction of the tubes (Appendices 18.1–18.4). Long corrugated ones extend from 7.6 up to 20.7 centimeters in length, while short corrugated ones range from 2.3 to 7.5 centimeters. Band-style jackets extend up to only 3.8 centimeters in length. Of the specimens that were complete enough that they could be assigned a length ($n = 91$), long corrugated jackets are most common ($n = 61$; 67%), followed by short corrugated ones ($n = 18$; 20%) and then band-style jackets ($n = 12$; 13%).

Most Hopewellian panpipe jackets for which the kind of metal is known ($n = 102$) are copper ($n = 81$; 79%). Some are silver ($n = 11$; 11%) or copper overlaid with silver ($n = 10$; 10%), while only one (.98%) of iron and one (.98%) of iron and copper are known. The iron panpipe came from the Turner site in Ohio, and the copper and iron one from the Hopewell site in Ohio. Corrugated jackets commonly have from two to six holes on their reverse side, which may have been threaded to tie the ends of a jacket together. The organic tubes of many panpipes could have been wild cane (*Arundinaria*), which grows as far north as central Ohio. Cane was used for the tubes of the panpipe from Helena Crossing, Arkansas (Figure 18.2 [Ford 1963:17]). North of Ohio, elder (*Sambuccus*) was used at LeVesconte, Ontario (Kenyon 1986:31), and sumac such as staghorn sumac and perhaps willow were used at Donaldson II, Ontario (Young 1991). The inner tubes of a panpipe from Schwert, Wisconsin, are thought to be reed grass (*Phragmites communia* [J. Freeman, personal communication]). A "monocotyledonous plant, probably *Mais*," makes up the inner tubes of a panpipe from Albany, Illinois (Herold 1971:90).

Tubes were surrounded with various packing materials to help secure them in their jackets. Organic "stuffing" (Cree 1992:4) is most common, including loose and occasionally braided fibers that parallel the tubes (Turff and Carr, personal observations) and yarns and cambium (Ford 1963:17) (Figure 18.2). Clay was packed around the bone or reed tubes of one panpipe from the Hopewell site, Ohio (Shetrone 1926:267). It is likely that the kind and amount of packing altered the sound produced by the panpipes, and possible that the nature of the packing was selected for this purpose.

Materials may have been suspended from some panpipes. A red jasper point and a clear quartz point were found at one end of a copper-with-silver panpipe from the McRae site, Mississippi, perhaps originally hung from the pipe (Collins 1926, cited in Blitz 1986:17).

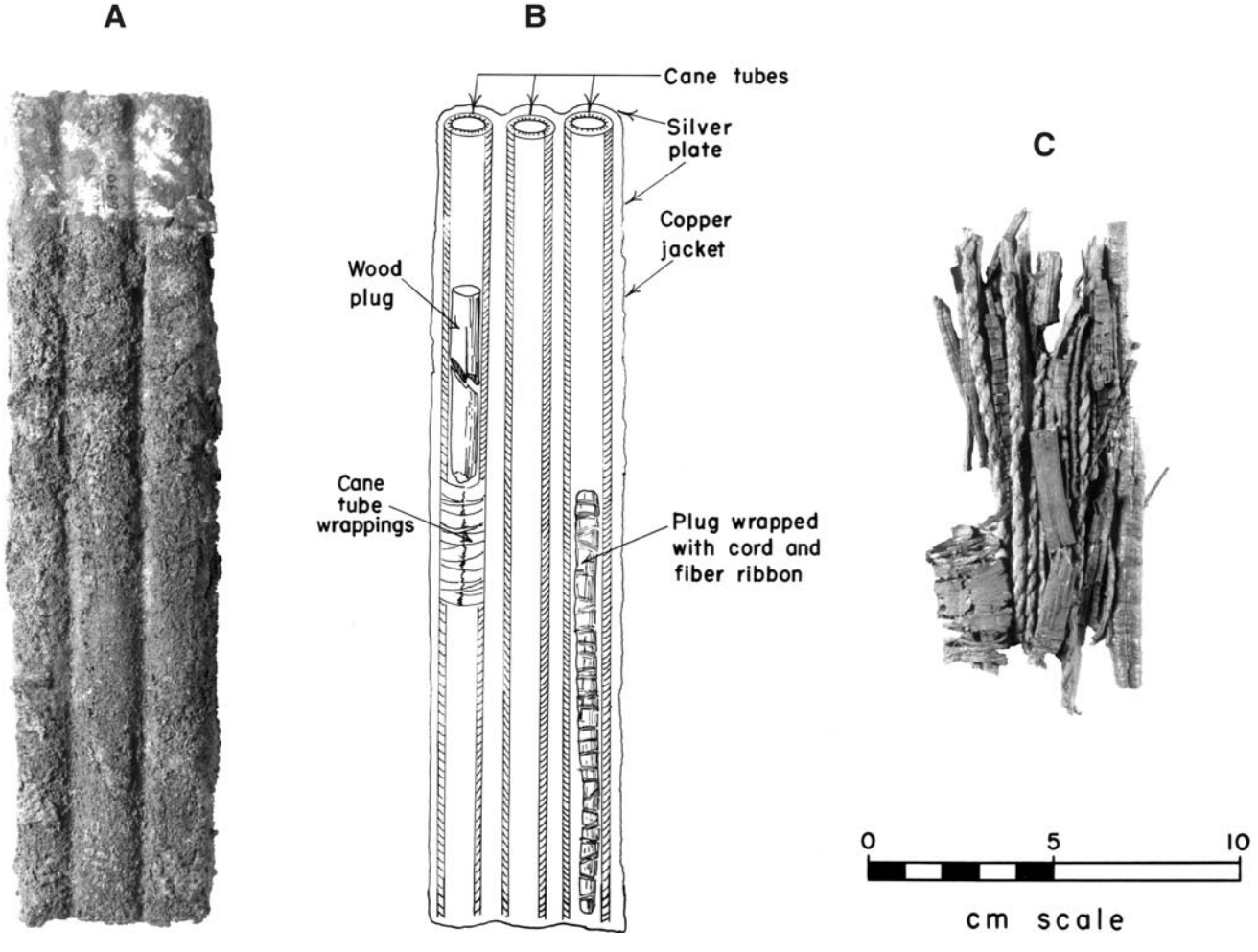

Figure 18.2. (A) Copper and silver three-tube corrugated panpipe from the Helena Crossing site, Mound C, Tomb A, Arkansas. (B) Cutaway view of the panpipe's interior. (C) Organic "stuffing" to hold the canes in place (Ford 1963:16, Figure 10c). Photos and illustration courtesy of the American Museum of Natural History.

THE FUNCTION OF PANPIPES AND THE SOCIAL ROLES OF THE PANPIPER

This section attempts to reconstruct the role(s) of the panpiper and the organization or "bundling" of that role with others in Hopewellian societies across the Eastern Woodlands. We begin with some limited insights that can be drawn from ethnography, and then turn to contextual archaeological information, which proves to be rich and revealing. Both broad, pan-Woodland patterning in the social roles played by panpipers and diversity in roles among regional traditions are examined.

Ethnographic Information

Panpipes were unknown historically among Native North Americans, and for this reason, ethnohistorical records do not cast especially clear light on the possible functions of Hopewellian panpipes and the social role(s) of the panpiper. The closest analogs to panpipes in historic Native North American societies are flutes and flageolets, the functions of which have been summarized by Hall (1979, 2000).

In the Eastern Woodlands, flutes were associated with a number of activities. One was the hunt. Hall (1979:258) summarizes a variety of ethnographic data that relate flutes to the hunt. A Wisconsin Chippewa folktale tells of a hunter who blew a flute to attract turkeys. This flutist also helped a mythical humpbacked being who is similar in his hump and his insect-shaped face to the Hopi character, Kokopelli—a locust-faced hunter who blows a flute and is a fertility symbol. Further, among the Iroquois, a hunchback was the keeper of game and the welfare of animals (Fenton 1962:294, in Hall 1979:258).

If panpipes were used in hunting, one can ask what kinds of animals might have been attracted with panpipes. From Gloria Young's (1970, 1976) reconstruction of the three-tube panpipe from Helena Crossing, Arkansas (Figure 18.2), it is known with good certainty that the notes produced by this panpipe were high: A-flat one and a half octaves above middle C, A-flat two and a half octaves above middle C, and possibly three overtones—approximately A one-half octave above middle C, D four notes higher, and B six notes higher. These notes might have been used to imitate high-pitched bird calls, but many other larger animals also produce high-pitched calls in varying circumstances.

Among Native North Americans, flutes were also associated with courtship and sexual potential. Young Kickapoo men traditionally played flutes to woo and win young women as mates (Collaer 1973:100). The Hopi humpbacked flute player, Kokopelli, is a symbol of fertility because he holds seeds in his hump, which he gives as presents to girls he seduces (Barnouw 1977:99). Farther afield, the Desana Indians of Columbia associate panpipes with sexual maturing and provide their male youths with panpipes of more or fewer tubes to acknowledge their degree of maturity. Desana men, like Kickapoo men, play the panpipe as a sexual invitation (Reichel-Dolmatoff 1971:115). They may also play the panpipe on forest trails in order to sexually excite a dwarf Master of the Animals and, thereby, contribute to the fertility of game animals (Reichel-Dolmatoff 1971:112)—a practice analogously told of in Chippewa myth.

A third Native North American use of flutes was in warfare. The Winnebago blew flutes in battle in order to imitate the voices of birds, which were thought to paralyze the running capabilities of the enemy (Radin 1970:394, 502, 1972:117). Such flutes were kept in the war bundles of the Winnebago. Similarly, in the Southeastern United States, small whistles were sometimes blown by warriors on the attack (Swanton 1946:628–629). Catlin observed war whistles among some Native North American tribes that produced two tones from their different ends, one of which signaled attack and the second retreat (Osburn 1946:18, see also Mails 1972:257, 544). On the plains, war whistles were made of eagle bones or turkey leg bones to produce shrill tones resembling the cry of an eagle (Mails 1972:257, 544). Among the Shawnee, flutes were sometimes played outside of the village by a young man who wanted to assemble a war party, and would be joined by other flute players who supported the venture (Trowbridge 1939:39). Flutes also reportedly accompanied the competitive ball games of the Mississippi Choctaws, where they were played by conjurers to help their side win (Hudson 1976:402).

Meeting rituals were a fourth arena in which flutes had a role. In the Southeastern Woodlands during the 16th Century, before the calumet replaced them in their function, flutes were played to greet parties of foreigners:

> Narvaez observed flutes in use in Florida as early as 1527; they were displayed prominently in a number of contacts made by de Soto from Florida to Coosa (northwest Georgia) in the 1540s; and the English even observed Powhatan playing a flute in initial contacts at the turn of the seventeenth century (Bourne 1904:1:81, 90–91; Lankford 1984:14–15; Swanton 1946:547). Jacques LeMoyne provided a vivid description of its use in a 1564 French encounter with the Timucua Indians (Lankford 1984:13).

(quoted in I. Brown, 1989; see also Hudson 1976:402.)

Whistling and whistles have an association with the ceremonial summoning of souls or spirits in both North and South American historic Native American culture and/or their contemporary derivatives (Harner 1980:99; Ingerman 1991:69; B. Johnston 1991; R. Hall, personal communication 2004). The close association of the breath with one of the two souls of humans commonly in historic Native North American thought (Hultkrantz 1953) may have logically encouraged this function. These associations suggest the possibility that Hopewellian panpipes might have been used in mortuary ceremonialism concerned with souls, and in particular with the psychopomp work of guiding souls to an afterlife. However, archaeological evidence suggests otherwise (see below, the Panpiper's Social Roles and Other Roles Bundled with Them; and Carr and Case, Chapter, Table 5.5, Roles 8 and 10).

Flutes, whistles, and panpipes were used for other purposes in the Americas as well. The Yuchi blew their foot-long flutes, which were made of hollowed sections of red cedar with finger holes, on informal occasions (Speck 1909:62). In Lakota Sun Dances, which were highly formal and sacred affairs, eagle wingbone whistles wrapped with beads are blown by pledgers while dancing (Mails 1978:112). In the Southeastern Woodlands, chiefs who marched in procession in public ceremonies were followed by men playing flutes (Hudson 1976:402). Among the Kuna of Panama and Colombia, panpipes are played at elaborate dances performed by Kuna dance companies in order to delineate and reinforce social behavior (S. Smith 1984:94). One or both sexes in any age group may play panpipes, although certain restrictions apply, depending on the social occasion (S. Smith 1984). Farther afield, the use of panpipes as musical instruments is well documented for prehistoric and historic Andean cultures, as well as for Chinese and Oceanic cultures (Collaer 1973; Izikowitz 1935; McClain 1979; Pen-li 1963; Zemp 1981).

In contrast to some of the above ethnographic situations, in the Hopewellian case, the amount of human energy needed to produce a metal-jacketed panpipe, the expense of procuring the copper, silver, and/or meteoric iron from which they were made, and their recovery almost entirely from mortuary contexts rather than in habitations speak against their secular use. It is generally thought that panpipes had key symbolic and sacred meanings within Hopewell societies (Greber and Ruhl 1989:276; Prufer 1964a:74; Seeman 1995:136; G. A. Young 1976:5, 7). Grave associations of Hopewellian panpipes with other parphernalia will show that of all the above, ethnographically documented functions of flutes and panpipes, war or hunt divination, and marking of the maturation–aging process fit the archaeological data most closely, but do not exhaust the range of probable uses. (See below, The Age–Sex Distribution of Panpipers and The Panpiper's Social Roles and Other Roles Bundled with Them)

Ownership of Hopewellian Panpipes

In order to infer the role(s) in which panpipes were used and with which they were associated in Hopewellian societies from archaeological data, it is first necessary to establish whether panpipes were owned individually or communally. A panpipe owned individually and placed in the grave of its owner might tell something of its function through its association with other kinds of artifacts owned by that person and placed in his or her grave. The age and sex of the persons buried with panpipes might also be informative. In contrast, a communally owned panpipe buried with an individual or in a ritual deposit need not give

Table 18.1. Archaeological Contexts of Panpipes: Numbers of Grave and Nongrave Deposits with Panpipes and Varying Quantities of Other Artifacts across the Eastern Woodlands

Context and associated artifact quantities	Number of burials
Burials with a huge number of other artifacts	1[a]
Burials with some other artifacts	44
Burials with no other artifacts	10
Burials with an unknown number of artifacts	2
Total number of burials with panpipes	57
Deposits with a huge number of other artifacts	2[b]
Deposits with some other artifacts	2
Deposits with no other artifacts	3
Deposits with an unknown number of artifacts	0
Total number of deposits with panpipes	7
Burial or deposit with unknown number of artifacts	1
Total number of intrasite proveniences with panpipes	65

[a] Ater Mound 1, Burial 51A.
[b] Hopewell Mound 25, Altar 1; Turner Mound 3, Central Altar.

Table 18.2. Number of Panpipes per Grave across the Eastern Woodlands

Number of panpipes per grave	Number of graves
1	49
2	5[a]
3	1[b]
4	2[c]
Total	57

[a] Mandeville Mound B, Burials F3 and F4; Tunacuhnnee Mound D, Burial 18F; Albany Mound 65, Burial 1; Knight Mound 16, Burial 16.
[b] Tunacuhnnee Mound E, Burial 17.
[c] LeVesconte Mound 1, Burials 2C and 4C.

this insight. The association of the panpipe with other artifacts in the burial or deposit might not be functionally relevant.

Two archaeological patterns suggest that panpipes in most if not all Hopewellian traditions were owned by individuals, one per individual, rather than owned communally by some social unit. First, most panpipes are found in graves with persons rather than in nongrave ceremonial deposits that resulted from the decommissioning of paraphernalia after community rituals (Table 18.1). Of 65 intrasite proveniences for which panpipes are documented, 57 (88%) are graves and only 7 (11%) are ceremonial deposits. One is of unclear kind. Second, most panpipes in graves are found one per person. Of 57 graves with panpipes, 49 (86%) have only one panpipe per person, while only 8 (14%) have more than one panpipe per person (Table 18.2). The most direct interpretation of this distribution is that panpipers usually owned or caretook only one panpipe at a time, and that persons buried with a panpipe typically were their owners or caretakers.

Exceptions to the pattern of a person being buried with only one panpipe occur at the sites of LeVesconte, Mandeville, Tunacunnhee, Albany, and Knight (Appendix 18.3). At these sites, persons with two to four panpipes are known. These exceptions are most easily interpreted in the broader context of Hopewell ritual gatherings (Carr et al., Chapter 13) and do not counter the overwhelming pattern over the Woodlands of burial of individuals with the panpipes they owned. Each case of multiple panpipes in a grave can be interpreted as either one or a few panpipers who each gifted a panpipe to a deceased panpiper, or the remains of a ritual gathering that involved multiple panpipers and the decommissioning of their paraphernalia at the end of the ceremony in a grave of a panpiper or other important individual. The interpretation of a ceremony that involved multiple panpipers who decommissioned their panpipes would also hold for the multiple panpipes deposited in the nongrave provenience of Hopewell Mound 25, Altar 1.

Evidence of such gifting practices, of ceremonies that involved multiple practitioners of a kind, and of the decommissioning of their individually owned or caretaken paraphernalia in a grave or nongrave deposit is very common for at least the Hopewellian traditions in Ohio (Carr et al., Chapter 13). A fine example of this kind of traditional practice is the decommissioning of 60 some copper celts and 90 some copper breastplates and the laying of them in an arrangement over Skeletons 260 and 261 in Mound 25 of the Hopewell site (Greber and Ruhl 1989:93; Moorehead 1922:110; Shetrone 1926:120). Many other examples involving the ceremonial decommissioning of multiple, redundant artifacts that each were owned individually and placed within a grave or ceremonial deposit (e.g., quartz projectile points, obsidian

bifaces, cones/hemispheres, reel-shaped gorgets, earspools, animal teeth) are enumerated by Carr et al. (Chapter 13, Tables 13.2, 13.3). These cases of individually owned or caretaken paraphernalia that were taken out of use and buried in grave and nongrave deposits are distinct from a possible case of communally owned paraphernalia that were decommissioned in the Great Copper Deposit underlying Mound 25 at the Hopewell site (Greber and Ruhl 1989:90–123; Moorehead 1922:109–110; Shetrone 1926:74–75). The geometric copper cutouts in this ceremonial deposit are primarily for ceremonial display, and most are unique in the Hopewell world rather than examples of commonly known symbols that might mark established and widely distributed social roles. In this larger view of Hopewell ceremonial deposits, the few examples of multiple panpipes placed within graves points to the individual ownership or caretaking of panpipes and their occasional gifting or ceremonial decommissioning by multiple panpipers.

Social Recruitment of Panpipers

The Age–Sex Distribution of Panpipers and Age-Related Rites of Passage

Some understanding of the social role(s) played by panpipers can be gotten initially by considering the ages and sexes of those who were recruited into and held those roles. These social facts can be inferred from the age–sex distribution of those who were buried with panpipes.

Appendix 18.5 lists the ages and sexes of all individuals across the Woodlands who were associated with panpipes and for whom demographic information is available. In many cases, age is categorized in the literature as only adult or child, without finer estimation. Panpipes predominate among adults of the age class 13–20 years or older, and among males. The adult:child ratio is 30:5 or 30:6, with an additional 4 young adults (12–18 years) and 20 individuals of unknown age. The adult male:female ratio is 14:4, with 12 adults of unknown sex.

If one assumes that most panpipes in graves were buried with their owners or were gifts to a deceased panpiper from other panpipers (see above), then the adult male-biased, age–sex distribution of individuals with panpipes suggests that recruitment into the social–ritual role(s) of the panpiper was usually by achievement, or by ascribed age and sex within a family line, rank group, or other social unit. Recruitment by family line or rank group, alone, would admit children and women into the role of panpiper more equitably, which is not observed.

There is no apparent regional patterning to where anomalous females and children were buried with panpipes (Appendix 18.5). Adult females with panpipes are found in the central Scioto and Miami drainages of Ohio and in the Point Peninsula and Marksville traditions. Children with panpipes are found in Northern Ohio, possibly in the Muskingum drainage of Ohio, and in the Point Peninsula, Havana, and Southern Appalachian traditions. Similarly, possible adolescents and the elderly from scattered regions were buried with panpipes. Possible adolescents were accompanied by panpipes in the Miami, Goodall, Saugeen, and Marksville regions. An elderly male (50+) was found with a panpipe in Northern Ohio, and an elderly female (45–60) was buried with four in the Point Peninsula area.

It is possible that panpipes sometimes functioned in age-related rites of passage, such as naming, attainment of puberty, menopause, the passing into elderhood, and the death of persons at or nearing such ages. This may have been the case across much of the Hopewellian world, as the wide geographic distribution of children, pubescent youths, and elderly buried with panpipes would imply. However, age-related rites of passage seem particularly evidenced in the neighboring Point Peninsula, Saugeen, and Northern Ohio regions, where panpipes are found at unusually high frequencies with children, adolescents near puberty, and the elderly. Child burials with panpipes occurred at the Cameron's Point and LeVesconte sites in the Point Peninsula area and the Esch site in Northern Ohio. Two males near puberty were buried with panpipes at the Donaldson II site in the Saugeen region. A female estimated to have been between 45 and 60 years old (J. E. Molto, personal communication) was found with four panpipes at LeVesconte, while an elderly male of 50+ years was accompanied by a panpipe at the Northern Ohio site of North Benton (Magrath 1945:44). It may be that the LeVesconte female was given

panpipes in recognition of her menopausal or postmenopausal age, and the North Benton male because of his advanced age.

Some insight into the association of panpipes and age-related rites of passage can be gleaned from ethnographic information on the Desana, a subgroup of the Tukano Indians of Colombia. Among the Desana, panpipes reflect male sexual development and are only played by males. As a boy matures sexually, he progresses from playing a small, three-tube panpipe to a larger, four or five-tube instrument at puberty to the eight or nine-tube panpipe of adulthood (Reichel-Dolmatoff 1971:111–112). Analogously, it is possible that children and adolescents among Hopewellian societies (or Point Peninsula, Saugeen, and Northern Ohio societies, specifically) were viewed as they are among the Desana—as having a closer connection with sexuality, life, and reproduction than we are accustomed to associating with the young in Western culture—and that these personal characteristics should be celebrated as a youth grows up. Panpipes may have been interred with adolescents as signs of their burgeoning sexual powers and possibly with children in recognition of their future sexuality (Turff 1997:20).

The Clan Affiliation of Panpipers

Whether panpipers were recruited from particular clans can be investigated by examining burials that have both panpipes and markers of clan affiliation. Clan affiliation is known to have been indicated, at least in Hopewellian societies in the Scioto region and some historic Woodlands tribes, by animal power parts such as the jaws, teeth, talons, claws, and hoofs of particular species (Thomas et al., Chapter 8). This situation likely applies to other Hopewellian regional traditions, where the range of species of animal power parts placed in the graves of persons corresponds well with the common animal-totem clans found ethnohistorically among Woodland tribes (Thomas et al., Chapter 8). Any Hopewellian clans that had nonanimal eponyms we do not know how to track yet, archaeologically.

There is no evidence that recruitment of persons into the role of the panpiper was through membership or leadership in a specific animal-totemic clan consistently across the East or consistently within any Hopewellian regional tradition. Appendix 18.6 lists the animal power parts found in graves with panpipes in each regional Hopewellian tradition, and the number of graves with those species. A great diversity of animal species is represented across the Eastern Woodlands: mammals, birds, and reptiles; animals of the Upper, Middle, and Lower Worlds; and anomalous animals in Eastern Woodlands lore. The same species diversity holds within some regional Hopewellian traditions. For example, in the Point Peninsula region, bear, beaver, moose, deer, and fox power parts are found in graves with panpipes. In the central Scioto area, specifically in the Ater site, eagle, wolf, beaver, and bear animal power parts accompany a panpipe. In the Southern Appalachian area, bear and deer power parts were found in burials with panpipes. A possible exception to the fluid relationship between the role of panpiper and clan affiliation is found in the Saugeen tradition, where both of the two burials with panpipes included beaver remains, but the data are too sparse to draw a conclusion.

The Panpiper's Social Roles and Other Roles Bundled with Them

Persons who owned panpipes with metal jackets probably filled fairly rare and important social roles, given that metallic panpipes are relatively rare in the archaeological record and are made of materials that—to historic Native Americans—were cosmologically meaningful and powerful, like copper, silver, meteoric iron, sumac, and possibly cedar (see below and Carr and Case, Chapter 5). If panpipes without metal jackets existed in Hopewellian societies, panpipes may have been more widely distributed among persons and used in more common and/or secular activities, such as hunting, courting, warfare, and coming-of-age ceremonies. Ethnographic records and the age–sex distributions of persons buried with panpipes indicate these possible, specific functions of panpipes.

Beyond these limited insights, the specific roles of the panpiper in Hopewellian ceremony and life remain unknown. However, it is possible to infer archaeologically, in great detail, the

social roles with which the role of panpiper was coupled. This information gives a structural view of the panpiper in a system of social statuses and, indirectly and by association, an understanding of the activities in which panpipes possibly were integral.

We begin with role patterning across the Woodlands at large and proceed to distinctions among regional Hopewellian traditions. In these studies, associations between panpipes and other artifact types that mark social roles are considered only for graves, not for other ceremonial deposits. Grave associations, which link artifact types to each other through a specific individual, are more likely to reflect social roles that were combined in a single individual. Artifact associations in a nongrave ceremonial deposit may reflect the roles of many persons who participated in a ceremony and made offerings, whether or not those roles were critically integrated functionally and socially. In addition, the social roles that are taken to be indicated by the particular, associated artifact types are based on the formal and material nature of the artifact types, ethnohistoric and/or worldwide ethnographic information, and, in a few cases, contextual patterning found in the Ohio Hopewell archaeological record, as discussed by Carr and Case (Chapter 5), Carr (Chapter 7; Carr n.d.), Thomas et al. (Chapter 8), and Case and Carr (n.d.). The social roles attributed to most artifact classes can be reasonably extended across the Woodlands because they are based on formal, material, ethnohistoric, and or worldwide ethnographic criteria. The roles assigned to copper earspools, breastplates, and celts are based primarily on contextual patterning in Ohio, and are less certain for traditions beyond it.

Patterning in the Eastern Woodlands at Large

Panpipes occur with other artifacts in three-fourths of all the burials in the Eastern Woodlands documented to have had panpipes (45 of 57 burials; Table 18.1). The kinds of additional artifacts found most commonly in burials with panpipes are listed in Table 18.3, ordered by their

Table 18.3. Kinds of Artifacts Found Most Commonly with Panpipes in Graves across the Eastern Woodlands, by Burial Count

Artifact class	Probable Social Role	Number of burials with artifact class
Copper earspools	Sodality membership or achievement	15
Animal power parts	Clan leadership or membership	13
Beads	Prestige	12
Copper celts	Community-wide leadership	7
Conch shells	Shaman-like (all occurrences) public ceremonial leadership	6
Copper breastplates	Sodality membership or achievement	6
Platform pipes	Shaman-like (all occurrences) spiritual work involving trance states	6
Mica sheets	Shaman-like (all occurrences) divination in general	5
Projectile points, not quartz or translucent	Personal	4
Geometric cutouts	Shaman-like (all occurrences) keeper of cosmology and philosophy	4
Pendants and gorgets	Prestige	4
Tubes	Shaman-like (all occurrences) healing	3
Painting equipment	Shaman-like (all occurrences) ceremony	3
Isolated human skulls, mandibles	?	2–3
Raw silver	Shaman-like (all occurrences) manufacture of ceremonial artifacts using exotic raw materials	3
Raw chert	Personal	3
Headplates	Community-wide leadership	0

Table 18.4. Kinds of Social Roles Associated with the Role of Panpiper and Their Frequencies, by Burial Count

Social role	Number of burials with artifacts indicating the social role
Shaman-like roles	
Manufacture of ceremonial artifacts with exotic raw materials	7
Spiritual work involving trance states induced by smoking	6
Public ceremonial leader	6
Divination in general	5
Ceremonies involving painting equipment	4
War or hunt divination	3
Healing	1
Keeper of cosmology and philosophy	1
Nonshaman-like roles	
Personal roles	20
Sodality membership or achievement marked by earspools	16
Prestigious positions marked by pendants and beads	15
Clan leadership or membership	13
Community-wide leadership marked by celts	7
Sodality membership or achievement marked by breastplates	5

commonality (see also Appendix 18.5). The social roles indicated by the additional items and their commonality are presented in Table 18.4. The social roles are very diverse and include: (1) several shaman-like roles indicated by mica mirrors, conch shell containers, geometric cutouts, sucking tubes, quartz points, and painting equipment; (2) sodality membership or achievement marked by breastplates and earpools; (3) community-wide leadership marked by copper celts; (4) other positions of prestige and/or wealth marked by pendants and beads of copper, silver, pearl, conch, and other shell; (5) clan leadership or membership indicated by animal power parts; and (6) personal roles related to tasks and/or sex indicated by utilitarian pottery, whetstones, and hammerstones. Each of the six categories of artifacts and social roles is represented by a more or less similar number of burials (Table 18.4). Shaman-like roles are represented in 25 of the 45 burials having panpipes and other items; prestigious roles relating to sodalities, leadership, or other positions are indicated for 24 burials; clan roles are marked in 13 burials; and personal roles are represented in 20.

Quite a few burials with panpipes, across many regional traditions, have associated artifacts that are only or predominantly the kinds used by shaman-like practitioners (Carr and Case, Chapter 5; Carr and Case n.d.) (Table 18.3). There seems to be a moderately strong association between panpipes and shaman-like paraphernalia over the East. Burials that best illustrate this pattern are Tunacunnhee Mound D, Burials 18F and F34, in Georgia; North Benton Mound 1, Burial 4, in Ohio; McRae Mound in Mississippi; Knight Mound 16, Burial 16, in Illinois; LeVesconte Mound 1, Burials 4C and 5C, in Ontario; Donaldson Mound II, Burials GE and GF, in Ontario; Newcastle Mound 4, Burial 11, in Indiana; Turner Enclosure, Burial 1a (Saville), in Ohio; Helena Crossing Mound C, Burial 61, in Arkansas; Mandeville Mound B, Burial 3F1, in Georgia; and Franz–Green Mound 1 in Indiana (Appendix 18.5). The shaman-like roles and paraphernalia indicated by these burials include: (1) war or hunt divination marked by quartz bifaces and points; (2) divination in general marked by mica sheets or cutouts; (3) healing indicated by tubes of bird bone or silver-sleeved wood possibly used for sucking; (4) public ceremonial leadership marked by conch shells that could have been used by to distribute drinks, as was the black drink historically in the Southeast; (5) spiritual work in general that involved trance states, indicated by smoking pipes; and (6) manufacture of ceremonial artifacts using exotic, symbolically loaded raw materials. Some other burials with panpipes, beyond those just listed, also have these items (Appendix 18.5), but they are associated with additional kinds of artifacts indicating other social and/or religious roles, and are not especially focused on shaman-like roles.

Over the Woodlands at large, the commonality with which the role of panpiper was associated with different shaman-like roles varies by role, on a burial-count basis (Table 18.4). Of graves having one or more panpipes plus

shaman-like artifacts, the most frequently indicated shaman-like roles, in decreasing frequency, are manufacture of ceremonial artifacts with exotic raw materials, spiritual work in general that involved trance states induced by smoking, public ceremonial leader, and divination in general. Less frequently observed shaman-like roles and activities are ceremony involving paint, war or hunt divination, healing, and keeper of cosmology and philosopher. Key nonshaman-like roles also vary in commonality over the Woodlands as a whole (Table 18.4). Sodality membership or achievement marked by earspools and clan leadership or membership are each twice as common as each of sodality membership or achievement marked by breastplates and community-wide leadership marked by celts.

Implications

The diverse social roles indicated by the graves in which panpipes have been found over the Eastern Woodlands suggests that panpipes probably were not used for one purpose, but were woven into a number of communal and personal, ceremonial and secular activities. The most common associations of panpipes were with persons who filled roles of social importance, as specialized shaman-like practitioners of many kinds, community leaders, prestigious sodality members, and other prestigious persons. The ethnographic association of panpipes with the hunt, in attracting animals and encouraging species fertility, which Hall (1979) emphasized, is borne out in the Hopewellian mortuary data, but only to a minor degree. The same is true of the ethnographic link between panpipes and warfare. Panpipes were associated with equipment possibly used in war or hunt divination in only a few burials (3 of 57) across the Woodlands. The occurrence of panpipes alone in one-fourth of all burials (13 of 57), that is, with persons lacking additional indicators of key social position, and in a significant, additional numbers of burials with only personal items (8 of 57), suggests that the role of panpiper was not, or not always, integrally bundled with other social roles. The panpiper was a role in itself, and panpipes could function independently of other paraphernalia and status markers. In this light, the ethnographic insights that Hopewellian panpipes may have been a part of age-related rites of passage in at least some Hopewellian regional traditions, or used in courting (see above), remain viable but not specifically substantiated.

The social roles with which the role of panpiper was coupled provides not only some sense of the activities in which panpipes were used, but also a structural view of the position of panpiper in a system of social statuses. The fluidity with which the role of the panpiper was associated with leadership and other key roles of social importance in Hopewellian societies (Table 18.4), both within and among regional traditions, indicates that the social positions that fulfilled these roles were not firmly institutionalized and were probably reworked to some degree situationally.[3] The same conclusion is drawn by Carr and Case (Chapter 5) specifically for shaman-like positions in Ohio Hopewellian societies. They found only a moderate strength of association among kinds of shaman-like paraphernalia that had related functions, could have been used together in ceremony, and sometimes were. The only moderately institutionalized nature observed for key social positions both here and in Chapter 5 is expectable of societies that were in transition from hunting–gathering to horticulture, and from more egalitarian to less egalitarian organization.

In turn, the only moderate degree to which the panpiper and other important social positions in Hopewellian societies were institutionalized suggests that recruitment to these positions was primarily by achievement, which would have encouraged a reworking of social roles, rather than by birthright or rank. This conclusion was also reached specifically for the role of panpiper, with independent evidence from the adult, male-biased age–sex distribution of deceased persons found with panpipes (see The Age–Sex Distribution of Panpipers, above).

Artifact Classes Not Associated with Panpipes

Hopewellian artifact classes that never or seldom associate with panpipes provide insight into the social–ritual roles with which panpipes were not bundled and the social–ritual situations in which they were not used. Some artifact classes that are

fairly common in the Eastern Woodlands and that are dissociated from panpipes, and the roles they possibly indicate, include headplates, crescents, reel-shaped gorgets, and pulley earspools, which indicated different forms of leadership and/or prestige; dark obsidian bifaces, which probably indicated some form of war or hunt divination and possibly were distinct from forms using light quartz and translucent points; plummets used for divination or utilitarian purposes; bone awl sets, which possibly indicated corpse processing and/or psychopomp work; galena, which was sprinkled over most corpses in the Southern Appalachian region when they were processed, and which could have been used to make white paint; and human figurines, which were probably used in both domestic and/or mortuary rituals, depending on the region (Keller and Carr, Chapter 11).

Variations among Regional Traditions

Regional Hopewellian traditions vary among one another in the kinds of artifacts with which panpipes are most commonly associated in burials on a burial-count basis (Table 18.5); more generally in whether panpipes associate more with shaman-like, prestigious nonshaman-like, or clan artifacts on a burial-count basis (Table 18.6); and in the detailed social roles that are indicated by one or more kinds of artifacts found with panpipes (Table 18.7).

Table 18.5 illustrates some of the strongest variations among traditions in the kinds of artifacts that associate with panpipes and simply makes the case for regional variation. For example, in the central Scioto and Muskingum drainages, panpipes are most commonly found with copper earspools and breastplates, whereas in the Point Peninsula and Saugeen regions, panpipes are found most commonly with silver in raw or bead form, *Unio* shells filled with erythrite colorant, beaver incisors, and other animal power parts. In the Crab Orchard tradition, only shell beads are found often with panpipes.

In Tables 18.6 and 18.7, geographic patterns in panpipe associations are revealed. In Table 18.6, one finds that the highest percentage of burials having shaman-like equipment are found largely in Southeastern or Southeastern-influenced traditions: Santa Rosa–Swift Creek, Southern Appalachian, Marksville, Crab Orchard, and the Miami drainage–neighboring Indiana region. However, the adjacent northern traditions of Point Peninsula, Saugeen, Northern Ohio, and the Muskingum area also follow this pattern. Traditions that lack or rarely have associations of shaman-like equipment with panpipes are scattered and include the far northwestern Trempealeau tradition, the adjacent Goodall and Central Scioto traditions, and the Porter–Miller tradition.

Table 18.6 also shows that prestigious roles relating to leadership or sodalities, marked respectively by copper celts, and by copper earspools and breastplates, are associated with panpipes most commonly in the central Midwest and southeastern traditions: the Central Scioto, Muskingum, and Crab Orchard areas, as well as the Santa Rosa–Swift Creek, Southern Appalachian, Porter–Miller, and Marksville traditions. Only the far northern Hopewellian traditions lack associations between these prestigious kinds of leadership or sodality items and panpipes: Trempealeau, Goodall, Northern Ohio, and Point Peninsula. The northerly Saugeen tradition is the one exception to the pattern.

Table 18.6 further indicates that clan markers in the form of animal power parts are absent or all but absent from burials with panpipes in the majority of regional traditions. The Muskingum, Northern Ohio, Crab Orchard, Goodall, Trempealeau, Santa Rosa–Swift Creek, and Porter–Miller traditions have no occurrences of clan markers with panpipes, and the Central Scioto and Miami drainage-neighboring Indiana regions have one association each. Traditions that more commonly have clan markers in association with panpipes do not fall in any one geographic province: Havana, Point Peninsula, Saugeen, and Marksville.

Table 18.7 shows, by regional tradition, the detailed social roles that are indicated by one or more kinds of artifacts found in at least one burial with panpipes. Eight shaman-like roles and four nonshaman-like roles are considered.

(1) Items that indicate public ceremonial leadership are found with panpipes in most of the traditions, but not all. The association is found in most Midwestern and Southeastern traditions but is lacking in most of the far northern

Table 18.5. Kinds of Artifacts with Which Panpipes Are Most Commonly Associated in Burials, by Burial Count and by Regional Hopewellian Tradition

Artifact class	Number of burials with artifact class out of total number of burials
Trempealeau, WI	
Chert or chalcedony utilitarian blades or knives	2 of 3 burials
Point Peninsula, Ontario, alone	
Silver, raw or bead form	2 of 4 burials
Unio shell filled with erythrite	2 of 4 burials
Beaver power part (incisor)	2 of 4 burials
Other animal species' power parts	2 of 4 burials
Shell or bone beads	2 of 4 burials
Point Peninsula and Saugeen, Ontario, combined	
Beaver power part (incisor, mandible)	4 of 6 burials
Other animal species' power parts	3 of 6 burials
Silver, raw or bead form	2 of 6 burials
Unio shell filled with erythrite	2 of 6 burials
Beaver power part (incisor)	2 of 6 burials
Other animal species' power parts	2 of 6 burials
Shell or bone beads	2 of 6 burials
Havana, IL	
Real or imitation bear jaw or teeth	3 of 6 burials
Shell beads	3 of 6 burials
Copper earspools	2 of 6 burials
Platform pipes	2 of 6 burials
Crab Orchard, IL, IN	
Shell beads	2 of 4 burials
Central Scioto and Muskingum drainages, OH	
Copper earspools	4 of 10 burials
Copper breastplates	3 of 10 burials
Conch shell container or dipper	2 of 10 burials
Miami drainages, OH, and neighboring Indiana	
Copper earspools	2 of 7 burials
Flake knives	2 of 7 burials
Southern Appalachian (Copena), TN, GA	
Mica sheet or cutout	3 of 8 burials
Copper or large groundstone celt or stone celt	3 of 8 burials
Pipes	3 of 8 burials
Copper earspools	2 of 8 burials
Copper breastplates	2 of 8 burials
Chert projectile points	2 of 8 burials
Santa Rosa–Swift Creek, FL, GA, AL	
Copper, silver, and/or iron earspools	3 of 8 burials

traditions, including the Goodall, Northern Ohio, and Saugeen traditions and perhaps the Trempealeau tradition.

(2) Items indicating manufacture of ceremonial objects with exotic raw materials are also found with panpipes in a good number of traditions, including the Northeastern, adjacent Point Peninsula and Saugeen traditions, the northwestern Trempealeau tradition, and the Midwestern, adjacent Crab Orchard and Miami drainage areas. Panpipes do not co-occur with such artifacts in all three of the deep Southeastern traditions—Santa Rosa–Swift Creek, Porter–Miller, and Marksville.

Table 18.6. General Categories of Social Roles Associated with the Role of Panpiper, by Burial Count and by Regional Hopewellian Tradition[a]

Regional tradition	Number of burials			
	With shaman-like equipment	With nonshaman-like leadership and sodality markers	With clan markers	Where panpipes occur alone
Trempealeau, WI	1? of 3	0 of 3	0 of 3	1 of 3
Goodall, MI	0 of 1	0 of 1	0 of 1	1 of 1
Northern Ohio	**1 of 2**	0 of 2	0 of 2	1 of 2
Point Peninsula, ON	**2 of 4**	1 of 4	**2 of 4**	1 of 4
Saugeen, ON	**1 of 2**	**1 of 2**	**2 of 2**	0 of 2
Havana, IL	2 of 5	2 of 5	**3 of 5**	0 of 5
Crab Orchard, IL, IN	**2 of 4**	**2 of 4**	0 of 4	1 of 4
Miami drainages, OH, and neighboring Indiana	**3 of 6**	2 of 6	1 of 6	2 of 6
Central Scioto, OH	1 of 5	**3 of 5**	1 of 5	2 of 5
Muskingum, OH	**4 of 5**	**3 of 5**	0 of 5	0 of 5
Southern Appalachian, (Copena) TN, GA	**3 of 8**	**4 of 8**	2 of 8	0 of 8
Santa Rosa–Swift Creek, FL, GA, AL	**4 of 8**	3 of 8	0 of 8	2 of 8
Porter–Miller, AL, MS	0 of 2	**2 of 2**	0 of 2	0 of 2
Marksville, AR, LA, MS	**1 of 2**	**1 of 2**	**1 of 2**	1 of 2

[a]Boldface entries are those with high numbers or proportions (≥50%) of burials showing an association between panpipes and the kind of artifacts of concern.

(3) Artifacts indicating divination in general are limited in where they are found with panpipes to primarily the midwestern Miami and Muskingum valleys, and the eastern southeastern Southern Appalachian and Santa Rosa–Swift Creek traditions. The association is lacking in almost all of the far northern traditions, including the Trempealeau, Goodall, Northern Ohio, and Point Peninsula traditions, and in both of the western southeastern traditions, Marksville and Porter–Miller.

(4) Smoking pipes for trance work are limited in their occurrence with panpipes to the adjacent Havana and Crab Orchard traditions, but also the Southern Appalachian tradition.

(5) Artifacts indicating war or hunt divination and those used in healing are each found with panpipes in a few traditions scattered widely and without pattern over the Woodlands.

(6) Painting equipment that could have been used in a variety of ritual tasks is associated with panpipes in only the more northeastern areas of the Muskingum and Point Peninsula.

(7) Items that appear to indicate the shaman-like role of philosopher, such as geometric cutouts possibly representing the cosmos or its constituents, are found with panpipes only in the rich Central Scioto sites of Hopewell, Ater, and Turner.

(8) Copper earspools, which probably symbolized a sodality in Ohio (Carr, Chapter 7), occur with panpipes in most regional traditions. The association is missing from most of the northern regions, including the Trempealeau, Goodall, Northern Ohio, and Point Peninsula traditions. Earspools and panpipes also do not occur together in the Porter–Miller tradition.

(9) Copper breastplates, which also probably marked a sodality in Ohio (Carr, Chapter 7), occur with panpipes in a small subset of the traditions in which copper earspools and panpipes are associated—the adjacent Central Scioto and Muskingum traditions and the neighboring Southern Appalachian and Porter–Miller traditions.

(10) Copper celts, which probably symbolized community-wide leadership in Ohio (Carr, Chapter 7), are found with panpipes again in a subset of the traditions in which copper earspools and panpipes are associated. The association occurs in the adjacent Crab Orchard, Miami drainage, Central Scioto, Muskingum, Southern Appalachian, and Santa Rosa–Swift Creek areas. It is missing from all five northern traditions, including the Trempealeau, Goodall, Northern

Table 18.7. Detailed Kinds of Social Roles Associated with the Role of Panpiper, by Regional Hopewellian Tradition[a]

	Regional						
	Northern Midwest		Northeast			Central Midwest	
Social role	Tremp-ealeau	Goodall	Northern Ohio	Point Peninsula	Saugeen	Havana	Crab Orchard
Shaman-like roles							
Public ceremonial leader	?	−	−	+	−	+	−
Manufacture of ceremonial artifacts with exotic raw materials	+	−	−	+	+	−	+
Divination in general	−	−	−	−	+	−	−
Spiritual work involving trace states induced by smoking	−	−	−	−	−	+	+
War or hunt divination	−	−	+	−	−	−	−
Healing	−	−	+	−	−	+	−
Ceremonies involving painting equip.	−	−	−	+	−	−	−
Keeper of cosmology and philosophy	−	−	−	−	−	−	−
Nonshaman-like roles							
Sodality leadership or membership (earspools)	−	−	−	−	+	+	+
Clan leader or member	−	−	−	+	+	+	−
Community-wide leadership (celts)	−	−	−	−	−	−	+
Sodality leadership or membership (breastplates)	−	−	−	−	−	−	−
Total number of:							
shaman-like roles	1–2	0	2	3	2	3	2
nonshaman-like roles	0	0	0	1	2	2	2
all roles	1–2	0	2	4	4	5	4

[a] Boxed cells indicate similarity among traditions in social roles that do or do not associate with the role of the panpiper. See Table 18.6 for explanation.

Ohio, Point Peninsula, and Saugeen traditions, as well as the western Southeastern traditions of Marksville and Porter–Miller.

Summary of Regional Variation and Implication

The traditions in which panpipes do and do not associate with artifact classes that marked various important social roles, as well as regional patterning in the age–sex associations of panpipes and in whether or not the burial of a person with panpipes served as foci of ritual gatherings of many panpipers, allow the definition of four, broad regions that are repeatedly distinguished from one another in these several ways (Table 18.8). The distinguishable areas are (1) the northern Midwest—Goodall and Trempealeau traditions; (2) the Northeast—Northern Ohio, Point Peninsula, and Saugeen traditions; (3) the central Midwest and Midsouth—Central Scioto, Muskingum, Miami/Indiana, Havana, Crab Orchard, and Southern Appalachian traditions; and (4) the Southeast—Santa Rosa–Swift Creek, Porter–Miller, and Marksville traditions. These areas appear to differ in aspects of both social

traditions within four broad areas							
and Midsouth				Southeast			
Miami drainages	Central Scioto	Muskingum	Southern Appalachian	Santa Rosa–Swift Creek	Porter–Miller	Marksville	Total number of traditions
+	+	−	+	+	−	+	7–8
+	−	−	+	−	−	−	6
+	−	+	+	+	−	−	5
−	−	−	+	−	−	−	3
−	−	−	+	−	−	+	3
−	−	+	−	−	−	−	3
−	−	+	−	−	−	−	2
−	+	−	−	−	−	−	1
+	+	+	+	+	−	+	9
+	+	−	+	−	−	+	7
+	+	+	+	+	−	−	6
−	+	+	+	−	+	−	4
3	2	3	5	2	0	2	
3	4	3	4	2	1	2	
6	6	6	9	4	1	4	

organization and ritual organization, which are reflected in differences in the functions, role associations, and depositional patterns of panpipes.

The most fundamental geographic distinctions are between more northerly and southerly regions: the northern Midwest and/or Northeast versus the central Midwest and Midsouth versus the Southeast. This north–south variation is distinct from the more commonly recognized east–west dichotomy in material style between, on the one hand, the Ohio, Southern Appalachian, and Santa Rosa–Swift Creek traditions and, on the other, the Havana and Marksville traditions (see Carr and Sears 1985:86 for a summary of references; also Griffin 1967:186). Others of the four geographic distinctions found here do not correspond with regional differences found in gender roles and relations (Field et al., Chapter 9) and in the natural sources from which silver was procured (Spence and Fryer, Chapter 20). It is clear that the cultural relationships that archaeologists recognize today among various Hopewellian traditions are multiple in kind and must be defined separately and analyzed and interpreted in their own terms: iconography and style, ritual organization, social organization, and material exchange (Carr, Chapters 2 and 16).

A most significant conclusion to be reached from the distinctions among regions in social and ritual organization is that interregional Hopewell was not a unified, social–symbolic system

Table 18.8. Distinguishing Characteristics of Four Multitradition Areas in the Eastern Woodlands, Summarized from Tables 18.6 and 18.7

Northern Midwest	*Trempealeau and Goodall traditions* Lacking association of panpipes with females, children, almost all shaman-like equipment, clan markers, sodality markers (earspools, breastplates), and markers of community-wide leadership (celts). The burial of a person did not served as a focus of a ritual gathering of panpipers.
Northeast	*Northern Ohio, Point Peninsula, and Saugeen traditions* Associations of panpipes with females, children, a few shaman-like roles, and clan markers, but almost never with sodality markers (earspools, breastplates) and markers of community-wide leadership (celts). The burial of a person occasionally served as a focus of a ritual gathering of many panpipers.
Central Midwest and Midsouth	*Central Scioto, Muskingum, Miami drainages, Havana, Crab Orchard, and Southern Applachian traditions* Lacking association of panpipes with females and children. Moderately common associations of panpipes with indicators of the shaman-like roles of public ceremonial leader, manufacture of ceremonial artifacts with exotic raw materials, divination in general, and spiritual work involving trance states induced by smoking. Rare associations of panpipes with indicators of other shaman-like roles. Uniform association of panpipes with earspools as sodality markers. Nearly uniform association of panpipes with celts as markers of community-wide leadership. Moderately common associations of panpipes with clan markers and breastplates as sodality markers. The burial of a person rarely served as a focus of a ritual gathering of panpipers, and then only a few panpipers.
Southeast	*Santa Rosa–Swift Creek, Porter–Miller, and Marksville traditions* Lacking association of panpipes with females and children. Moderately common association of panpipes with the shaman-like role of public ceremonial leader. Rare associations of panpipes with indicators of other shaman-like roles. Moderately common association of panpipes with earspools as sodality markers. Rare associations of panpipes with clan markers, celts as markers of community-wide leadership, and breastplates as sodality markers. The burial of a person occasionally served as a focus of a ritual gathering of panpipers, and only a few panpipers.

(contra Seeman 1995:123). The search for a single explanation of what interregional Hopewell was—an identity for Hopewell—has been a longstanding quest in Eastern Woodlands archaeology. In recent decades, well after interregional Hopewell was no longer thought to have been a single culture or biological stock, Hopewell has been interpreted by various archaeologists to have been a trade network, mortuary cult, religion, worldview, artistic style, Great Tradition, and peer–polity network (Carr, Chapter 16 and references therein). A recent addition to this list is the view that "Hopewell is really the conjunction of two types of cultural systems—one social structural and the other symbolic" (Seeman 1995:123), with the symbolic component implying that "minimally, Hopewell ... must be seen as an ideological system" (Seeman, p. 122). The different social roles with which the role of panpiper was bundled in different specific regional Hopewellian traditions across the Eastern Woodlands, with major cleavages in role bundling patterning and/or age–sex associations of panpipes among four, broad geographic areas of several traditions each, clearly demonstrate that Hopewell cannot be regarded as one kind of social structure. The same conclusion is reached by Field et al. in Chapter 9 with data on regional variation in gender roles.

In addition, the different social uses to which panpipes were put in different Hopewellian regional traditions, based on the artifact classes with which panpipes were associated, suggests that panpipes carried different meanings in different traditions. Interregional Hopewell thus cannot be considered a coherent ideological system—at least not entirely. Instead, it is necessary to distinguish very general,

"canonical" meanings and messages that panpipes may have carried over broad distances over the Woodlands (e.g., the nature of humanness, power) from more locally specific, "indexical" meanings and messages that pertained to immediate local conditions and the particular uses of panpipes by persons in particular roles and ceremonies locally. This distinction in kinds of ideological meaning, the consistent and varying meanings of panpipes, and archaeological data that shed light on these subjects are presented below (see Symbolic Meanings of Panpipes). If interregional Hopewell has one single identity, it is in the realm of canonical meanings and the symbols and styles used to express them, rather than social structure.

THE RITUAL USES OF PANPIPES

One popular interpretation of the material forms, ritual practices, and ideas that were spread broadly over the Eastern Woodlands and that define interregional Hopewell is that they were components of a religious cult (Prufer 1964b: 93). Panpipes, as one of a very limited number of Hopewellian features that were truly pan-Woodland in distribution (Seeman 1979a), would fall under this interpretation.

In this section, we document some of the categories of rituals in which panpipes were used and show that these rituals were not performed throughout the Woodlands as supposed. Consequently, an interregional Hopewell that is, in part, defined by panpipes cannot be considered a single cult.

Remains of rituals that involved panpipes and panpipers vary in four fundamental ways (Appendix 18.5). First is the distinction between a single panpipe simply placed in the grave of its presumed owner and multiple panpipes that were placed in a grave and appear to indicate an assembly of panpipers who gifted panpipes in the course of a mortuary ceremony. The latter instance hints at the possibility of a small ceremonial society or sodality of panpipers. Burial of panpipes with their presumed owners are most common ($n = 48$ graves), while assemblies of panpipers are infrequent ($n = 9$ graves). The assemblies were all small by Hopewellian standards (Carr et al., Chapter 13), having involved two panpipes ($n = 6$ graves), three panpipes ($n = 1$ grave), or four panpipes ($n = 2$ graves).

A second contrast in the remains of rituals that involved panpipes is in the ages and sexes of those buried with them. Most panpipes were buried with adult males, but a small number of instances of panpipes placed with females ($n = 4$), children ($n = 5$ or 6), and adolescents ($n = 5$) are known. Panpipes buried with females, children, and/or young adults cluster by site and tradition and suggest localized, divergent ritual uses of panpipes (see above, The Age-Sex Distribution of Panpipers and Age-Related Rites of Passage).

A third distinction is between panpipes placed in graves, which indicate a burial ceremony, and those decommissioned in ceremonial deposits lacking skeletal remains, which indicate some other kind of ceremony, mortuary- or non-mortuary-related. Panpipes in burials are most common ($n = 57$ graves), while panpipes in other kinds of ceremonial deposits are not ($n = 7$ deposits).

Fourth, in turn, ceremonial deposits with panpipes vary greatly in their nature and indicate rituals of several different scales and social compositions. Deposits with very large numbers and diverse kinds of ceremonial items, which indicated many persons and many kinds of social roles, are very rare ($n = 2$ deposits). Somewhat more numerous but still rare ($n = 5$) are ceremonial deposits comprised of a lone panpipe ($n = 4$) or a panpipe and a couple of other ceremonial items that could be personal ($n = 1$).

An example of a ritual tradition that involved panpipes, that was restricted to a small locale rather than spread widely across the Woodlands, and that was distinctive is evidenced in the Point Peninsula area of Ontario at the sites of LeVesconte (Kenyon 1986) and Cameron's Point (R. B. Johnston 1968a). The tradition was unique in involving gatherings of multiple panpipers, the burial of panpipes with women and children, and certain kinds of grave goods. At LeVesconte, an old woman of 45 to 60 years and a child each were buried with four panpipes, and a second child with one. Some of the panpipes were of the interregionally rarer, silver-jacketed kind. It is unknown whether the female and children were buried at the same time. If they were, a gathering

of eight or nine panpipers is implied; if not, then two or three gatherings, with one gathering of up to four panpipers, are implied. The gatherings may indicate the existence of a ceremonial society of panpipers in the area, perhaps not unlike the sacred pack societies of historic Algonkian tribes (Callendar 1962:26, 31, 65, 77; Skinner 1915; Tax 1937:267), and perhaps one focused on women and/or restricted in membership to women. At nearby Cameron's Point, a child was buried with a silver panpipe. One possible function of such a society would be the adminstration of age-related rites of passage associated with naming, puberty, and old age. The evidence for this at LeVesconte, Cameron's point, and sites in the closely neighboring Saugeen and Northern Ohio regional traditions has been summarized above (see The Age–Sex Distribution of Panpipers and Age-Related Rites of Passage).

Compared to burials with panpipes in other regional traditions, those at LeVesconte are also distinguished in having an unusually high percentage of associated artifacts that are the power parts of animals: beaver incisors, bear canines, a shark's tooth, moose and deer feet, and red fox's muzzle. Red erythrite pigment in *Unio* shells, which would have been suitable for application or painting of some kind in the course of ritual, also occurs in two burials. The overall picture gotten is that ceremonies involving panpipes at LeVesconte were organized around religious and social concepts, some of which were shared by a limited number of societies in its vicinity and some of which were entirely unique to it.

A second instance of a unique ritual tradition that employed panpipes, was spatially restricted, and involved gatherings of multiple panpipers and the burial of panpipes with children is evidenced at Tunacunnhee, Georgia. There, three panpipes were buried with one adult male, and two with an adult of unknown sex. Two more were buried with two children. Gatherings of two or three panpipers are implied. One of the two panpipes had four tubes and was made of silver, which is rare across the East. Animal power parts, including a drilled bear canine and deer antler, as a well as a human power part (a mandible), were found with the two children. There are elements of this ritual tradition that are similar to ones evidenced at LeVesconte.

Large ceremonial deposits that do not have human skeletal material directly associated with them are limited to two in the Eastern Woodlands, both in Ohio: Altar 1 of Mound 25 at the Hopewell site, and the Central Altar in Mound 3 of the Turner site. The estimated number of gift-givers who attended the ritual gatherings that produced these remains are 514 and 441 persons, respectively (Carr et al., Chapter 13). The kinds of ritual paraphernalia found in each deposit are very diverse and suggest many kinds of social roles, including shaman-like leaders and practitioners of multiple specialized kinds, two kinds of community-wide leaders without clear shaman-like associations, sodality members or high achievers, and members of various clans. Given the great number of leaders and other important persons represented in each deposit, each probably reflects a gathering of multiple communities, with ritual cooperative and/or competitive displays among them (gathering type IA [Carr et al., Chapter 13, Table 13.17]). The role of panpiper, represented by one panpipe in each of the deposits, may have been a very minor component in these ritual gatherings. Both gatherings in which the panpipers participated possibly involved the ritual closure of a mortuary area or some nonmortuary kind of ceremony, rather than burial rites, per se.

All said, panpipes were used in different kinds of rituals in different, limited geographic regions across the Eastern Woodlands. Ritual differentiation in the use of panpipes was more localized than was variation in the social roles with which the panpiper role was bundled. The highly diversified and geographically limited qualities of panpipe rituals documented here do not accord with the nature of cults or the idea of an interregional Hopewellian cult (Prufer 1964b). Cults may be adapted to local purposes, symbolic frameworks, and ritual systems as they spread over a broad area (e.g., Gill 1982:164–171; Wiessner and Tumu 1998, 1999), but the local ritual differentiation witnessed in panpipe use was much more substantial.[4] The diverse rituals described above are all good examples of the concept of "local Hopewell"—a reworking of

select practices from other regional traditions into a local form, where the reworking can be quite intensive and the resulting ritual may be similar to its ancestral forms in only a surficial, partial, and most general way.

THE SYMBOLIC MEANINGS OF PANPIPES

The glistening metals of which panpipes were made, and their musical nature, each evoke the sense of an artifact that must have been laden with meanings for Hopewellian peoples. This section documents the symbolic referents attributed by historic Eastern Woodlands Native Americans to three kinds of materials used to make panpipes—copper, silver, and wood—and explores the possible meanings of the musical quality of panpipes. In turn, these ideological aspects of panpipes are discussed relative to the interregional distribution of panpipes over the Woodlands and their possible utility in interregional social interaction.

Canonical and Indexical Meanings

To reasonably address the question "What did panpipes mean to Hopewellian peoples?" requires a distinction to be made between two kinds of meanings: canonical and indexical. These two forms were originally proposed by Rappaport (1979) in discussing the messages that rituals can communicate to their participants, and are extended by Bernardini and Carr (Chapter 17) to the roles, value, and meanings of an artifact class within a ceremonial system. Canonical meanings are basic worldview assumptions about the enduring aspects of nature, society, and the cosmos. They pertain to things outside of a particular ritual or cultural context and, therefore, are more or less immutable and unfalsifiable. Indexical meanings, on the other hand, are more particular concepts that pertain to immediate conditions and relationships between individuals in a given ritual or cultural context. They consequently can vary dynamically.

In pertaining to very general worldview assumptions, one set of canonical meanings can be the foundation for many different cultural ideologies that differ in their particulars, and can span broad regions encompassing many cultures and linguistic groups. The notion of the *Sprachbund*, "an area of shared understandings of the universe and what to talk about" (Seeman 1995:135), is relevant here, and less directly, the concept of the culture area (Kroeber 1931. 1939; Wissler 1926) as a region of broadly shared lifeways and outlooks. In contrast, an indexical meaning, in concerning a particular cultural context, can be localized geographically to one or a few cultures. It may be the local, richly elaborated and specific manifestation of a general canonical meaning with broader distribution, or a meaning that does not logically follow from a more general canonical one, to the extent that the ideological system of a culture is not fully coherent logically.

In this section, we consider very general canonical meanings such as transformation, power, and humanness, as well as specific indexical meanings such as the various creatures and aspects of nature to which copper referred in specific cultures ethnohistorically.

Difficulties in the Study of Hopewellian Symbolism

Studies of Hopewellian symbolism, specifically the symbolism of copper and silver, are hampered by four problems. First, Hopewellian traditions include both those of the Great Lakes region and those of the Southeast. Historically, peoples of these regions had distinct cosmologies that differed in fundamental ways (see below), although they did share the idea of the shamanic three-tiered universe and used this idea as a basis for the classification of things. It is debatable whether particular materials and animals (e.g., copper, bear) had similar canonical and/or indexical meanings in these two areas. Such variation is expectable, given that at least 27 distinct languages were spoken historically across the area encompassed by the Hopewellian world (Seeman 1995:124). Consequently, it is difficult, if not inappropriate, to talk about "the canonical meaning" or "the indexical meaning" of copper or silver or panpipes over this large area.

A second difficulty in discovering the meaning of Hopewellian symbols is that ethnohistoric information on the religion and symbology of

Native American societies of the Eastern Woodlands is a composite of ideas obtained from later agricultural and earlier hunter–gatherer times. Societies with these two different subsistence bases had different kinds of material and meteorological problems with which to cope; would have had different perspectives on fertility, creation, and reproduction; and, consequently, would have differed in the semantic orientation of their symbols. Which of these diverse meanings are more relevant to Hopewellian societies is unclear, for they existed within a dynamic transition between these two subsistence types, possibly making their symbology more complex or fluid. In addition, the agriculture/hunter–gatherer distinction over time is played out in the geographic Southeastern/Great Lakes distinction over the Hopewellian world, to the extent that agriculture became more central to Southeastern economies. Again, it is difficult, if not inappropriate, to speak of "*the* canonical meaning" or "*the* indexical meaning" of copper, silver, or panpipes over the Woodlands at large.

Third, it appears that Hopewellian symbology was not organized in a simple Levi-Straussian, Western way around polar dualities (e.g., black–white) in the manner interpreted by Greber (Greber and Ruhl 1989:275–284). For example, it is unlikely that copper and mica were complementary opposites with different, distinct sets of meanings as she would have it. Instead, the much more complex and context-dependent organization of symbols called "dual triadic dualism" (Roe 1995) appears to apply to Hopwellian symbology. In this system, an object or material can occur at the intersection of two polar opposites and reflect either pole. The semantic loading of the object/material may be equally balanced between the two poles, or more heavily weighted toward one pole or the other. Thus, an object or material can be seen and assigned meaning more from the point of view of one pole or more from the point of view of the other. The relevant viewpoint will depend on the object's or material's formal context and its context of use. For example, copper might be seen to have both Upper World and Lower World qualities (see below), i.e., to occur at the intersection of meanings of the Upper and Lower Worlds. However, in a given context, it might be understood to refer more or entirely to either the Upper World or the Lower, its particular meaning depending on the form into which it is rendered and its ceremonial context of use and purpose.

The pertinence of this complex, context-specific form of symbolism to Hopewellian art was made clear by Henry (1994), who demonstrated that there is absolutely no correlation between particular kinds of raw materials and the Upper, Middle, and Lower World creatures into which those materials were rendered in Ohio Hopewellian art. For example, snakes and bears commonly associated with the Lower World (see below), and raptors of the Upper World (see below), are each made of copper and mica, which are proposed by Greber to have been complementarily opposite materials. The context-dependent nature of Hopewellian symbolism makes an identification of "the meanings" of copper, silver, and panpipes to Hopewellian peoples not only difficult, but also inappropriate to discuss in any decontextualized, absolute, universal way.

Finally, studies of the Hopewellian symbolism of copper and silver are hampered by the sparseness of ethnographic references to their meanings.

A General Canonical Meaning of Copper and Silver: Transformation

Copper and silver are two of a large number of raw materials that Hopewellian peoples selected for making ceremonial artifacts and that have the magical quality of changing from light to dark or from shiny to dull, upon being heated or weathered, for instance, as in a ceremonial firing or ceremonial burial in the earth for a time (Carr and Case, Chapter 5, Table 5.3). In many instances, these transformations are reversible. For example, copper corrodes, silver tarnishes, and meteoric iron rusts when weathered and they darken or dull, but each can be made light and shiny again by polishing. Mica turns dark when heated, as does human bone when cremated in a reduced atmosphere and clay when fired under such a condition. In addition, if shiny is equated with light, and dull with dark, as they are in many native classifications (Roe 1995),

then some Hopewellian raw materials are both light/shiny and dark/dull at once. Obsidian is shiny but black, Knife River flint is dark but transluscent when held up to light, and the feathers of some birds, such as mallard ducks, can be irridescent but dark.

It is likely that, to Hopewellian peoples, as with others, the light/shiny and dark/dull poles had many layers of indexical meanings, any or many of which might have been expressed in a particular artifactual form of a particular material in a particular state (e.g., unheated, heated) in a particular ceremonial context in a particular Hopewellian tradition. However, at a more general level, all of the materials that can be either light/shiny or dark/dull have the natural quality of illustrating transformation—a potential canonical meaning. Copper and silver, like many other Hopewellian raw materials, may have been perceived as transformative, may have been selected to make artifacts such as panpipes precisely because they were thought to be transformative, and might have aided in social, personal, or other transformation processes in the course of ceremony. In other words, copper and silver and other Hopewellian raw materials might have been perceived as laying at the intersection between the two semantic poles of light/shiny and dark/dull, and might have taken on specific indexical meanings from either pole or both poles in varying weight, depending on the context. This perception would have made these materials natural transformers.

This canonical meaning of copper and silver makes sense in the context of panpipes in three ways. First, panpipes produce music, which often accompanies ceremony. Cross-culturally, ceremonies usually are transformative in some fashion (Turner 1969; van Gennep 1960), taking an individual from one social status to another (e.g, unmarried to married), or a group or society from one state to another (e.g., war to peace). Further, we found that of the shaman-like social–ritual roles indicated by the kinds of artifacts buried with panpipes, those probably used by public ceremonial leaders were among the most common (see The Panpiper's Social Roles, above). If Hopewellian panpipes were used in public ceremonies, they would have supported the transformation process, both audibly through the music they produced and visually in having been made of copper and/or silver, which might have actively symbolized transformation.

A second way in which the notion of copper and silver as transformers would have been especially fitting to panpipes is through the use of panpipes in trance induction—a transformation in one's state of consciousness. Musical sound is a commonly used means for entraining and focusing the mind and creating trance states. So, too, is punctuated breathing or puffing, which is the primary means by which a panpipe is played. Further, both musical sound and punctuated breathing in the form of highly repetitive songs are integral to most forms of shamanic work (Harner 1990:50–53, 78–79, 94–95, 109, 152–153; Metcalf and Huntington 1991:85–90; Walsh 1990:173–176; Winn et al. 1989), which are transformative in a variety of ways (Carr and Case, Chapter 5). The copper and silver of Hopewellian panpipes might have visually symbolized the transformation of consciousness that was facilitated by musical sound and punctuated breathing in shaman-like work or other ceremonies involving music. Significantly, Hopewellian panpipes have strong associations with shaman-like equipment in mortuary and other ceremonial deposits (see The Panpiper's Social Roles and Other Roles Bundled with Them, above).

Third, the perception of copper and silver as transformative would have been relevant to panpipes in their use during the manufacture of ceremonial equipment. Manufacturing an artifact from a raw material is a transformative process. It is also a creative process, which can be enhanced with music that focuses the mind (Carr and Neitzel 1995b:452–454). It is possible that panpipes were sometimes played when sacred, symbolically loaded raw materials were being worked, and that the copper and/or silver of panpipes symbolically reiterated and supported the transformative manufacturing process. Relevant to this interpretation is the fact that, of the shaman-like social–ritual roles indicated by the kinds of artifacts buried with panpipes, the role of one who manufactures with symbolically

loaded raw materials was found most commonly (see The Panpiper's Social Roles, above).

We do not know what general canonical meanings the poles of light/shiny and dark/dull, which define the theme of transformation, may have had for Hopewellian peoples. One possibility is the contrast between different worlds, with light/shiny indicating the Upper World, dark/dull standing for the Lower World, and a mix of dark and light perhaps representing this Middle World. This concept accords with, but is not securely inferred from, the fact that copper was mixed in its associations ethnohistorically in the Northeast, referring to both Upper and Lower World creatures of specific kinds (see below). The notion of polar worlds and their mix may also have been represented on Ohio Hopewell copper plaques, which were patinated commonly so as to be dark and light on one side and dark on the reverse (Carr, personal observation).

Life

Closely associated with copper and silver's canonical meaning of transformation and their utility in ceremonies of social and personal transformation may have been the canonical meaning of life, living, and, by extension in Algonkian and Native American modes of thinking generally, personhood and soul (Hallowell 1960). Copper and silver, in corroding and tarnishing, have a life of their own.

The notion of copper and silver as being alive would have been especially suited to panpipes made of these metals. A panpipe produces music when it is breathed into. Breath is strongly associated with one of the two souls of humans in which historic Native Americans commonly believed, and with life (Hultkrantz 1953).

That Hopewellian peoples associated panpipes and their copper with breath is implicated by archaeological evidence. A Hopewellian association of panpipes with breath across the Eastern Woodlands can be seen in the particular placement of panpipes within graves (Appendix 18.7). Panpipes were placed in a variety of locations in the graves of individuals over the Woodlands, but most commonly in locations implying breath: on the chest ($n = 21$) and around the mouth ($n = 4$). Less frequent placements were by the side ($n = 9$), at the feet ($n = 1$), on the abdomen ($n = 1$), beneath ($n = 1$), and "nearby" ($n = 9$). The common placement of panpipes on the chest or around the mouth on a burial-count basis is reiterated at a larger scale, where 11 of the 14 regional traditions examined here follow the pattern.[5]

A Hopewellian association of copper, itself, with breath may be indicated by three pairs of nostril inserts that were found in Burials 6 and 7 of Mound 25 at the Hopewell site (Shetrone 1926:65–66, figure 24) and in Burial 2 of the Seip–Pricer mound (Shetrone and Greenman 1931:374–375, 408–410, figure 33). The nostril inserts call attention to the breath, and all three were made of copper.

Specific Indexical Meanings of Copper

Historic accounts of Woodland Native Americans provide some information on the specific indexical meanings they attributed to copper. Although it would be inappropriate to assume that these meanings hold across the entire Eastern Woodlands, for the several reasons given above, and although the specific social, ritual, and mythic contexts of the reported meanings are unknown or inadequatly understood, the historic data do provide some useful insights.

Copper was highly esteemed by some historic Woodland Native Americans. It was also given personhood, as are many parts of the (to us) inanimate cosmos by Native Americans (C. E. Brown 1939:35; Hallowell 1960; Morrison 1999). Verrazano noted of the Narragensett Algonquians in 1524 that "we saw upon them several pieces of wrought copper, which is more esteemed by them than gold ... which is not valued on account of its colour" (Winship 1905, cited in Hammell 1987:72). A Jesuit observer wrote, "One often finds at the bottom of the water pieces of pure copper, of ten and twenty pounds weight," which were retained as "divinities, or as presents which the gods dwelling beneath the water have given them, and on which their welfare is to depend" (d'Alloues 1666–1667, cited in C. E. Brown 1939:36). Both small and large nuggets were so valued.

In line with the suggestion that copper was seen as transformative, and at the intersection between polar meanings, copper was associated historically by Woodland Native Americans with both the Lower World and the Upper World. It was also associated with their creatures and "persons" (Hallowell 1960): the Horned Serpent, the Underwater Panther, snakes, and bears of the Lower World, and the Thunderers and perhaps the Sun of the Upper World. We explore each of these associations now.

The Lower World and Its Creatures

Copper had natural connections with the Lower World for Native Americans of the Northeast. It comes from down within the earth, appearing to grow from rock within the earth, yet it is not rock. It can be shiny like the waters of the Lower World, which rise to this Middle World in the form of lakes, streams, and springs. Furthermore, copper is found in nuggets underwater and on the beaches around Lake Superior, emerges from the water as islets of nearly pure copper in some locations within Lake Superior, and is found in large deposits on Isle Royale far within the waters of Lake Superior (C. E. Brown 1939:36–38).

More specifically, copper was historically associated in the Northeast with the horned or antlered serpent or panther of the underwater Lower World (Hammell 1986/1987:79; 1987:76). The Potowatomi thought that the Underwater Panther had yellow fur or brassy scales (Howard 1960:217). The Menominee sometimes said that the long tail of the Underwater Panther, which was drawn under its feet and was referred to as the "panther's road through life," was made of copper (Skinner 1921:263). Many Great Lakes tribes believed that the nuggets of raw copper within sorcerers' bundles were the "warts" of the Horned Serpert (Barbeau 1952; Skinner 1915:182–186). This association of serpents and copper is "natural," because both "live" underground/underwater.

In Hopewellian societies, the association of serpents or horned serpents with copper appears to have been context or tradition-specific. A large copper cutout in the overall form of "snake's head" was possibly associated with a copper cutout of a deer antler and represented the Horned Serpent, both of which were found among the mass of copper symbols deposited in Mound 25 at the Hopewell site, Ohio (Moorehead 1922:124, plate 68; see also Greber and Ruhl 1989:113, 279). Several copper antlered headresses, which could have represented the horns of the Horned Serpent, are known from Mound City, Ohio. However, at the same time, mica was used to make a full snake with horns found in the Turner Site, Mound 4, Altar 1, Ohio (Willoughby and Hooton 1922:68–69). Thus, copper was not the only material used to represent Lower World creatures. Additionally, the Mound 25 copper snake head has composed within it Upper World raptor talons and one or more Middle World eared mammals (Carr 1998, 2000a, 2000b). Thus, copper was used to image creatures of all three worlds. These relationships are in line with dual-triadic-dualistic symboling.

Other logically possible aspects of a natural association of copper and serpents are not known to us ethnographically or archaeologically, but can be suggested. For example, it is possible that in some contexts, because of its association with serpents, copper was thought to be associated with the birth of the world and the reenactment of this event. Snakes/serpents come up from the Lower World each spring as they leave their hibernation dens. In addition, mining for copper must have been a highly charged activity for peoples with Hopewellian beliefs. Beyond being a perilous physical activity with the possibility of cave-ins, rock falls, and other accidents, it must have had intense metaphysical overtones. Mining copper was literally taking a journey into the Lower World, where composite creatures (monsters) such as the Horned Serpent and Underwater Panther were thought to reside. This image may have been reinforced at times when snake dens were located in the mining pits.[6]

In the historic Southeastern United States, copper and serpents, and copper and the Lower World, may not have been associated, or perhaps were associated in fewer contexts. The Lower World, harmful creatures in which Southeastern tribes believed were not the horned serpent or horned panther of Algonkian lore but, instead, were creatures with a serpent body, mammal

horns, and bird wings. The Cherokee called these monsters *Uktenas* (Hudson 1976:131). Other tribes told of similar beings, such as the Underwater Cougar, which additionally had a cougar's head (145; see also Fecht 1985). Whereas the Horned Serpent was a combination of Lower and Middle World animal features, and the Underwater Panther had only Middle World animal features, the *Uktenas* and related monsters of the Southeastern tribes were composites of Lower, Middle, and Upper World animals. The monsters triply violated the Southeastern cultural obsession with purity, and were considered very powerful and harmful. Significantly, unlike the copper scales of the Horned Serpent and Underwater Panther, Uktenas had scales of transparent crystals (Hudson 1976:167). Thus, in the Southeast, it may be that copper was not commonly associated with the Lower World and its monsters but, instead, referenced the Sun and the Upper World. The sun, the color red (like copper), the sacred fire, blood, and life and success were each signified by the cardinal direction, East. The color brown, like dulled copper, was assigned the direction upward (Hudson 1976:132).

Among Algonkians, copper from the Lower World was associated not only with underwater serpents/panthers, but also with bears. Bears, like serpents, "live" underground during their hibernation, often in caves and pits like those found or made at copper sources. A historic Chippewa legend told of an underground-dwelling bear with a long tail made "of Copper, or some bright metal" that inhabited the Keweenaw peninsula (Schoolcraft 1853–1857:352, plate 49, cited in C. E. Brown 1939:39). This bear is also depicted in several drawings made by a Chippewa or Cree chief (Brown, p. 39). More recently, local native elders have told how the copper-tailed bear was nearly always in the vicinity of copper deposits (Brown, p. 39). Menominee lore and drawings speak of "the white bear spirit"with silvery hair and a great long tail composed of "bright burnished copper" who guards the deposits of native copper of Lake Superior (Mallery, cited in Brown 1939:39). The Menominee legends and drawings tell of a malevolent Great White Bear that lives underground (Gill and Sullivan 1992:23).

The historic Algonkian association between Lower World bears and copper may have had Hopewellian antecedents. Bear canines are commonly found in Hopewellian sites (Seeman 1979a:371–373), and are occasionally covered with copper. A copper bear headdress was found in Mound 13, Burial 3, at Mound City, Ohio (Mills 1922:451–452, 543, figure 68). However, the association between bear and copper again appears to be context or tradition-specific, and in line with dual-triadic-dualistic symboling: both copper and mica effigies of bears, bear canines, and/or bear claws have been found in Ohio Hopewell sites (e.g., Greber and Ruhl 1989:111; Mills 1916:389; 1922:452–453; Moorehead 1922:110; Shetrone 1926:63, 176, figs. 139, 152[7]; Willoughby 1922:plate 15). Henry's inventory of Ohio Hopewell imagery indicates that the materials from which images of bear or bear parts were made are equally copper and mica: Of the 34 images found to refer to bears, 14 (41%) were copper and 14 (41%) were mica (Henry 1994:36).

In the historic Northeastern Woodlands, special postmortem ceremonies and disposal rituals were performed when a bear was killed (Hallowell 1926). Commonly, these were done in order to appease a great bear spirit or bear chief, who was a "Master of Animals" or "Master of Bears", and governed good hunting of animals at large or bears specifically (Hallowell 1926:63, 70, 137). The historic association of bears with both hunting and copper may have come full circle among northern Hopewellian peoples in their panpipes. Hopewellian panpipes are copper, sometimes were placed in graves with war or hunt divination equipment, and may have been analogous to flutes used historically to hunt in the East (Hall 1979:258).

Historic Southeastern tribes do not appear to have associated the bear with the Lower World, copper, or a Master of Animals. They seem to have related to bears differently. The connection between bears and humans was emphasized in Southeastern mythology (Hudson 1976:160–162), and bears were not seen as having more power than humans (Hudson 1976:157–158; see also 164–165). None of the elaborate Northeastern Indian postmortem customs and disposal

ceremonies for dealing with hunted and killed bears are found among the Southeastern Indians (Hallowell 1926:72). This situation is explained in Cherokee mythology to be the result of the ineptitude and poor cunning of bears (Hudson 1976:157–159).

The Upper World and Its Creatures

Northeastern Woodlands peoples, and Plains Native Americans who had migrated from the Woodlands, believed in the Thunderers, Thunderbirds, or Thunderbeings. These were huge, birdlike beings of the Upper World that were thought to emit lightning from their eyes, to create thunder from the flap of their wings, and to be responsible for rain (Hall 1977:501). Copper had a direct historic association with the Thunderers. Small copper nuggets sometimes found on Lake Superior's beaches were believed by older Native Americans of that region in the 19th Century to be the "eggs or excrement of the Thunderers", and therefore to have "some medicinal value or magic power" (C. E. Brown 1939:40). However, one has the impression that historically, copper was semantically loaded more toward the Lower World than the Upper.

In Ohio Hopewellian sites, the association between copper and the Upper World was not privileged. The relationship appears to have been context-specific, and in accord with dual triadic dualistic symboling. Raptorial birds or their talons are represented in both copper and mica. A talon cutout is found on each of the four corners of a copper breastplate from Mound 26 at the Hopewell site (Shetrone 1926:182), and raptors were embossed or cut out in each of the four corners of both of two copper breastplates from Mound 7, Burial 9, at Mound City (Mills 1922:534–535, figures 62, 63). Two raptor talons are found in cutout designs within the copper effigy snake's head from the Hopewell site, mentioned above. At the same time, two large representations of raptor talons were cut out of mica and deposited in Mound 25, Burial 47, of the Hopewell site (Shetrone 1926:95–97, figure 35).

In the Southeastern United States, among the Cherokee, belief centered on the *Tlanuwas* rather than the Thunderers. The Tlanuwas were huge and savage, falcon or hawk-like birds of prey that were said to come into settlements and carry off dogs and even children (Hudson 1976:129, 136–137). Unlike the Thunderers, the Tlanuwas did not produce thunder, lightening, and rain. Instead, thunder was produced by its own deity, *Kanati* (Hudson 1976:127). We do not know of any historic association between copper and the Tlanuwas analogous to the historic association of copper and the Thunderers in the Northeast. None are listed by Gill and Sullivan (1992). Instead, copper may have been associated with the Sun, an Upper World deity (see above).

Summary

Copper was associated with creatures of both the Lower and the Upper Worlds—the Horned Serpent, Underwater Panther, and bear, and the Thunderers—in the historic Northeast. This double-world association of copper suggests that the particular meanings attributed to copper were context-specific and probably assigned by a dual triadic dualistic symbolic structure, rather than a simple dualistic structure. This also appears to be the case for Hopewellian copper symbolism from Ohio sites, at least. In addition, the double-world associations of copper historically in the Northeast and prehistorically in Ohio suggest that it was perceived as transformative, which would have made its role important in ceremony generally, and in the manufacture and ceremonial use of panpipes in particular. In the Southeastern United States, no firm historic associations of copper with creatures of either world are known to us. However, copper may have been associated with the directions east and/or up, given the similarities of their colors to copper. It is possible that during the Middle Woodland period, Northeastern religious ideas such as those described above and Northeastern copper symbolism spread through various forms of Hopewellian interaction (Carr, Chapter 16) into the Southeast, later to be replaced by or fused with Southeastern concepts and symbolism evident in Mississippian art and historic lore.

To these interpretations of copper symbolism in the Woodlands must be added one final

complexity. In the Northeast, the Upper World and Lower World, with respect to which copper and many other transformative raw materials were probably transitional, were not absolutely complementary poles, themselves. Both worlds had water associations: the Lower World in the form of lakes, springs, and other places where water emerged from the earth, and the Upper World in the form of rain brought by the Thunderers. In addition, the archetypal creatures of the Lower and Upper Worlds—snakes and bird—had similarities. Birds and snakes both hatch from eggs. In the Southeast, snakes are encountered not only in the water and slithering on the earth, but also frequently in the air, hanging from tree limbs (Hudson 1976:144–145). Thus, the poles of Woodland symbolism, themselves, were somewhat fluid, providing ample room for persons to play with the meanings of objects and materials, to vary meanings among contexts, and to connect meanings among contexts. Woodland symbolism was richer, more complex, and more situational than simple Western dualistic symbolism or triadic dualism (Levi-Strauss 1969b, 1973, 1978, 1981).

Some Canonical and Indexical Meanings of Silver

No ideological and cosmological meanings for silver in the Eastern Woodlands can be firmly inferred. Silver was much rarer than copper in Woodland material culture, both historically and during the Middle Woodland, and there is thus less mention of it in ethnohistorical records. However, several notions are relevant here. First, silver is transformative, and reversably so, like many raw materials that attracted Hopewellian peoples. Silver can change from light and shiny to dark and dull through tarnishing, and back again through polishing. Silver is similar to four other common Hopewellian materials in its lightness and/or shininess: mica, galena, meteoric iron, and shell.

Second, it is possible that silver was contrasted with copper, silver being lighter in color than copper when both are polished. This lighter–darker contrast may have been what Hopewellian peoples were deliberately emphasizing when they placed silver foils over copper artifacts, such as panpipes and earspools. It is particularly noticeable in the rare earspools where silver or meteoric iron were placed in the central depression of the spool, and the surrounding annulus was left in copper, focusing attention on the play of light and shadow in the metals (see Ruhl, Chapter 19). The contrast between lighter, white silver and darker, red copper in panpipes seems to have been intentional in the case of the copper-and-silver panpipe from the McRae site, Mississippi. It was accompanied by two analogously contrasting projectile points that may have been suspended from it: one of clear quartz, the other of red jasper (Blitz 1986:17).

Third, it is possible that the lighter silver/darker copper contrast had many layers of meaning for Hopewellian peoples, just as the light/shiny versus dark/dull contrast within single metals may have had. An association of silver with the Upper World and its creatures and of copper with the Lower World and its creatures is only one logical possibility, and perhaps too dualistic and static.

Fourth, at the same time, Hopewellian peoples may have seen a close association in addition to a polar relationship between silver and copper, for several reasons. Like copper, silver occurs within the earth in rocky areas and often in association with water. At its sources in the Keweenaw Peninsula, silver was found mixed with copper as a minor erratic.[7] The polarity yet association between copper and silver recalls our observation, above, that the Upper and Lower Worlds were not firm opposites but shared in their linkages to water and were related through the similarities between birds and snakes.

Finally, because silver is rarer than copper in its availability and its Hopewellian usage, it is possible that the power attributed to silver was enhanced.

Specific Indexical Meanings of Cedar and Sumac

The materials from which the tubes of Hopewellian panpipes were made are typically either not preserved, or preserved so poorly as to make their species identification impossible or

tentative. However, the inner wooden tubes of one panpipe from the Donaldson II site, Ontario, have been tentatively identified as either staghorn sumac (*Rhus typhia* L.) or willow (e.g., black willow, *Salix nigra* Marsh) (Young 1991). Red cedar wood may also have been used in one or more panpipes from Illinois (B. Hansen, personal communication, 1996).[8]

Cedar wood, among the Cherokee and most Southeastern Indians, was one of a very restricted set of things that represented the highest degree of ritual purity and sacredness, the other things being pine, spruce, holly, laurel, owls, and cougars (Hudson 1976:134; Speck 1909:62). Cedar was used to make the litters on which the highest elite of the Mississippian sites of Cahokia and Spiro were buried. Hall (1977:513), generalizing more broadly for the Eastern Woodlands and eastern Plains, notes that cedar "was used as a fumigant associated with life, immortality, and countermeasures against supernatural powers."

Sumac, too, served as a fumigant when it was used as an ingredient of kinnikinnick—a widely spread group of smoking materials that might be made of the bearberry, manzinita, dogwood, and/or sumac (Hall 1977:513). Also like cedar, sumac was associated with the color red: sumac turns blood red in autumn, and cedar is red and white. Hall (1977:513) noted that "sumac ... has several mythical associations similar to those of cedar and copper in the Eastern U.S.—the ability to counter supernatural power."

Cedar and sumac have natural linkages to panpipes. In referencing purification, which is a form of transformation, through fumigation and/or smoking, cedar and sumac are similar to music, which has the capability to transform (see A General Canonical Meaning of Copper and Silver: Transformation, above). In addition, sumac was smoked for both ceremonial and ordinary purposes (Hall 1977:513), which associated it with breath, as are panpipes, which are blown.

At the same time, another logic is possible. Cedar defies transformation, being resistant to rotting, whereas copper and silver are transformative (see above). If cedar was used to make some Hopewellian panpipes, its use along with copper and/or silver may indicate the attempt to afford balance to these instruments. Balancing opposites is one of the most fundamental themes of Southeastern Native American cosmology (Hudson 1976:128).

If cedar and sumac were used in the construction of panpipes, it is difficult to specify at this time which of the above characteristics of cedar, sumac, and panpipes Hopewellian peoples might have associated.

General Canonical Meanings of Panpipes: Power and Humanness

Power

Each of the constituents of panpipes described above—copper, silver, and possibly sumac and cedar—had one or more associations with power ethnohistorically, or suggest by their nature their association with power. Powerful creatures or "persons" of the Upper and Lower Worlds, including Thunderers, the Horned Serpent, the Underwater Panther, and the bear, had symbolic ties to copper in the Northeastern Woodlands, and the sun deity may have had in the Southeastern Woodlands. These beings could bestow power on a human with the appropriate ritual or derail one's power if not given due respect. In addition, copper and silver both have a magical transformational nature, as does music, that could have been harnessed in ceremony for a great many purposes and demonstrated power. Also, the power of life and the power of breath are notions that are naturally implicated by copper, silver, and panpipes themselves. Further, cedar was privileged in the Southeast as a representative of highest purity and sacredness, which could not be attained by humans, for their insufficient power. Thus, panpipes may have had the general, canonical meaning of power across the Eastern Woodlands, in addition to their more context-specific, indexical meanings.

It is conceivable that panpipes also may have had the general canonical meaning of being an intermediary to power. Made from materials connected with and having power, they may have served as conduits between the sources of power in the various beings they signified and humans and their ritual tasks at hand. Based on the role analysis made above, these tasks would

have most commonly been manufacturing artifacts from symbolically loaded raw materials, spiritual work in general involving trance states induced by smoking, public ceremonial tasks, and divination in general. Panpipes also may have functioned less commonly as intermediaries to power in ceremonies aimed at war or hunt divination, healing, and philosophy (see The Panpiper's Social Roles and Other Roles Bundled with Them, above).

An ethnographic analog to the idea that panpipes functioned as conduits between sources of power and humans is the bird bone whistles blown by Lakota Siouan Sundancers (Mails 1978:100, 1991:30–31, 51). During the Sundance, power is said to flow from *Wakan-Tanka* (i.e., God) through the sun and the sacred central tree in the dance ground (i.e., World Tree) to the Sundancer who blows a hollow bird bone whistle and is believed to be a hollow tube that can be filled with that power.

Human Power: The Long Journey for Copper or Silver

Beholding the copper and/or silver of a panpipe would have immediately evoked in a Hopewellian person the sense of power of the panpipe's owner. These metals would have recalled their acquisition by a long-distance journey to Lake Superior or Upper Lake Michigan deposits of copper with silver, and/or to Cobalt, Ontario deposits of silver—challenging feats that demonstrated the power of the person who undertook them successfully. Although copper and silver were available to Hopewellian peoples at a number of relatively close sources over the Eastern Woodlands, the distant Upper Great Lakes and Cobalt sources were chosen to make panpipes and other copper and silver artifacts in almost all instances (Spence and Fryer, Chapter 20; Bastian 1961; Clark and Purdy 1982; Goad 1978, 1979; Rapp et al. 1990; Schroeder and Ruhl 1968); and these sources were far from all of the Hopewellian regional traditions in the Woodlands (Brose 1990). Thus, across the Woodlands, copper and silver panpipes would have evoked a similar general canonical meaning of not simply power, but power accrued and proven through a successful long journey (Bernardini and Carr, Chapter 17)—human power.

Making a journey to mine and bring back copper and silver would have been a dangerous and long endeavor. The trip to the Upper Great Lakes or Cobalt would have involved traveling through territory that was unknown in its specific features and inhabited by potentially hostile strangers who did not speak one's own language or operate by the same cultural principles and norms. The trip to Isle Royale and other copper-bearing islands within the ofttimes stormy and foggy Lake Superior was treacherous (C. E. Brown 1939:35, 36). One historic Native American name for Isle Royale was "Thunder," because it was said to "thunder there all the time" (Doblon 1669/1670, in, C. E. Brown 1939:37). Probably more frightening would have been the prospect of having to deal with Lower World monsters such as the Horned Serpent, the Underwater Panther, and/or a bear spirit that guarded copper deposits (see Specific Indexical Meanings of Copper, above) during one's travels over water and while mining. The duration of a canoe trip to Lake Superior copper or Cobalt silver deposits from the Central Scioto area in Ohio and back, as an example, would have taken many months (Little 1987). All of these dangers and the endurance required for the journey would have yielded stories to tell and prestige to be had upon coming home. Copper from the Lower World would have served as proof.

The fear of the Horned Serpent exemplifies the danger implicit in long journeys and the power demonstrated by a successful journeyer. The Horned Serpent was feared for a variety of dangers it caused the living and the dead. It might take an unsuspecting victim who happened to be near a body of water—an entrance to the Lower World. It could create stormy water and whirlpools with its long tail on bodies of water when humans were traversing them, and was responsible for falling through thin ice. In the lore and near-death experiences of historic Ojibwa, the journey of the deceased to a Land of the Dead required crossing over a turbulent river on an unstable or undulating, fallen tree trunk, which turns out to be a serpent. Souls that fell into the river were lost (Kinietz 1947:145; Kohl

1860:218–219, 222–223; S. R. Martin 1999:201; see also Barnouw 1977:18–19, 136).[9]

Although the above, specific, indexical meanings of copper and long journeys to acquire it or silver had limited geographic distributions historically among Native Americans, and also would have had among Hopewellian peoples, these meanings imply a similar, more basic canonical meaning that would have been understood across the Woodlands. Copper, silver, and panpipes made of them would have called up the ideas of the long journey and the human power required by it and gotten from making it.

Manageable Power?

The power represented by panpipes over the Eastern Woodlands was categorically distinct from that represented by some other kinds of Hopewellian ritual paraphernalia. This contrast is evident in the different patterns of decommissioning of panpipes from some other forms of ritual items. Specifically, panpipes were commonly placed in the graves of the deceased, and only seldomly in nongrave ceremonial deposits. Of 64 panpipes with known intrasite proveniences, 57 were found in graves and only 7 in nongrave deposits. Panpipes decomissioned in graves predominate in every Hopewellian regional tradition. Clearly, Hopewellian peoples across the Woodlands did not avoid burying panpipes with their dead. In contrast, in the Scioto tradition at least, almost all examples of worked quartz and obsidian items such as bifaces, cones, and disks, almost all platform pipes, and all large community smoking pipes ("Copena pipes") were decommissioned in ceremonial deposits not associated with the deceased (Case and Carr n.d.).

An understanding of this distinction can be found in how Woodland Native Americans historically perceived of ritual paraphernalia. Very commonly, they attributed ceremonial items with personhood (e.g., Hallowell 1960), and thought them to have the potential for gaining power, like humans, through their use. Long-lived items that had gained much power over time could be equally as dangerous as helpful, and sometimes were taken out of service through destruction or burial in the earth as a precautionary or necessary measure. That Hopewellian panpipes were not isolated in this manner, while some other forms of ritual paraphernalia were, suggests a fundamental difference in the kinds or amounts of power associated with these different artifact classes and/or whether they were attributed personhood. Whatever the particulars of the difference,[10] the power involved with Hopewellian panpipes was apparently thought to be more manageable and panpipes could be buried with the deceased without fear of repercussions on them. This characteristic of panpipes and their power would have been among their general, canonical meanings recognized by Hopewellian peoples across the Woodlands, given the common pattern of burial of panpipes across the East.

Humanness

The musical quality of panpipes may have had canonical meanings beyond any indexical ones expressed in particular melodies. Through reconstruction (G. A. Young 1970, 1976), it is known that panpipes produced high notes (see Ethnographic Information, above). It is possible that these notes were used to imitate high-pitched sounds of things in nature that were religiously and ritually essential. Birds are obvious candidates, having had a central place in Hopewellian art in several traditions. In addition, in shamanic belief systems, within which Hopewellian belief falls (Carr and Case, Chapter 5; Romain 2000), bird flight is commonly equated with soul flight, which is typically induced with musical instruments (Eliade 1972:168–180; Harner 1990; Walsh 1990:173–175). Other, larger animals also produce high-pitched calls at times (e.g., an elk's bugle), and are candidates for the natural sounds that Hopewellian panpipes might have been used to imitate. Could Hopewellian panpipes, through their sounds, have metaphorically referenced birds or some other animal or aspect of nature that Hopewellian traditions shared in emphasizing?

Empirically, this attractive idea is not supported. Regional traditions vary in whether their panpipes are predominantly long-tube or short-tube (see The Exchange of Panpipes and Panpipe

Styles, below) and, thus, the ranges of notes that these panpipes probably produced and the sounds of nature that they could have imitated. In addition, burials with panpipes do not in total contain the power parts of just birds or just one other kind of animal, but many kinds, which make widely different sounds. Thus, the case for an encompassing, canonical, Hopewellian use of panpipe sounds to imitate some key aspect of nature can probably be set aside.

More convincing is the possibility that the melodies of panpipes evoked for Hopewellian peoples over the Woodlands the notion of the human voice and humanness. Hopewellian panpipes are multinote instruments. All Hopewellian traditions were predominated by three-tube pipes, which would have been capable of producing similar melody structures, although different in pitch. In their multinote vocality, all Hopewellian panpipes resembled the human voice in song and speech and, by extension, referenced humanness, sentience, and personhood—very basic concepts of a canonical nature.

The probable association of panpipes, and the copper from which they were made, with breath and life, and by implication, with personhood in Algonkian and Native American thought systems (Hallowell 1960; see above, Life), would have complemented the musical quality of panpipes in representing humanness.

Implications of the Symbolism of Panpipes for Interregional Social–Ritual Interaction

The general, canonical meanings of power and humanness that panpipes may have had for Hopewellian peoples of the midcontinent are significant to the topics of interregional Hopewellian interaction and the degree of coherency of the interregional Hopewellian world. Seeman (1995) introduced Hopewellian archaeologists to Helms's (1988:23, 31) idea that traditional peoples categorize others over a landscape by their geographic, linguistic, and behavioral distance. "Others" may be "normal people" of neighboring lineages, "close strangers" who share similar social and philosophical–religious principles to some level of detail, and "outsiders" more distant in space and culture, who share only the most fundamental of worldview assumptions and concerns. Whereas close strangers may communicate fairly specific meanings to each other through pidgins or bilingualism fostered by some intermarriage, outsiders who share simply general worldview schemata are left to communicate metaphorically with nonverbal, nonlinguistic, artistic media such as dance, melodies, or material symbols.

Seeman went on to point out that different kinds of Hopewellian artifacts have geographic distributions of varying expanse, implying that they facilitated communication and interaction among different ranges of peoples—normal, close strangers, or outsiders. To this observation we would add that different kinds of artifacts with varying geographic distributions were effective with audiences of different scales *because* they differed in the generality of the meanings they were capable of referencing. The most widely spread artifacts would have referenced very basic social and/or religious principles, and this would have been achieved metaphorically and nonverbally. In this light, one would expect that panpipes, which are distributed across all Hopewellian traditions, facilitated interaction among outsiders of different Hopewellian traditions, and did so by acting as metaphors for very basic, shared, social and/or philosophical–religious concepts—canonical meanings.

In a meeting of persons from distant Hopewellian traditions (e.g., Ruby and Shriner, Chapter 15; Carr, Chapter 16), the copper and silver of their panpipes could have conveyed the canonical message of power and the individuals' personal access to power. Historically, at least, this general message would have been understood across the Eastern Woodlands. This message would have been important to Hopewellian social interaction because it would have fostered quick respect of the meeting parties for each other and smoothed their greetings. Especially significant, the power of the persons would have been communicated independent of any specific social roles that afforded the persons prestige in their own cultures and independent of the tradition-specific material symbols of those roles. Such roles and

symbols might not have been readily understood by strangers from different, distant societies and cultures, as our role analysis suggests (see above, The Panpipers' Social Roles and Other Roles Bundled with Them).

The kind of power(s) perceived by distant foreigners in the copper and silver of each other's panpipes would likely have been different—projections colored by their own, specific, indexical understandings of the powers associated with copper and silver. The particular Worlds, creatures, and kinds of transformations referenced by copper and silver in the local culture of each person would have come to his or her mind when seeing a panpipe. However, the underlying common message understood by both parties would have been power, and the access to power, that both parties had.

In contrast to the copper and silver from which Hopewellian panpipes were made, most of their other visible aspects are not likely to have visually carried metaphorical, culturally fundamental information across the entire East. Our stylistic studies of panpipes (see The Exchange of Panpipes and Panpipe Styles, below) clearly show that they varied systematically from region to region in their most visible morphological attributes: whether they had band or tubular jackets (i.e., overall shape) and tube length (i.e., overall size).

Power referenced through the copper and silver of which panpipes were made may have been one key factor that led to their effectiveness in communication and their wide distribution across the Eastern Woodlands. However, this canonical meaning is not sufficient in itself to explain the pan-Eastern distribution of panpipes. Other copper Hopewellian artifacts, such as celts, breastplates, and headplates, would have had this same meaning, yet their geographic distributions are progressively smaller. Panpipes must have "spoken" effectively in some other way(s).

The musical quality of panpipes is an obvious way in which panpipes differ from other copper artifacts and that could have enhanced their communication potential. Through their multitonal vocality and resemblance to the human voice, as well as their reference to breath and life, panpipes may have metaphorically referenced the humanness, sentience, and personhood of the panpiper. This would have been an absolutely essential message to communicate among meeting Hopewellian parties from distant lands, because not uncommonly in tribal societies, peoples from afar are considered to be less than human and, thus, dangerous, disgusting, or not worthy of interacting with. Panpipe melodies may have thus facilitated the meetings and ritual interactions of Hopewellian foreigners not through their specific forms, but through the general canonical meaning of humanness that they broadcasted, the respect for strangers that they fostered, and the worthiness of interaction that they encouraged. Significantly, announcing one's humanness could have been done musically at a distance, before foreigners met face-to-face.

Summary

Distant peoples of Hopewellian traditions who considered each other outsiders could have used panpipes to communicate metaphorically some very basic concepts to each other when they met. Power and humanness are some reasonable possibilities with empirical support. Although persons from different Hopewellian traditions probably were not able to appreciate all the specific connotations that the copper, silver, and melodies of panpipes had in each other's cultures, they may have been able to grasp core aspects of each other's identities through the playing and presentation of panpipes. These messages would have encouraged mutual respect among Hopewellian peoples who were categorically outsiders and also provided motivation for interacting.

Panpipes, Smoking Pipes, and Calumets

Our reconstruction that panpipes served to mediate and motivate gatherings of Hopewellian foreigners is paralleled by one made by Hall (1977:504–505, 1983:52; 2000:115–116, 120). Hall proposed that plain and effigy platform pipes allowed for peaceful interactions among Hopewellian peoples similar to the way that round-stemmed, Hako-type calumet–pipes did among historic Plains and Woodlands Native Americans. Specifically, Hall proposed that single-hole-type atlatls were used in the

Midwestern United States during the Early Woodland to hold stone or cane smoking tubes. This mental association of the smoking tube and atlatl was developed into the idea of an atlatl–pipe in the Middle Woodland—the Hopewellian platform pipe with an attached flat stem. The animal effigy on the bowl of the pipe was likened to the animal-effigy carving or birdstone on the end of an atlatl that served as a spur to hold a spear in position in the atlatl, and the flat stem of the pipe (perishable and presumed to have been used) was likened to the flat arm of the atlatl (Hall 1977). Alternatively, the platform pipe may have represented the handle end of the atlatl (Hall 1983:48). Because the historic, round-stemmed, Hako-type calumet–pipe can be documented to have openly symbolized both a weapon (arrow) and a peace pipe, Hall suggested that the Hopewellian weapon (atlatl) and pipe combination did so as well 2000 years earlier and had the same function as the calumet–pipe in creating a social context for peaceful interactions over the Woodlands. Hall (1977:505, 1983:37) did not believe that there was direct continuity from the Hopewellian atlatl–pipe to the historic calumet–pipe. Rather, he saw a long, stable Woodlands–Plains tradition of symbolism and symbolic associations that encouraged the weapon–pipe composite form to be invented twice, as opportunities and needs arose (R. L. Hall 1977:515), i.e., in the Middle Woodland period and Mississippian times. The Hopewellian atlatl–pipe, Hall proposed, evolved instead into the historic flat-stemmed tribal pipe and clan pipe of northern Mississippi valley peoples. Historic tribal and clan pipes did not have a weapon association.[11]

Hall's (1977, 2000) interpretation of Hopewellian platform pipes as vehicles for interregional Hopewellian interaction and exchange over the Woodlands is based entirely on formal similarities in artifact forms and ethnohistoric analogies about artifact function. When archaeological information on the context and regional distribution of platform pipes is considered, as well as certain other aspects of their form, the interpretation becomes less convincing. We hold that panpipes served to smooth interregional Hopewellian intercourse and that platform pipes probably did not. Our reasons are four.

First, the species of animals sometimes sculpted on Hopewellian platform pipes, and their placement on the pipes, suggest that these artifacts were meant for personal ritual use rather than communal ritual use such as passing the pipe around in a meeting ritual. Specifically, the animal carvings are most easily interpreted as the personal tutelary animal spirits of individuals who smoked the pipes in order to move into a trance state and travel to the spirit world to talk with, be guided by, and/or merge with their tutelary spirits (Harner 1980:73–88; Hultkrantz 1953:375–376; von Gernet and Timmins 1987:39–40; cf. Grim 1983:144; Mails 1979:50–51). The number of species documented on platform pipes is very large—many more than would represent clans of the Woodlands, as shown by Thomas et al. (Chapter 8)—and in line with individually tailored ceremony and idiosyncratic trance experience. In the small area of the Scioto–Paint Creek confluence, the effigy pipes from the deposits in Mound 8 of the Mound City site and the roughly contemporaneous Great Cache at the Tremper Mound represented at least 36 different species (Otto 1984, 1992). Also, platform pipes were carved so that the smoker had to look at the animal effigy face-to-face while smoking, suggesting the practice of communicating and/or merging with an animal spirit guardian (e.g., von Gernet and Timmins 1987:39–40; Mails 1979:57). In this light, the highly personal and proprietary use of platform pipes would have been out of place in the context of a meeting ritual among foreigners, where emphasis on basic, shared symbols and meanings would have been most effective. The relatively standardized form of the historic calumet–pipe used over the Woodlands and Plains to facilitate peaceful meetings (Hall 1977) stands in marked contrast to the personal and formally diverse nature of Hopewellian platform pipes.[12]

Second, quite simply, there is no archaeological evidence that Hopewellian platform pipes were mounted to a flat extended stem that would resemble the arm of an atlatl. Such arms have not been found archaeologically. No study has revealed systematic wear marks on the smoking end of platform pipes that would suggest that they were repeatedly mounted and unmounted

from an extended stem, as were historic calumet–pipes and stems. I have not noticed such wear on the many platform pipes from Mound City and Tremper that I have held or observed.

Third, platform pipes were not distributed over the entire Woodlands and, thus, could not have been the medium that allowed Hopewellian interaction across that expanse—the scale that Hall (1983:37, 42) envisioned. Platform pipes are known from only five regional Hopewellian traditions, all in the north–central and northwest Woodlands: the Trempealeau, Goodall, Havana, Crab Orchard, and Ohio regions (Seeman 1979a:332, 381). Only one site with a platform pipe is known south of the Ohio River (Seeman, p. 330). Panpipes, on the other hand, are spread over all Hopewellian regional traditions in the Woodlands and could have played the greeting role. If platform pipes did have a place in Hopewellian interregional interaction, it was restricted to the north–central and northwestern Woodlands. Hall's interpretation leaves unaddressed the artifact class or other means that would have facilitated Hopewellian interregional interaction among the midsouthern and southern Woodland traditions, and among these and traditions farther north.

Fourth, archaeological evidence does not support the idea that both panpipes and platform pipes were used to aid interregional interaction among the north–central and northwestern Hopewellian regional traditions, where both artifact classes occur. The two kinds of artifacts are seldom found together in burials over the Woodlands (Tables 18.3 and 18.7), indicating that they probably were not used together as a functional set in meeting ritual. Panpipes and platform pipes are found together in only 6 of 57 burials with panpipes and in only 3 regional traditions. They never occur together in the ceremonial deposits documented. The two large deposits of platform pipes found at the Tremper and Mound City sites, with over 150 pipes in each, did not include a panpipe. The dissociation of panpipes and platform pipes archaeologically in the northern Woodlands cannot be attributed to a temporal difference in when panpipes and platform pipes were used; the two are often found in the same Middle Woodland sites. In addition, it seems unlikely that both kinds of artifacts would have been used in greeting rituals in the northern Woodlands, but in separate kinds of rituals spread over the same area. A single symbolic system for greeting would have been more effective. Historically, the geographic distributions of wampum, calumets, and flutes, each of which were used in meeting rituals in the Woodlands during the 16th Century, were largely distinct (I. Brown 1989:314, 315). During the 17th Century, after the flute had disappeared from greeting ceremony, the distributions of wampum and calumets remained largely separate.

The conclusion to which the archaeological evidence leads, that Hopewellian platform pipes were probably not the analog of the historic, round-stemmed, Hako-type calumet–pipes, and were not the foundation of interregional Hopewellian meeting ritual, would require that the parsimony of Hall's reconstructed history of Eastern Woodlands meeting rituals be replaced by a more complex one. Hall argued for the repeated invention of one basic form of meeting ritual across the Woodlands at large, during the Middle Woodland and the Mississippi periods, with extension into the Historic period. That ritual form supposedly centered around a pipe–atlatl complex. The archaeological evidence, in contrast, suggests that panpipes were used in meeting rituals during the Middle Woodland, that they fell into disuse coincident with the end of Hopewellian interregional interaction at the end of the Middle Woodland period, and that later the calumet pipe–atlatl arose. According to I. Brown's (1989) archaeological and ethnohistoric reconstruction, calumet pipe–atlatl ceremonialism developed in the upper Mississippi valley and Great Lakes region before European contact, and spread into the southeastern Woodlands some time between the late 16th Century and the mid to late 17th Century. Flutelike instruments were reported to have been used in meeting rituals in the Southeast prior to the spread of the calumet there (see Ethnographic Information, above). It is possible that the flutes observed historically in Southeastern meeting rituals were a continuation and simplification of an earlier, Hopewellian practice that involved panpipes, given the archaeological evidence that panpipes had probably

been used in greeting rituals during the Middle Woodland over much of Eastern North America. Alternately, historic flute greeting rituals in the Southeast may have been a reinvention rather than a continuation of the earlier Hopewellian panpipe greeting ritual.

In the Northeast, as well, Middle Woodland greeting ceremonies that used panpipes may have been simplified and replaced by rituals that involved flutes, but this continuity would have been cut short by the development of calumet ceremonialism in the Northeast prior to European contact.

In all, this proposed history of meeting rituals in the Woodlands makes sense of the use of flutes for such purposes in the historic Southeastern United States, whereas Hall's notion of an early, Hopewellian development of the pipe–atlatl complex and its early spread across the whole of the Woodlands does not.

Implications for Adoption and Reconception Rites. Beyond Hall's very specific reconstruction of Hopewellian plain and effigy platform pipes as weapon-pipe composites that facilitated interregional Hopewellian interaction and that were analogous to the historic calumet-pipe, he has discussed the more general issue of the antiquity of rites of symbolic adoption for establishing friendly relationships among Woodland peoples. Hall (1997:161; 1989:255-256; personal communication 2003; see also 1987; 1997:57) holds that the essential ritual component in social intercourse among distant parties across the Woodlands historically, and probably prehistorically extending back to perhaps 1000 B.C. in both North and Mesoamerica (Hall 1987:39), was not any particular artifact form, but an adoption and reconception rite that created fictive kinship among strangers. Having had its origin in mourning ceremonialism, the rite in its historic Woodland forms symbolically raised a war captive, other stranger, or friend from a ceremonially feigned death and instilled in him or her the spirit of a deceased tribesman or relative, creating a fictive kinship between the raised person and the giver of the ceremony. In the historic Calumet ceremony of the Mississippi valley, Plains, and Prairies, the pipe-weapon was used symbolically to impregnate the person to be raised with the spirit of the deceased. In the lower Great Lakes and the Northeast, wampum belts were used instead to fulfill a similar purpose. Other objects might have sufficed as well: "the entire ceremony could be conducted with some other object to symbolize the impregnating medium" (Hall 1989:256).

Panpipes would be one candidate for an impregnating medium within an adoption and reconception rite that made kinsmen of strangers during the Middle Woodland, if such a rite was known to Woodland Native Americans at that time. The symbolic references that the copper, silver, and music of panpipes may have made to life, breath, life-generating power, humanness, and personhood in a spiritual sense for Hopewellian peoples fit comfortably with the idea of raising the dead in the course of an adoption ceremony. The associations are too loose, however, in our view, to conclude that the roles played by Hopewellian panpipes, in greeting or other ceremonies that smoothed interregional interaction, centered specifically on reconception and adoption. In addition, the diverse role associations, ritual uses, and stylistic norms of panpipes in different regions of the Woodlands, and some deep distinctions in the meanings of copper between northeastern and southeastern Woodland peoples, cast doubt on the idea that panpipes were used interregionally in a single kind of greeting and peace-ensuring rite among strangers—be it reconception and adoption or some other ceremony. Instead, the diverse, local social roles, ritual uses, styles, and meanings of panpipes suggest to us that panpipes functioned in a more general, metaphorical fashion, conveying between strangers from a distance very basic information, such as humanness and power, which motivated social interaction and created the mutual respect necessary for it.

THE EXCHANGE OF PANPIPES AND PANPIPE STYLES

Historically, panpipes have been used by archaeologists to define the uniformity of Hopewellian

cultural features across the Eastern Woodlands. The supposedly identical morphology of panpipes (Caldwell 1964:137), their similar size and construction (Seeman 1995:136), and their uniform capability in eliciting predictable ritualized responses among Hopewellian peoples from distant traditions (Seeman 1995:136) have each been emphasized. These supposedly homogeneous features of panpipes, like other Hopewellian cultural features, are the basis for viewing Hopewell as an interregional system of exchange of goods, practices, and ideas.

In this section, various aspects of the style of panpipes are analyzed and found not to support these basic presuppositions. Panpipes are regionally diversified in their styles, were produced by regionally diversified artisan networks that were inward-looking to a considerable degree, and were seldom exchanged as finished objects. These conclusions dovetail well with our studies, above, of both the social–ritual uses of panpipes in social roles and the indexical meanings of panpipes, which show well-bounded regional diversity.

Data and Theoretical Framework

Data

Five stylistic traits of panpipes are relevant to the issues of whether panpipes were exchanged, the geographic scale of exchange, and the geographic expanse of artisan interaction networks, and at the same time, are known for enough specimens to be fruitfully analyzed. These traits are (1) whether a panpipe has the overall form of conjoined tubes or a band (Appendix 18.3); (2) if a conjoined tube panpipe, whether it is modally long or short (Appendices 18.1, 18.2, 18.3); (3) if a conjoined tube panpipe, the number of corrugated ridges marking tubes (Appendix 18.3); (4) the number of holes found on the reverse side (Appendices 18.3, 18.8); and (5) small, submode variation in panpipe length and width (Appendix 18.3). A sixth stylistic trait—the kind of metal (copper, silver, iron) of which the panpipe jacket was made—is deleted from the analysis. This trait seems to reflect the degree to which various regional populations had access to the different kinds of metals more so than artisan choice among them as equally feasible, alternative, stylistic features.

Style Theory

The issues of whether panpipes were exchanged interregionally and the expanse of artisan interaction networks can be determined using the middle-range theory of material style developed by Carr (1995a). In this framework, a series of stylistic attributes is ordered by their visibility, and each is then linked to a set of technological, social, personal, psychological, physiological, or other processes that functionally correlate with the attribute's visibility. Examples of such processes include active expression of the identity of a society or some segment of it, active communication or passive reflection of a network of interacting artisans or "learning pool," active assertion of the personal self, and passive, idiosyncratic personal variation. The recorded panpipe stylistic traits are appropriate for identifying such past processes, and the social units within which they occur, because the traits range from visible to obscure.

Specifically, the number of holes found on the reverse side of panpipes, being an obscure feature or "nuance of style" (Carr 1995a:192–193; Fredrich 1970), should theoretically track the expanse of close interaction among panpipe makers within active or passive artisan "learning pools." Being obscure, the number of holes might be transferred among artisans only through their working closely together. The learning pools might be geographically coherent, if artisans learned from each other within a limited region, or dispersed, if artisans traveled widely to learn from each other, as was sometimes the case ethnographically in the Eastern Woodlands (e.g., Penney 1989; see also Carr, Chapter 16). Obscure differences in panpipe lengths or widths within modal ranges also are expected theoretically to track artisan learning pools. In contrast, overall panpipe form (band versus corrugated) is a much more visible feature. Theoretically, this feature has the potential to communicate group identity or affiliation for a large social unit, or to symbolize the religious, social, or other ideas

of such a unit. If such a social group interacted with others, the trait of panpipe form could easily have been exchanged widely among groups because it is readily visible (Carr 1995a:192–193, 197; Friedrich 1970). The traits with intermediate visibility—number of tubes per panpipe, and panpipe length—theoretically might reflect either learning pools or social group identity, depending on the typical distances at which panpipes were viewed at gatherings (see Carr 1995a:185–186, 195).

Stylistic Patterns and Their Interpretation

In the following paragraphs, we document panpipe stylistic variability and its cultural meanings, beginning with obscure attributes and proceeding to more visible ones.

Regional and Local Artisan Interaction Networks and Panpipe Exchange

The number of holes found on the reverse side of panpipes (Appendix 18.3) patterns geographically, revealing four largely distinct regional artisan interaction networks. Two-hole panpipes occur almost completely in the Southeastern traditions of Santa Rosa–Swift Creek, Porter–Miller, and the Southern Appalachian, and in the Southeastern-influenced Miami drainage of Ohio ($n = 5$ of 6 panpipes with two holes). Three-hole panpipes are restricted to the northeastern Hopewellian traditions of Point Peninsula and Saugeen ($n = 2$ of 2 panpipes with three holes). Six-hole panpipes are found in the Goodall and Muskingum traditions ($n = 2$ of 2 panpipes with six holes), which neighbor each other. Four-hole panpipes are more widely spread, primarily across the northern and central Midwest traditions of Trempealeau, Goodall, Point Penninsula, Saugeen, Havana, and the Miami drainage ($n = 8$ of 10 with four holes), but also occur in the Southern Appalachian and Marksville regions. These are all Great Lakes and Mississippi drainage-related traditions, in contrast to the Porter–Miller and Santa Rosa–Swift Creek Gulf-related traditions, where four-holed panpipes are lacking. Thus, the Eastern Woodlands can be subdivided into four active or passive learning pools, each comprised of panpipe artisans who worked together closely in dyads or small groups that overlapped, and who formed a network over space.

A few panpipes, where the number of holes is known, do not fall within the above geographic patterns. They could represent imports or examples of long-distance artisan interactions, intermarriage, or adoption of the kinds Penney (1989) and Carr (Chapter 16) describe. These specimens are the Baehr Mound 1 panpipe from Illinois, which has the Southeastern two-hole form; and possibly the Franklin Mound 1 panpipe from Tennessee and the Helena Crossing Mound C specimen from Arkansas, which have the primarily northern and central Midwestern four-holed form. However, it appears that, for the most part, panpipe importation or artisan interaction was not so wide and frequent across the Eastern Woodlands as to have broken down the geographic–stylistic patterning of regional learning pools.

The existence of very localized groups of artisans who learned panpipe manufacturing norms from each other is evident from obscure, submodal consistencies in panpipe length and/or width within some single and/or neighboring sites. For example, the two complete long corrugated panpipes from the Rutherford mound in Illinois have precisely the same lengths (9.5 centimeters) and widths (4.8 centimeters.). The two complete long corrugated specimens from LeVesconte, Ontario, have very similar lengths (12.5 and 12.6 centimeters) and widths (4.5 and 4.3 centimeters). The three band panpipes from Dane County, Wisconsin, have close widths, ranging from 5.47 to 6.88 centimeters. Two panpipes from Tunacunnhee, Georgia, have lengths of 10.25 and 11.25 centimeters, and one panpipe from another Southern Appalachian site—the Franklin site, Tennessee—is 11.25 centimeters long.

In other instances, panpipe dimensions vary more widely in size within a given single site. This suggests multiple, localized learning pools: either several artisans within a given site who did not conform to any one local norm, or importation of panpipes from neighboring sites whose artisans had somewhat different norms,

or intermarriage among the two local groups and relocation of some panpipe makers. For example, the two complete long corrugated panpipes from Donaldson II, Ontario, have the diverse lengths of 13.4 and 19.7 centimeters. The shorter specimen falls close in its length to those of the two complete corrugated panpipes from neighboring LeVesconte, possibly revealing two distinct localized learning pools at the two sites and localized exchange of panpipes or intermarriage.

The conclusion that panpipes typically were not exchanged widely across the Woodlands, and that their style distributions reflect local and regional learning pools, is reached when considering not only the number of holes in the reverse sides of panpipes, but also their tube lengths and number of tubes. These latter traits broadly correspond with each other in distinguishing two different learning pools over the Eastern Woodlands: a smaller one comprised of the neighboring northerly traditions of Trempealeau, Havana, Goodall, and Point Peninsula, as well as the outlying Porter–Miller tradition, and a larger one comprised of the remaining peripheral traditions. These two learning pools crosscut the four revealed by the number of holes found on the reverse side of panpipes, suggesting the workings of different processes of interaction and spread of these three stylistic attributes. One reasonable interpretation would be passive interaction among panpipe makers in the spread of the number of holes per panpipe as an obscure trait, and active interaction among panpipe makers in the spread of tube length and tube number as more visible traits. Passive interaction is any of a set of less structured but close kinds of contacts among artisans that are not especially controlled by them and that lead to casual learning and diffusion of obscure stylistic attributes. Active interaction includes controlled kinds of close interactions among artisans, such as intermarriage, adoption, and joint participation in intimate rituals, which lead to the active learning and diffusion of obscure to moderately visible stylistic attributes. Active interaction often takes the form of stylistic mimicry in an attempt to integrate or interact with another group (Carr 1995a:176–177, 192–198; Pryor and Carr 1995:260–261).

The specifics of these distributional patterns are as follows. Short-tube panpipes occur commonly in only the neighboring Havana, Goodall, Point Peninsula, and Trempealeau traditions and the outlying Porter–Miller traditions. In the first three traditions, short-tube panpipes are found in fairly even mixes along with long-tube ones. In the Porter–Miller tradition, short-tube panpipes predominate (3 or 4 of 4 panpipes). This tradition is surrounded by others where long-tube panpipes predominate or are the only kind found. It is possible that within the contained Porter–Miller area, the shortness of a panpipe's tubes and the relatively high notes that it probably produced actively signified an individual's region of residence and cultural identity, given the high proportion of short-tube panpipes there and their contrast with long-tube panpipes in surrounding traditions. This is not likely the case for short-tube panpipes in the Havana, Goodall, Point Peninsula, and Trempealeau traditions, which are widely spread geographically. However, across these four traditions, short-tube, high-note panpipes may have expressed broadly shared and exchanged religious, social, or other ideas.

Four-tube panpipes, which are rare compared to three-tube panpipes that occur across the entire Woodlands, are missing from the Trempealeau, Havana, Goodall, Point Peninsula, and Porter–Miller traditions. These are the same traditions in which short-tube panpipes are common, and suggest an inward focus to this artisan network and its active rejection of the four-tube and short-tube stylistic traits from outside traditions. In addition, four-tube panpipes are missing from neighboring traditions, including the Miami, Muskingum, Northern Ohio, and Southern Appalachian traditions.

Four-tube panpipes are restricted primarily to the northern and central Midwest: the Saugeen (1 of 2 panpipes), Central Scioto (2 of 13 panpipes), and Crab Orchard (2 of 7 panpipes) traditions. However, they are also found in low proportions at two large Southeastern sites, where they may indicate importation or long-distance artisan interaction, intermarriage, or adoption: Mandeville (3 of 13 panpipes) in the Santa Rosa–Swift Creek area, and Tunacunnhee (1 of

11 panpipes) in the Southern Appalachian area. This Southeastern connection is significant, because Mandeville and Tunacunnhee stand out among southern Hopewellian sites in their linkages to Midwestern Hopewellian sites and particularly to Ohio Hopewellian sites in a number of ways (Ruby and Shriner, Chapter 15; B. A. Smith 1979:184–186; see also Carr and Sears 1985:86; Goad 1979:244–245; Jefferies 1976, 1979:170). In the northern and central Midwest, four-tube, four-note panpipes are not so localized as to indicate that they communicated social group affiliation. Four-tube panpipes are spread out from southern Ontario to Ohio to southern Illinois. The panpipes may, however, have been used to express broadly shared and exchanged religious, social, or other ideas over this area through their form and four-note melodies.

Long-tube panpipes predominate or completely comprise the panpipes found in each of the traditions in which four-tube panpipes occur: Saugeen (2 of 2 panpipes), Central Scioto (11? of 14 panpipes), Crab Orchard (4 of 4 panpipes), Santa Rosa–Swift Creek (10 of 13 panpipes), and Southern Appalachian (10? of 13 panpipes), as well as Northern Ohio (2? of 2 panpipes). They also predominate or completely comprise the panpipes found in neighboring traditions: the Muskingum (4? of 6 panpipes), Miami/Indiana (7? of 10 panpipes), and Marksville (3 of 3 panpipes). Like four-tube panpipes, long panpipes are not localized enough to indicate that tube length communicated social group affiliation, but long tubes and the relatively high notes that they produced may have symbolized broadly shared and exchanged religious, social, or other ideas over this territory.

Regional Group Identity and Panpipe Exchange

It is with the most visible contrast between band panpipes and corrugated panpipes that active symbolization or passive indication of the social group seems most probable. Band panpipes occur in four geographically separated traditions of the northern and central Midwest: the Trempealeau, Muskingum, Miami/Indiana, and Southern Appalachian traditions. They are most common in the Trempealeau area (7 of 11 panpipes in 5 of 7 sites), and may have communicated the identity of this cultural tradition and its people to those of other traditions. In contrast, in the Miami/Indiana, Muskingum, and Southern Appalachian areas, band panpipes occur less frequently (3 of 11 panpipes, 1 of 6 panpipes, and 1 of 11 panpipes, respectively) and in only one site per area (Turner, Connett, Tunacunnhee respectively). Because the Miami/Indiana, Muskingum, and Southern Appalachian areas are nonadjacent to each other and to the Trempealeau tradition, and because band panpipes in these areas comprise a minority of the band panpipes there, they are most easily explained as imports or cases of long-distance artisan interaction, intermarriage, or adoption.

Broader Patterns and Implications

The copper, silver, and multitonal voice that panpipes across the Eastern Woodlands shared with each other probably evoked general, canonical meanings such as power, humanness, sentience, and personhood to Hopewellian peoples who met from afar. However, these technological and semantic global uniformities to panpipes should not blind us to the regionalism also expressed in panpipes. Regional variations in the social–ritual uses of panpipes in differing social roles, and in the specific indexical meanings of panpipes, have already been discussed. To these kinds of variations can be added four regionally bounded networks of passive/active interaction among panpipe makers; two regionally limited networks of active interaction among panpipe makers; perhaps the actively communicated, distinct cultural identity of peoples in the Porter–Miller tradition and in the Trempealeau tradition; and a few broad areas of shared religious, social, or other ideas marked by the number and length of panpipe tubes. The regionally diverse styles of panpipes, at several levels, reveal these contrasts across the Woodlands.

Correspondences between regional variations in the social roles in which panpipes were used and regional differences in aspects of panpipe style that track passive and active social interactions are hard to make on a tradition-by-tradition basis. Information on the one stylistic trait that best monitors close artisan

interaction—the number of holes on the reverse sides of panpipes—is too sparse to allow this. However, certain regional traditions do usually pair in the social role and stylistic dimensions of their panpipes, including the number of holes on the reverse sides of panpipes, the number of tubes, and the tube length. At the tightest scale with most consistency, these traditions are: (1) the northwestern and north–central Trempealeau and Goodall traditions, (2) the northeastern Saugeen, Point Peninsula, and Northern Ohio traditions, (3) the midwestern central Scioto, Muskingum, and Crab Orchard traditions, and (4) the southeastern Santa Rosa–Swift Creek, Southern Appalachian, and Marksville regions. The Havana, Miami/Indiana, and Porter–Miller traditions each do not correspond well, multivariately, to any one of these clusters of traditions. From the perspective of panpipe social use and style, interregional Hopewell was well differentiated into several multi-tradition subareas.

Finally, the regional stylistic distinctions documented here show that panpipes were seldom exchanged as finished products. Possible cases of exchange of either panpipes, or the distant marriage or adoption of a panpipe maker, are limited to a few panpipes in Baehr Mound 1, Illinois; Franklin Mound 1, Tennessee; Helena Crossing Mound C, Arkansas; Mandeville and Tunacunnhee, Georgia; and Turner and Connett, Ohio— that is, a total of only 11 panpipes from 7 sites, of the 105 panpipes from 55 sites reported here.

THE ORIGINS OF PANPIPES

We end our chapter with a speculative section on the area of origin of panpipes. The rich empirical details reported in the previous sections provide some foundation for making such an educated guess, and we take on that challenge aware of the tentative nature of our conclusion.

The regional tradition with the greatest concentration of panpipes is Ohio, with over one-fourth of all Hopewellian panpipes known from the Eastern Woodlands ($n = 28$ of 105) and one-fourth of all Hopewellian sites with them ($n = 14$ of 55). By the logic that the area of origin of a cultural feature is that region with the greatest concentration and/or diversity of the feature—an extension of the old age-area hypothesis (Wissler 1926; see also Harris 1968:374–377)—Ohio should have been the place where panpipes were first developed. However, this may well not be the case.

Panpipes that have the simplest construction and that are made of the simplest of materials are band panpipes. They lack corrugations for placing tubes and are made only of copper, lacking silver. Panpipes of the band form are most concentrated in the Trempealeau region ($n = 7$ of 11 panpipes), are found at low frequencies in a couple of central Midwestern traditions (Muskingum, $n = 1$ of 6 panpipes; Miami/Indiana, $n = 3$ of 11 panpipes), and are almost entirely absent from Southeastern traditions, where corrugated forms are found, excepting one band panpipe from Tunacunnhee. In complement, panpipes having the most complex construction, with four-tube corrugated jackets, are not found in either the Trempealeau or the neighboring Goodall traditions, but are found farther south and east. This clinal distribution of simple to complex forms of panpipes, from northwest to south and east, suggests a northwestern Upper Great Lakes location of origin of panpipes. As the idea of panpipes and their uses spread southward and eastward, simple band panpipes would have been elaborated into and replaced by more complex, corrugated three and four-tube panpipes.

An Upper Great Lakes origin for panpipes is supported in two additional ways. First, the copper from which the majority of chemically assayed panpipes were manufactured comes from the Upper Great Lakes rather than other accessible sources (Bastian 1961; Clark and Purdy 1982; Goad 1978, 1979; Rapp et al. 1990; Schroeder and Ruhl 1968). Southeastern Woodlands sources of copper were used in the Southeast to make some panpipes, but even there, Upper Great Lakes copper predominates (8 of 14 panpipes [Goad 1978:136–148]). The concept and uses of panpipes could have spread from an Upper Great Lakes area of origin southward and eastward through the journeys that peoples from various parts of the Woodlands made to the Upper Great Lakes to obtain copper and through the southward and eastward exchange of copper.

Second, the proposed movement of the idea of panpipes from the Upper Great Lakes southward and eastward was apparently not an isolated process but, instead, seems to have been reiterated in the spread of the belief in the Horned Serpent. Specifically, Northern Algonkian tribes of the Upper Great Lakes were the heart of beliefs about the Horned Serpent and the harm and death it could cause to humans (Barbeau 1952:117; Kohl 1860:422–425; Lovis 1999; Skinner 1915:182–186). These beliefs spread southward and eastward by at least the Middle Woodland period. Horned Serpent imagery and snake imagery have been found at the Turner and Hopewell sites in Ohio,[13] implying the connection. Classic Hopewell ware ceramics with crosshatched snake imagery on their rims appeared in the Illinois valley before they did farther east in Ohio (Griffin 1952a, 1964:239; Prufer 1964a:57–58). It is reasonable that the concept of the panpipe made of copper, which was historically associated with the Horned Serpent, spread along the same network of ties as did stories and imagery of the Horned Serpent and raw copper itself.[14] It is possible that copper, the concept of panpipes, and beliefs about the Horned Serpent all were brought back hand-in-hand from the Upper Great Lakes by Hopewellian people who journeyed there.

Our conclusion that panpipes originated outside of the Ohio region, where they are most abundant, is mirrored in an analogous conclusion by Ruhl (Chapter 19) on the origin of earspools. Although earspools are most abundant in Ohio, she finds their origins in the Havana or Southern Appalachian traditions. Both of these artifact classes, as well as Hopewell ware that was developed earlier in the Havana region than in the Ohio area, point to Ohio as a place of elaboration of artifact forms, ideas, and rituals drawn from elsewhere as much as it was a place of initial innovations.

CONCLUSIONS

The search for a unitary identity to interregional Hopewell is as alive today (Seeman 1995:123, 138) as it was 40 years ago when the concept was being formalized (Caldwell 1964; Prufer 1964b; Struever and Houart 1972) or during much earlier phases of its recognition (Deuel 1952:255–256; Hooton 1922; Setzler 1933:6; Shetrone 1930:5–22; Shetrone and Greenman 1931:304–306, 322). Although interpretations of interregional Hopewell have varied and been debated (for summaries see Carr, Chapters 2 and 16; and Seeman 1979a:240–248), the complex network of partially overlapping material similarities found across the Eastern Woodlands during the Middle Woodland period, as well as some remarkable instances of nearly identical artifacts and practices in widely separated regions (Carr, Chapter 16; Penney 1989), have continued to capture the human mind's drive to order and simplify into singular explanations—in this case, into one identity for interregional Hopewell.

Panpipes serve as a critical form of Hopewellian archaeological remains for probing the wisdom of monolithic explanation in the case of interregional Hopewell and the veracity of the particular interpretations proposed: panpipes are one of a very few Hopewellian material forms and practices distributed throughout all of the recognized Hopewellian regional traditions over the Eastern Woodlands (Seeman 1979a:381). Panpipes also have been thought to be very similar, if not duplicated in form, from tradition to tradition (Caldwell 1964:137; Seeman 1995:136).

Through the eyes of panpipes, as one important component to the definition of an interregional Hopewell, most unitary understandings of interregional Hopewell evaporate. This chapter shows in empirical detail that panpipes in different regional traditions were associated with different social roles, were used in different kinds of rituals, had systematically differing styles, and, consequently, evoked different indexical meanings. Interregional Hopewell was not a unitary, shared social organization, cult, artistic style, exchange system, musical form, or meaning system. It is only in their possible canonical meanings of transformation, supernatural power, human power, manageable power, and humanness that panpipes *may* have been recognized alike by Hopewellian peoples across the Woodlands, and these uniformities are inferred here but not demonstrated archaeologically. The fairest statement that can be made

from the empirical evidence brought to bear in this chapter is that panpipes were similar enough in their forms and musical qualities to have uniformly allowed Hopewellian peoples in different regional traditions to have projected *some* meaning(s)—canonical or indexical, more or less local—onto them, thereby creating familiarity and some common basis for meetings and gatherings of interregional scope. The meanings projected onto panpipes by persons from different regional Hopewellian traditions when they met and gathered may have differed somewhat from each other. Foreigners would not have known or understood the logic of all the specific indexical connotations that panpipes, their copper, and their music had in each other's cultures, and they may not have been able to grasp some core worldview assumptions when the meeting parties came from the northeastern and southeastern Woodlands. However, roughly similar worldviews and beliefs across the Woodlands, rooted in shamanic ideology and practices, would have guaranteed that the meanings were "close enough" to have served as an effective context for interaction. In addition, different gatherings of Hopewellian peoples, which involved participants from differing dyads or sets of regional traditions, may have differed in the ranges of meanings that were projected onto panpipes. In this most fundamental view, interregional Hopewell rests in neither consistent material forms and practices nor consistent meanings across the Woodlands, but in forms and practices that were "close enough" to allow some significant meanings, also "close enough", to be read into them by meeting parties through the process of mental projection and in the context of a broadly shared history of religious ideology.

Many specific empirical patterns that have been documented here lead us to this most basic conclusion.

(1) The role of the panpiper was, at least ofttimes, one in its own right, as shown by the lone occurrence of panpipes in graves about a quarter of the time. However, panpipes were systematically associated with a diversity of other social roles, both within and among regional traditions. Many of these roles involved shaman-like tasks, including, in decreasing order of commonality, public ceremonial leadership, manufacture of ceremonial items with exotic raw materials, trance work of unspecified kinds involving smoking, divination in general, war or hunt divination, healing, and philosophizing. Other key nonshaman-like roles, in decreasing order of commonality, included sodality membership or achievement marked by earspools, clan leadership or membership, sodality membership or achievement marked by breastplates, and community-wide leadership marked by copper celts. Important roles that never appear with the panpiper include community-wide leadership marked by headplates and other roles marked by crescent-shaped gorgets, reel-shaped gorgets, and obsidian bifaces.

(2) The fluidity with which these roles were bundled with that of the panpiper shows that they were not firmly institutionalized and, by extension, were recruited primarily by achievement. The occurrence of panpipes with largely adults and males reinforces the latter conclusion.

(3) Four broad regions of the Eastern Woodlands were distinguished from each other in social organization, as indicated by the roles with which that of the panpiper did and did not associate, by patterning in the age–sex associations of panpipes in graves, and by whether panpipers gathered and gave panpipes for burial at the death of another panpiper or other person. The four areas are: the northern Midwest, the Northeast, the central Midwest, and the Southeast. The distinction of these areas shows that interregional Hopewell was not a single kind of social or social–symbolic system (contra Seeman 1995:123).

The particular disjunction, between Hopewellian communities in northern and eastern Ohio and those in the central Scioto valley (as one part of the distinction between Northeastern and central Midwestern regions), is also borne out by analyses of the varying social roles and importance of women in Ohio Hopewellian societies (Field et al., Chapter 9), by the geographic distributions of silver obtained from different natural sources in the Woodlands (Spence and Fryer, Chapter 20), and by mortuary architecture, artifact categories, and styles (Magrath 1945; Seeman 1996:306–308).

At the same time, other distinctions found here among regions in panpiper roles, age-sex associations, and rituals do not correspond to disjunctions found in the gender and silver studies and in the distribution of ceramic styles across the Woodlands (Griffin 1967). These crosscutting patterns suggest that cultural relationships among Hopewellian traditions across the Woodlands were of multiple kinds, and that these need to be defined separately and analyzed and interpreted in their own terms.

(4) Panpipes were used in a variety of kinds of rituals across the Woodlands. These varied in whether panpipes were buried in a grave or another kind of ceremonial deposit lacking human remains, indicating a contrast between ceremonies directly and less directly related mortuary tasks; whether multiple panpipers gathered and gave gifts to a deceased person, possibly indicating a local panpipe ceremonial society; whether a child or very old person was anomalously buried with a panpipe, which may indicate age-related rites of passage; whether a female was anomalously buried with a panpipe; and the size and role diversity of gatherings that resulted in the ceremonial deposits containing panpipes. The quite diverse and geographically bounded nature of these rituals indicates that interregional Hopewell, or at least the element of it that involved panpipes, was not a single cult (contra Prufer 1964b).

(5) Panpipes were regionally diversified in their styles, and in particular, in fine details that indicate distinct artisan networks that were inwardly focused in their interactions and learning of panpipe manufacturing. Four regionally bounded, largely nonoverlapping artisan networks of passive interaction are definable. An additional two networks of possibly active interaction among artisans are reflected in more visible panpipe attributes. These geographic divisions in the styles of panpipes correspond to a moderate degree, to the extent that the data are available, to distinctions among regions in the social roles with which panpipes were associated. The divisions indicate the local reinterpretation of panpipe manufacture and use as the idea of panpipes spread across the Eastern Woodlands, rather than a single, standardized medium for pan-Woodland interaction. In fact, the unique, band panpipe form common in the Trempealeau area may have served to communicate the regional cultural identity and distinction of Trempealeau peoples from persons of other cultural traditions. Likewise, Porter-Miller short-tube panpipes, which predominate there and contrast with long-tube panpipes in surrounding traditions, may also have signaled cultural identity.

(6) Panpipes were seldom exchanged as finished products across Hopewellian regional traditions. Stylistic markers of the locations of production of panpipes indicate this situation. Only 11 panpipes of the 105 studied here, from 7 of 55 sites, possibly evidence either the exchange of panpipes across traditions or the distant marriage or adoption of a panpipe maker. These panpipes were found at Baehr Mound 1, Illinois; Franklin Mound 1, Tennesse; Helena Crossing Mound C, Arkansas; Mandeville and Tunacunnhee, Georgia; and Turner and Connett, Ohio. The infrequency of interregional exchange of panpipes over the Eastern Woodlands, in conjunction with the same finding for copper celts (Bernardini and Carr, Chapter 17) and copper earspools (Chapter 19), corroborates Struever's (1964:88) early insight that Hopewellian interregional exchange involved primarily raw materials and stylistic concepts and seldom finished goods. The findings do not agree with Struever and Houart's (1972) later view that finished goods were also exchanged widely.

(7) Panpipes certainly had diverse indexical social and ritual meanings that varied among regional Hopewellian traditions, given the diverse social roles and ritual forms in which panpipes were used. Panpipes also probably had diverse religious indexical meanings that were localized to various degrees, but especially segregating the northeastern and southeastern Woodland traditions, given ethnohistorical documentation of the religious beliefs of Woodland peoples. The copper from which most panpipes were made was historically associated in the northeastern Woodlands with creatures of both the Lower and the Upper Worlds, including the Horned Serpent, Underwater Panther, bear, and Thunderers. In the southeastern Woodlands, copper may have

been associated historically with the sun deity and, by extension, the sacred fire, blood, life and success, the color red, and the East symbolized by red. Copper also may have been associated with the color brown, which corresponds to the direction upward and the Upper World, the home of the sun deity, and, by extension, the remainder. Copper was not associated in the Southeast with the Tlanuwas, which were correlates of the Thunderers, nor the Uktenas, which were correlates of the Horned Serpent, nor the bear, as far as we know. These deep distinctions between the northeastern and southeastern Woodlands in the ethnohistorical, indexical meanings of copper suggest that it is unlikely that panpipes communicated shared specific religious ideas among Hopewellian peoples of these two areas. The aspect of interregional Hopewell represented by panpipes does not indicate it to have been a single religion (Caldwell 1964) or system of meaning or an interwoven social structural–symbolic–ideological system (Seeman 1995:123).

At the same time, it is possible that panpipes, and their copper, silver, and melodies, evoked for Hopewellian peoples across the Woodlands certain basic qualities that spoke to the nature of the panpiper when foreigners met. These qualities could have been power, power obtained by long-distance journeying, power of the panpiper in his/her ability to manage power, and/or humanness. These fundamental dimensions, beneath whatever more specific and differing indexical meanings that foreigners who met might have read into a panpipe, would have fostered mutual respect among them and a motive for interacting. It is unlikely that panpipes were used across the Eastern Woodlands in any single, specific kind of greeting ceremony, such as reconception or spirit adoption, given the varied social roles, ritual uses, styles, and indexical meanings of panpipes and their materials over this area.

The most essential conclusion reached here is that interregional Hopewell, or at least the aspect of it that involved panpipes, was not a single kind of social, religious, artistic, or semantic phenomenon but, instead, a fluid material–projective process that allowed the different meanings significant to individuals of different traditions each to be mirrored back to them through roughly similar artifact forms. This process allowed long-distance journeying and other forms of interregional interaction (Carr, Chapter 16) to occur, and from the looks of it, effectively and probably fairly peacefully.

This conclusion could not have been reached by focusing directly on the interregional distribution of panpipes and interregional Hopewell. Instead, the understanding was *generated* from *locally contextualized* and *personalized* studies of panpipes in each of a number of local Hopewellian traditions—the themes of this book. Panpipes were contextualized and personalized by examining their local social role associations, local uses in rituals, local stylistic norms, and how all of these were similar or different across Hopewellian traditions. To the extent possible, ethnohistorical records of religious beliefs connected to panpipe materials were considered by region rather than homogenized over the Woodlands. In this way, a diverse notion of interregional Hopewell has been constructed on its own terms, for what it was and was not, from the bottom up. Panpipes, as subtle projective media, are just as amenable to archaeologists problematically reading their own unitary, paradigmatically preferred meanings into them as panpipes were successful for Hopewellian foreigners who read their own culturally bound, significant meanings into them. However, by viewing panpipes from their many local perspectives, bottom up, in a personalized and locally contextualized manner, the archaeologist's dilemma is minimized, and the truer and multiple colors of interregional Hopewell begin to be seen.

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Any errors or omissions are entirely our own.

NOTES

1. From Roseman (1995:8).
2. The Bowman site, Logan County, Ohio (Converse 1979: 100; Galitza 1978), yielded a copper three-conjoined-tube panpipe with a morphology entirely expectable for Hopewellian panpipes from the area. However, the mortuary characteristics of the site and certain of its artifacts align it well with Glacial Kame cemeteries of the terminal Archaic. Burials were placed in relatively deep pits or shafts, one with a mass of red ocher. Clam shells filled with red ocher were found with several burials. Most temporally diagnostic, a sandal-sole gorget accompanied one burial. The panpipe is clearly out of place in the context of this site, perhaps representing an intrusive, Middle Woodland burial.
3. The fluidity with which the role of panpiper was combined with other roles and the only moderate degree of institutionalizing of these roles are also evidenced in Table 18.3. Specifically, at the well-documented Scioto sites of Hopewell, Seip, and Ater, individuals with copper earspools are much more common than individuals with copper plaques or celts, and these persons are much more common than ones with copper headplates (Carr, Chapter 7). This seems to be true in other regions having these artifact types as well (Seeman 1979a). Parallelling this sequence, of these four kinds of copper artifacts, the types found most commonly with panpipes on a burial-count basis are earspools, followed by celts and plaques; no instance of association with a headplate is known. This pattern is equivalent to the placing of panpipes randomly among burials having one or another of these four kinds of artifacts, resulting in the proportional representation of burials having those different artifact types among the set of burials with panpipes. In other words, Hopewellian peoples showed no preference for or avoidance of burying panpipes with persons specifically ornamented with earspools, plaques, celts, or headplates.
4. For example, the Sun Dance, as a cult, varied to some degree in its form and purpose among Plains tribes, but consistently involved the use of a pole and buffalo skull within a circular enclosure and had one of two goals—obtaining a vision of the death of an enemy or earth renewal (Hall 1998:55–56). These variations are modest compared to the variations among Hopewellian regional traditions in the ages and sexes of those buried with panpipes, in whether or not panpipers gathered at the graves of the deceased, in whether panpipes were involved in gatherings not directly related to burying the deceased, and in the size of such ceremonies not directly tied to burial. The implication would be that the aspect of interregional Hopewell that involved panpipes was not a cult.
5. At the same time, and on a more practical level, the chest positions of panpipes may also indicate that panpipes were strung and suspended at the chest. Holes found on the reverse side of panpipes (see Definition and Morphology of Panpipes, above, and Appendices 18.1 and 18.3) could have been used for their suspension.

   The placement of panpipes within graves is usually consistent within sites, is often consistent within Hopewellian regional traditions, and varies among some traditions. Placement on the chest of the deceased is common in the central Midwestern traditions (Central Scioto, Northern Ohio, Miama/Indiana, Crab Orchard, Havana) and in two Southeastern traditions (Southern Appalachian, Marksville). In contrast, placement near the mouth or at the side occurs in the more northeastern traditions (Muskingum, Point Peninsula, Saugeen) and one Southeastern tradition (Porter–Miller).

6. Copper may have been associated with snakes also because its corrosion is poisonous, like snake venom. The Menominee sometimes poisoned the tips of their arrows with copper corrosion (Hoffman 1896).
7. Spence and Fryer (Chapter 20) present both distributional and manufacturing evidence that two concepts of silver circulated in the Hopewellian world, one associated with silver that occurs as erratics in copper from the Keweenaw Penninsula and another associated with silver that occurs in pure veins in Cobalt, Ontario.
8. Budd Hansen is an amateur archaeologist in Moline, Illinois. He excavated one panpipe from the Putney Landing site (confirmed through a photograph sent to Turff) and a second, possibly from the Albany site, Illinois, with wooden tubes that he has identified as red cedar (unconfirmed). He told Turff that he thought that red cedar was commonly used in manufacturing panpipes and earspools, in the area in which he collected.
9. The Horned Serpent was also a source of power that could sometimes be harnessed by humans who petitioned it (Emerson 1989:59; Howard 1960:222). The Horned Serpent was often invoked and appeased through rituals prior to water voyages by northern Algonkians (Lovis 1999). The historic Wyandot Fish clan claimed themselves to be protected by the Horned Serpent, and their priests called themselves snake men and wore deer antlers on their heads (Barbeau 1952:117). Sorcerers of the Menominee and other northern Great Lakes Indians were said to receive power from the Horned Serpent upon delivering the lives of their family to the waters (Kohl 1860:422–425; Skinner 1915:184, in Penney 1983).
10. One possibility is that the power of panpipes was thought to be more manageable than that of certain other ritual paraphernalia because the copper and/or silver of which they were made was established evidence of a successful long-distance, treacherous, Great Lakes journey by the panpipe owner and the successful attainment and taming of power associated with copper and silver. Hence, panpipes could be buried with their owners without endangering them. In contrast, the manufacture of platform smoking pipes commonly did not involve a similarly dangerous Great Lakes long-distance journey to obtain pipestone that would have demonstrated a pipe smoker's ability to manage power (but see Weets et al., Chapter 14, Postscript; and Emerson et al.[2002]). Travel to the Rocky Mountains for obsidian was very infrequent (Carr, Chapter 16 and references therein), was done by few persons, and again did not show a control over power for those who came to use obsidian bifaces. The same may have been true of large quartz crystals (from Arkansas? [Struever and Houart 1972]), which were worked into projectile point forms. Thus platform pipes, obsidian bifaces, and quartz crystal projectile points were rarely buried with their owners, and instead were isolated in ceremonial deposits.
11. Hall has published several renditions of his proposal that Hopewell platform pipes were analogous to historic calumet–pipes. These versions differ in whether he distinguishes plain and effigy Hopewellian platform pipes from each other. Initially (1977:504), he focused on effigy platform pipes, and the equation of the effigy with effigy spurs on atlatls. Later (Hall 1983:37, 42, 46, 2000:120), he concentrated on plain ("monitor") platform pipes and their origins in cigar or tubular smoking pipes that were hypothesized to have been held with single-hole atlatls. Platform pipes were equated with the grip end of atlatls. However, he also equated both plain and effigy platform pipes with the historic calumet–pipe (Hall 1983:51).

    It is unclear, archaeologically, that these two forms of Hopewellian platform pipes were distinct conceptually to Hopewell peoples. Both the large cache of pipes in Mound 8 of the Mound City site and the Great Cache of pipes and other ceremonial items in the Tremper mound included good balances of plain and effigy platform pipes, physically mixed together.
12. The reason that platform pipes were deposited in large numbers in Mound 8 of the Mound City site and the Great Cache at the Tremper Mound during two multicommunity rituals, in spite of the personal nature of the pipes, is explained by the developmental history of alliance-making in the Scioto–Paint Creek area, described in Chapter 13. Alliance-making in the area began with an emphasis on a network of relationships among dyads of individuals, expressed in both of the pipe deposits, and only later became dominated by relationships among leaders who spoke for their communities.
13. At Turner, a mica effigy of a snake with horns engraved on it was found in Mound 4, Altar 1 (Willoughby 1922:68–69). At the Hopewell site, in Mound 1, a stone tablet in the form of a rattlesnake was found by Squire and Davis (Moorehead 1922:88–89). In Mound 25, a copper antler effigy and a copper effigy that resembles the head of a snake were both found in the great copper deposit of symbols above Burials 260 and 261 (Greber and Ruhl 1989:279). The two effigies may have been associated so as to represent the Horned Serpent, based on holes that would have allowed them to be strung together.
14. Ties between the Upper Great Lakes and points farther south and eastward have time depth. During the Late Archaic and Early Woodland, Indiana hornstone was traded south-to-north as far north as central Wisconsin and may have been exchanged for copper that was moved south during those times (R. Hall, personal communication).

Gathering Hopewell

Society, Ritual, and Ritual Interaction

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Contents

IV. HOPEWELLIAN RITUAL CONNECTIONS ACROSS EASTERN NORTH AMERICA

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