Art

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Abstract

All societies have some form of art. Art is not just a way for individuals to express themselves—it is also a product of culture. Focusing on visual art, music, song, dance, and folktales, this module explores how and why art may vary, or be similar, across cultures.

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Art

People around the world find all kinds of ways to express themselves creatively—decorating their bodies, painting, carving, telling stories, singing, dancing, and playing music. All societies have some form of art. Art is not just a way for individuals to express themselves—it is also a cultural product. This module explores how and why art may vary, or be similar, across cultures.

Figure 1: *Performers at a sing-sing gathering in Wabag, Enga Province of Papua New Guinea. These gatherings typically constitute multiple different tribes and are always bursting with various art forms, from decorative body adornments, to the dance, song, and musical drum lines. Credit: Jialiang Gao, CC BY-SA 3.0.*

When archaeologists uncovered fragments of scarlet ochre from a complex of caves at Pinnacle Point, South Africa, they recognized immediately that the pieces which were most intense in hue had been preferentially selected for and ground against another surface by the early humans who dwelt there. This pattern of use would have been most familiar to anyone who has watched a toddler browse an array of crayons and grind the most brilliant colors

against the nearest available surface with obvious joy. The ochre at Pinnacle Point, likely used for body decoration, is the earliest known modification of the natural world for aesthetic purposes by *Homo sapiens*, 165,000 years ago (McBrearty and Stringer 2007). The earliest cave painting, found in Sulawesi, Indonesia, dates back almost 44,000 years (Ferreira 2019). The artist depicted a hunt, not by ordinary humans, but by imaginary figures who looked part human and part animal. Were these animal spirit helpers? Was ritual involved? Answers to these questions are speculative. All we really know is that the artist was expressing more than reality.

Does art predate those findings? Almost certainly. People sing, dance, and tell stories, but prior to recording instruments, none of it would be in any format that could last through time. Moreover, much of art that was once in physical form such as wood carvings, sand paintings, bark painting, and decorated cloth, would not generally last for hundreds of years. We are a species that uses and seems to understand symbols effortlessly, an ability that has allowed us to communicate with each other across generational and interpersonal boundaries, accumulate deep wells of cultural knowledge, and adapt to nearly every environment on Earth. Art, even at its most representational, seems to have played a role in this process by extracting deep symbolic meaning from extraordinary combinations of sensory experiences (Layton 1991).

There is a great variety of forms through which art can manifest itself cross-culturally. While some have argued that artistic expression is too variable across cultures to find clear patterns, there are cross-cultural researchers who have searched for and found patterns in the creative outputs of large samples of societies.

Art as an Expression of Society

The different ways in which a society organizes itself have far-reaching impacts in other cultural areas. Variation in degree of stratification or type of subsistence activity, for instance, appears to be related to certain characteristics of that society's creative products.

Whiting and Child (1953) have suggested a mechanism to explain these relationships, termed "personality integration of culture," in which the cognition of a people is heavily influenced by the physical and social settings of the

society in which they develop. The psychological effects of this milieu may manifest as conflicts and desires so deep-seated and subtle that they become personality characteristics indiscernible to the individual. However, by carefully examining cross-cultural variation in expressive institutions such as visual art, music, song, dance, and stories, researchers can sometimes detect the secondary impacts of these latent traits. Many of the findings regarding art relate generally to societal complexity, particularly to the degree of social stratification or the type of subsistence practiced in society. More socially complex societies not only tend to have higher degrees of stratification, such as classes or castes, but also more political hierarchy, larger settlements, higher population density, and also more dependence on food production, particularly intensive agriculture.

Trends Based on Degree of Societal Complexity:

Visual Art

- Art produced by egalitarian societies will contain more repetition of similar elements than the art of stratified societies (Fischer 1961).

  Why? Egalitarian societies lack significant status differences between members and value sameness; stratified societies value hierarchy and differentiation. Assuming that artists, particularly successful artists, express what people in their society know or are comfortable with, it is expected that the art in egalitarian societies would more likely have a repetition of similar elements analogous to a group of people having similar statuses. In contrast, in stratified societies, differentiation is expected as part of life, so their art is more likely to incorporate a variety of distinct elements.

- Art from egalitarian societies will tend to have more symmetrical composition than art from stratified societies (Fischer 1961).

  Why? If you imagine an art object bisected by an imaginary axis drawn down the middle, symmetry would mean the same design elements on both sides of the axis. Thus, symmetry is analogous to repetition and should be more compatible with egalitarianism. Asymmetrical compositions, like the hierarchical societies that tend to produce them, have considerable differentiation and imbalances of power which may be reflected in asymmetry of design.

Figure 2: *This Ainu robe dating from the late Edo (1615-1868)-early Meiji (1868-1912) periods in Japanese history, is an example of symmetrical design typical of egalitarian societies. The Ainu were primarily hunter-gatherers in this early period. Credit: Los Angeles Museum of Art, license-free.*

- Hierarchical societies visually enclose design elements more than egalitarian ones (Fischer 1961).

  Why? Unequal status and rank is all-important in stratified societies, and separation of different strata is often enforced through boundaries of all kinds. Physical partitions such as walls and moats serve to enforce more subtle psychological divisions of law and etiquette, which are then expressed in the idealized form of enclosing lines in a frame in visual art. Artistic elements in egalitarian societies however, tend to be separated simply by expanses of space, if at all.

- Highly stratified societies tend to create art that is crowded and has little empty space (Fischer 1961).

  Why? Fischer (1961) suggests that since egalitarian communities are smaller, closer-knit, and more independent than stratified ones, they are more fearful of strangers. This fear is embodied by the shrinking of design elements into isolated groups. Stratified societies, on the other hand, depend on incorporation of strangers into a hierarchy, a goal which may be represented by close ordering of unlike parts.

However, this is only one potential interpretation of the relationship. Perhaps egalitarian societies, which tend to be nomadic foragers, are simply more likely to experience open expanses of land, sea, and sky than high-density, stratified urban dwellers, and to depict such spaces accordingly.

Music / Song

- Songs in more complex societies, including more stratified societies, are more text heavy (having many different words as opposed to repeating words or syllables) than in less complex societies (Lomax 1968, 130).

  Why? Lomax, like Fischer, thinks that song elements reflect society, although Lomax places more stress on the way people work. Lomax (1968, 125) suggests that because complex societies have more explicit instruction they will have text heavy songs. Repeated syllables with no meaning (such as la la, la la la la) are more common in less complex societies where little instruction is needed. Note that Lomax's finding parallels Fischer's finding that art in complex societies has less repetition of elements.

- Less complex societies are more likely to have wide melodic intervals (Lomax 1968, 136).

  Why? Lomax suggests that wide melodic intervals reflect a more wide-ranging use of both social and environmental space where access to resources is more open to all members of the community. This finding parallels Fischer's that egalitarian societies have more empty space in art.

- Differentiation of singing parts increases with societal complexity. In the least complex societies, everyone sings the same part. In rank societies, where chiefs have prestige but little power, a song leader may begin and everyone joins in. In economically socially stratified societies, there is clearer differentiation in song, where choruses have secondary roles. Finally, in the most stratified societies there are explicit soloists (Lomax 1968, 133, 156–59).

  Why? The differentiation of parts in song is reflective of the broader differentiation in society. Solo singing is perhaps symbolic of the im-

Figure 3: *Khaira Arby, a well-known singer-song writer for indigenous communities of the Sahara Desert, performs at the Festival au Desert. Music is a particularly popular form of universal artistic expression. Credit: Anteros01, CC BY-SA 3.0.*

portance of some individuals standing out from others, particularly in strong leadership roles (Lomax 1968, 133, 158).

- Societies that depend on food collection subsistence strategies (gathering, hunting, and fishing) mostly produce music in rhythmic unison following a steady, one-beat meter as opposed to more complex rhythms. (Lomax 1968, 138–39). Similarly, food collectors are less likely to have counterpoint (multiple lines sung simultaneously) or heterophony (variants of the same tune).

- Societies in which singers appear to sing "in one voice" are more likely in the middle ranges of social complexity (Lomax 1968, 155).

  Why? Consistent with Lomax's broader theory that song reflects work, Lomax suggests that societies in the mid-range of complexity often have important collective work groups that are stable and long-lasting. These groups are typically more than work groups—they are often large corporate kin groups such as lineages and clans. Singing with one voice reflects the cohesiveness of this social network (Lomax 1968, 174–90).

Figure 4: *Music and dance from more stratified societies tend to feature explicit soloists and solo acts. Ballet, for example, typically includes a strict hierarchy of roles, as pictured above with a soloist spotlighted in the foreground while the background dancers are visible behind her. Credit: Wilfredo Rodríguez, license-free.*

Dance

- Changes in direction of movement during dances are characterized by simpler "reversal" transitions among extractive or food collecting societies, and more complex "curve" and "loop" transitions among food producing (agricultural and pastoral) ones (Lomax 1968, 242).

  Why? Reversals, including back-and-forth, up-and-down, and side-to-side movements, all involve the retracing of the same steps. This "mirroring" of motion backward and forward in time seems to echo the symmetry that Fischer (1961) found among the visual arts of egalitarian societies. Although Lomax suggests that symmetry in dance reflects the motion required for subsistence practices (rubbing, chopping, digging) rather than the egalitarianism of extractive cultures, the principle of art as a medium for expression of personality attributes conditioned by other societal characteristics is still at play.

- More complex food producing societies are more likely to activate more parts of the body in dance (for example, including fingers, toes, the

mouth, eyes, and eyebrows) compared with food collectors and incipient agriculturalists. Similarly, more complex producers utilize more "shape" movements woven into more complex patterns (Lomax, Bartenieff, and Paulay 1968, 243). These associations parallel the findings from art and music that food producing societies have more design elements and more singing parts.

Art Reflects Child-Rearing Practices

Art is an expressive activity. Since childhood is a time in which we experience some of our deepest emotions, desires, and conflicts, it is not surprising that some researchers have looked for associations between customary childhood experiences and the ways art is expressed.

Figure 5: *The baby is carried tightly against her back in a fabric sling. Close-contact carrying methods such as the one depicted above, are more likely to predict regular musical rhythms within a society. Credit: Peter Klashorst, CC BY 2.0.*

- Regular musical rhythms are more likely to be found in societies in which infants are carried in close contact with their parents' bodies (Ayres 1973).

  Why? Babies in the womb hear the regular rhythm of the mother's heartbeat and may continue to hear it if they are carried on the mother

or another caretaker in close body contact. Even the regular bouncing motion that an infant feels when carried in a sling or swaddle may reinforce a positive association between regular rhythm and pleasure. Later in life such rhythms would recall that sense of deep satisfaction, making regular rhythm in music more likely to be expressed in societies with close contact as compared to societies whose infants spend most of their time in a cradle or hammock.

- Societies which produce one-time bodily stress in infants are more likely to create music with greater range and forceful accent in singing (Ayres 1968).

  Why? In laboratory controlled experiments, some surprising results occur after a baby rat experiences a one-time physical stress (such as ear piercing, an injection of saline). Not only do these rats grow bigger, but they also exhibit an increase in bold, exploratory behavior. The relationship between one-time physical stress (piercing, scarification, circumcision, or molding of the limbs) in human infants and greater height has been found cross-culturally (Landauer and Whiting 1964). Ayres, trying to measure boldness and exploratoriness, thought that use of forceful accents (for boldness) and the range between the highest and lowest notes (for exploratoriness) might be ways of seeing if the same connection held for humans. Indeed, the relationship between bodily stress in human infants (such as piercing, scarification, or molding of the limbs) and vocal range and forcefulness with which notes are sung may demonstrate the same mechanism at work—sharp and wide-ranging vocals may embody a learned willingness to confront and familiarize oneself with risk.

- Higher socialization pressure for compliance predicts cohesive singing; high pressure for assertiveness predicts harsh or raspy singing (Lomax 1968, 192).

  Why? Raspy singing is irregular and does not lead to a good vocal blend with others. Training for assertiveness is expected to lead to individual differences; while compliance training should lead to fitting in with others and tamping down differences in song (Ayres as cited in Lomax 1968, 192–93).

- Societies with a high degree of female premarital sexual restrictiveness

have more singing with narrow, pinched voices, and more nasal tonality (Lomax 1968, 195)

Why? Lomax (1968, 196) suggests that both nasality and pinched voices reflect sexual tension, as opposed to singing with wide, relaxed voices.

Universals in Music

Although it is asserted that some form of visual art, music, song, and dance are all universal (Brown 1991; Lomax 1968, 3 for song; Mehr et al. 2019), it is only recently that the premise has been systematically tested for music and song. Music is found in all of the societies in eHRAF World Cultures, an ethnographic database with over 315 (now over 330) societies (Mehr et al. 2019). And in a representative subsample of 60 cultures (the Probability Sample Files), songs were reported in *all* cases. Besides the universality of music are there other universals?

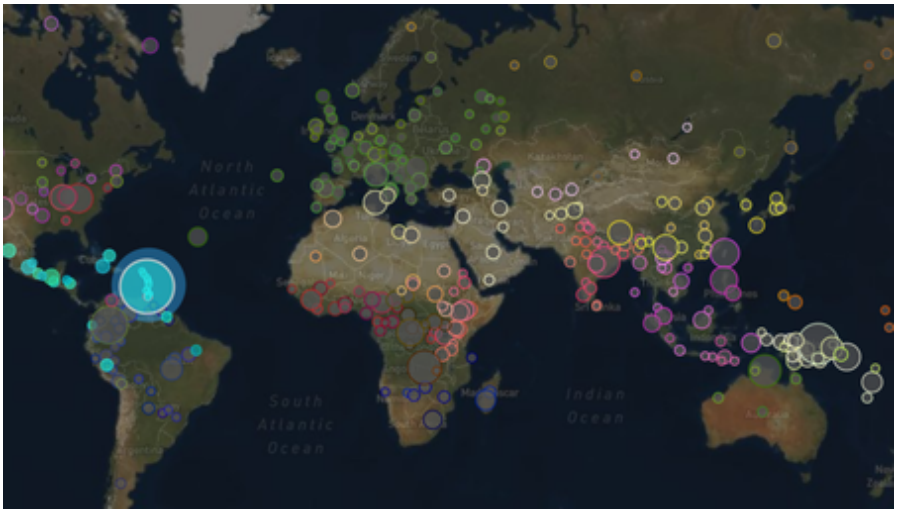

Figure 6: *Currently highlighted is St. Lucia, which is among the 12 cultures which have audio recordings available from just the Lesser Antilles alone in The Global Jukebox. The Global Jukebox is an online audio file database which aids in contextualizing the universality of music. See the 'Additional Resources' section below for more information on the Global Jukebox.*

- Around the world, music and song are regularly associated with lullabies, healing, dance, and expressing love (Mehr et al. 2019). Without

understanding the words, listeners from around the world are able to correctly identify short snippets of songs from 86 mostly small-scale societies as dance songs, healing songs, or lullabies (Mehr et al. 2018, 2019). Listeners had the most trouble identifying love songs.

- Across cultures, three dimensions capture the ways song varies: formality, arousal, and religiosity. Moreover, different types of songs fall on different combinations of dimensions. For example, dance songs cluster on high formality, high arousal, and low religiosity. In contrast, healing songs differ in having high religiosity. Lullabies are low on formality and low on arousal. Interestingly, the distributions on these dimensions are quite similar across societies (Mehr et al. 2019).
- Some features of song, such as discrete pitches, regular rhythms, repetitive patterns, short phrases, and a "chest" voice are universal or nearly universal (Savage et al. 2015).
- Across cultures, group singing is strongly related to regular rhythms, repeated phrases, percussion instruments, and dancing (Savage et al. 2015)

  Why? An important function of music may be to establish group cohesion and coordination. The features related to group singing may help many individuals sing together successfully (Savage et al. 2015).
- Within-population musical variability is greater than between-population variability. (Mehr et al. 2019; Rzeszutek, Savage, and Brown 2012).

Folktales

Many of the cultural patterns we have discussed are fairly direct representations of the society itself—for example, egalitarianism appears to be reflected in symmetry, simple repeated elements, and little differentiation in parts of song. But the obstacles different societies confront in order to survive and flourish also produce different types of psychological stress. In some cases, artistic creation provides a means for people to express their unresolved conflicts. Storytelling, by weaving the fictional and the familiar together, may be an especially potent medium for imposing meaning on the complex circumstances of everyday life.

Figure 7: *A Havasupai elder (pictured on the left) tells stories to two other men as they gather around a campfire, ca. 1899. The telling of stories and folktales is an important part of passing along aspects of culture. Credit: George Wharton James, license-free.*

- The folktales of societies which cope with a high frequency of natural hazards (such as floods and droughts) contain more acts of capricious (for no apparent reason) aggression (Cohen 1990). But interestingly, the same study also finds no relationship between natural hazard frequency and the amount of overall aggression in folktales.

  Why? Cohen (1990) reports that actual hazards are hardly ever mentioned in the folktales of societies that have them frequently. This fact suggests that unpredictable hazards are too frightening to be explicitly mentioned; instead, trauma from natural hazards appears to be transformed and disguised by personifying chaos as capricious agents. Freudian theory suggests that this type of transformation can help a person attain some degree of mastery over terrifying events.

- Societies in which children are punished for showing aggression tend to have folktales which contain higher intensity aggression (Wright 1970).

  Why? Although parents who punish children for being aggressive are presumably trying to minimize aggression in their children, theory suggests that punishment creates anxiety about aggressive impulses, and further, that these impulses are projected into fantasy. The more anxiety about aggression, the more intense aggression will be in the fantasy.

- The more severe punishment for aggression, the more likely folktale aggression will be directed toward and originate from characters who are strangers to the hero (Wright 1970).

  Why? The hero of a story is presumably the character a hearer is most likely to identify with. Punishment creates anxiety about expressing aggression, so even in folktales those severely punished for aggression are more likely to fantasize that aggression will be exhibited by strangers and directed towards strangers.

- Folktales with themes indicating impulsive power tend to have higher male consumption of alcohol (Wanner 1972). (Folktales are used to assess what people in a society are typically thinking about.)

  Why? The theory behind this relationship comes into focus when we consider another finding from a previous paper (McClelland et al. 1972); alcohol is consumed much more frequently in unstructured societies

compared to structured ones. McClelland et al. (1966) suggested that, lacking institutions that promote male solidarity, men seek alternative fulfillment of their need for power in consumption of alcohol. And, folktales provide males with a kind of "magical potency."

- Folktales often have very deep signatures and show strong relationship to shared linguistic phylogenies. More specifically, in the Indo-European language family, societies with more closely related languages are more likely to share similar tales and linguistic similarity; language similarity was a stronger predictor than geographical proximity (Da Silva and Tehrani 2016). However, a study of folktales amongst 18 hunter-gatherer groups spread widely over the Arctic found that folktale similarity was predicted more by geographic proximity than linguistic similarity (Ross and Atkinson 2016).

  Why the difference? Perhaps because they are so small in population, many Arctic groups have considerable interaction with other groups which may be adaptive for their harsh environment.

Adaptationist Explanations

People all over the world enjoy some form of art either as an active participant or an observer. But art also conveys or evokes a wide range of emotions including sadness, fear, and anger. An important question is whether art is merely an expression of human experience, as many of the cross-cultural findings suggest, or might it serve an independent adaptive function?

Let's first consider how art might affect individuals. Can art help individuals lead better and healthier lives? Art has been viewed as therapeutic by many throughout history. Plato spoke of music as calming the soul, Aristotle believed that drama could produce catharsis, and Freud thought that art was an outlet that enabled the artist and audience to discharge unconscious wishes and achieve some relief from tension (De Petrillo and Winner 2005). More recently, practitioners have employed music, visual arts, dance, and expressive writing as part of explicit healing programs. Do they work? Reviews of the evidence suggest that for the most part they do. For example, music has been shown to decrease anxiety, help achieve control over cancer pain, and lower stress for heart patients; similar results occur with art, movement-based

therapies, and expressive writing (Stuckey and Nobel 2010). Most of this research has been conducted in complex societies, but the frequent use of music, dance, and song in healing rituals around the world suggests that such art forms probably do enhance healing.

What about at the group level? Do the arts enhance health and wellness and ultimately reproductive success? There are hints in the work of Lomax on music that suggest that social solidarity, coordination, and cooperation, may all be enhanced by cohesive singing and dancing (1968, 174, 203). In the realm of storytelling, Scalise Sugiyama (2011) suggests that foraging societies use storytelling to transmit subsistence and ecological knowledge. Religious ritual participation is often cited as a means to help humans feel that they have some degree of control over distressing events. Such rituals could be called "arts participation" inasmuch as they often involve chanting, music, singing, and sometimes dance (Dissanayake 2008; see also Alcorta and Sosis 2006). Not only may these rituals reduce anxiety and be transformative experiences for individuals, they may also help the social group participating in ritual to be more cooperative and unified in purpose.

What We Don't Know

- Anecdotal evidence suggests that art is modified in significant ways when it begins to be sold to tourists. How and to what degree do processes of culture contact and colonization impact art production?
- Does performance of a group in a joint artistic effort increase social bonding of the group? Or is it particular kinds of art forms such as group singing?
- Only a few studies have taken the cross-cultural findings and looked to see if changes over time are consistent with the cross-cultural principles. For example, Dressler and Robbins (1975) found support for Fischer's findings as social stratification changed in ancient Greece.
- Are there cross-cultural differences in the degree to which a culture allows an artist to express themselves versus expressing traditional patterns? If so, what accounts for those differences?
- Does performance of a group in a joint artistic effort increase social

bonding of the group? Or is it particular kinds of art forms such as group singing?

- Research on music has suggested that males are generally the singers (Savage et al. 2015). What accounts for differences in musical performance or in other arts by gender?
- How might our definitions of creative labor be expanded to consider creative activities (cooking, oratory, "crafts") not sanctioned as fine art in the Western canon?
- Are there cross-cultural differences in the degree to which a culture allows an artist to express themselves versus expressing traditional patterns? If so, what accounts for those differences?
- For anthropologically-described societies, what evidence is there to indicate that artistic performances enhance well-being?

Additional Resources

In addition to the host of research articles located within the Explaining Human Culture (EHC) database, there are additional online resources available for continued exploration of the topic of cross-cultural music trends. Two important resources The Global Jukebox, which you can find at https://theglobaljukebox.org/, as well as various music samples located within eHRAF World Cultures, https://ehrafworldcultures.yale.edu/ehrafe/.

The Global Jukebox contains audio clips of everything from songs and dances to conversations, from cultures across the globe. There are a variety of interfaces through which to experience the jukebox, one of which is a map you can see reproduced above in the "Universals in Music" section of the module.

Originally conceived by Alan Lomax, one of the researchers who features prominently in the findings listed throughout the module above, the Global Jukebox's mission is to provide an open collection of audio files which themselves have the power to illuminate aspects of cultures that otherwise may be inaccessible.

Similarly, while eHRAF World Culture's music files do not currently feature audio clips, they also provide a deeper look into the artistic elements of a

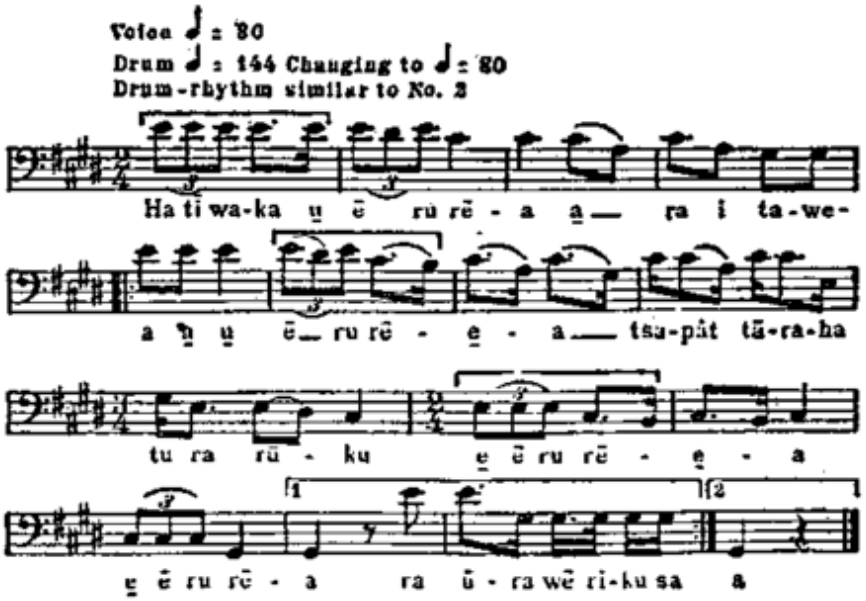

Figure 8: *Featured above is an image from a Pawnee song entitled 'Buffalo Dance' which can be found on page 31 of Frances Densmore's ethnography 'Pawnee Music.'*

society's sound. For example, you can find images of original sheet music from various cultures within eHRAF's collection of over 330 societies.

Exercises Using eHRAF World Cultures

Explore some texts and do some comparisons using the eHRAF World Cultures database. These exercises can be done individually or as part of classroom assignments. See the Teaching eHRAF Exercise on Art for suggestions.

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Glossary

Counterpoint Multiple lines, with independent rhythm, sung simultaneously.

Heterophony Variants of the same tune. For example, multiple voices singing the same melody.

References

Alcorta, Candace Storey, and Richard Sosis. 2006. "Why Ritual Works: A Rejection of the by-Product Hypothesis." *Behavioral and Brain Sciences* 29 (6): 613–14. https://doi.org/10.1017/S0140525X06009344.

Ayres, Barbara. 1968. "Effects of Infantile Stimulation on Musical Behavior." In *Folk Song Style and Culture*, edited by Alan Lomax, 211–21. Washington, D.C.: American Association for the Advancement of Science.

———. 1973. "Effects of Infant Carrying Practices on Rhythm in Music." *Ethos* 1 (4): 387–404. https://doi.org/10.1525/eth.1973.1.4.02a00020.

Brown, Donald. 1991. *Human Universals*. New York, NY: McGraw Hill.

Cohen, Alex. 1990. "A Cross-Cultural Study of the Effects of Environmental Unpredictability on Aggression in Folktales." *American Anthropologist* 92 (2): 474–81. https://doi.org/10.1525/aa.1990.92.2.02a00150.

Da Silva, Sara Graça, and Jamshid J. Tehrani. 2016. "Comparative Phylogenetic Analyses Uncover the Ancient Roots of Indo-european Folktales." *Royal Society Open Science* 3 (1): 1–11. https://doi.org/10.1098/rsos.150645.

De Petrillo, Lili, and Ellen Winner. 2005. "Does Art Improve Mood? A Test of a Key Assumption Underlying Art Therapy." *Art Therapy* 22 (4): 205–12. https://doi.org/10.1080/07421656.2005.10129521.

Dissanayake, Ellen. 2008. "The Arts After Darwin: Does Art Have an Origin and Adaptive Function." In *World Art Studies: Exploring Concepts and Approaches*, edited by Kitty Zijlmans and Wilfried Van Damme, 241–63. Amsterdam: Valiz.

Dressler, William W., and Michael C. Robbins. 1975. "Art Styles, Social Stratification, and Cognition: An Analysis of Greek Vase Painting." *American Ethnologist* 2: 427–34. https://doi.org/10.1525/ae.1975.2.3.02a00050.

Ferreira, Becky. 2019. "Mythical Beings May Be Earliest Imaginative Cave Art by Humans." https://search.proquest.com/docview/2323728878?accountid=15172.

Fischer, John L. 1961. "Art Styles as Cultural Cognitive Maps." *American Anthropologist* 63 (1): 79–93. https://doi.org/10.1525/aa.1961.63.1.02a00050.

Landauer, Thomas K., and John WM Whiting. 1964. "Infantile Stimulation and Adult Stature of Human Males." *American Anthropologist*, 1007–28. https://doi.org/10.1525/aa.1964.66.5.02a00020.

Layton, Robert. 1991. *The Anthropology of Art*. Cambridge University Press.

Lomax, Alan. 1968. *Folk Song Style and Culture*. Washington DC: American Association for the Advancement of Science.

Lomax, Alan, Irmgard Bartenieff, and Forrestine Paulay. 1968. "Dance Style and Culture." In *Folk Song Style and Culture*, edited by Alan Lomax, 222–47. Washington, D.C.: American Association for the Advancement of Science.

McBrearty, Sally, and Chris Stringer. 2007. "Palaeoanthropology: The Coast in Colour." *Nature* 449 (7164): 793. https://doi.org/10.1038/449793a.

McClelland, David C., William Davis, Eric Wanner, and Rudolf Kalin. 1966. "A Cross-Cultural Study of Folk-Tale Content and Drinking." *Sociometry*, 308–33. https://doi.org/10.2307/2786291.

———. 1972. "A Cross-cultural Study of Folk-tale Content and Drinking." In *The Drinking Man*, edited by David C. McClelland, 48–72. New York: Free Press.

Mehr, Samuel A., Manvir Singh, Dean Knox, Daniel M. Ketter, Daniel Pickens-Jones, S. Atwood, Christopher Lucas, et al. 2019. "Universality and Diversity in Human Song." *Science* 366 (6468): 0–eaax0868. https://doi.org/10.1126/science.aax0868.

Mehr, Samuel A., Manvir Singh, Hunter York, Luke Glowacki, and Max M. Krasnow. 2018. "Form and Function in Human Song." *Current Biology* 28: 356–68. https://doi.org/10.1016/j.cub.2017.12.042.

Ross, Robert M., and Quentin D. Atkinson. 2016. "Folktale Transmission in the Arctic Provides Evidence for High Bandwidth Social Learning Among Hunter–gatherer Groups." *Evolution and Human Behavior* 37 (1): 47–53. https://doi.org/10.1016/j.evolhumbehav.2015.08.001.

Rzeszutek, Tom, Patrick E. Savage, and Steven Brown. 2012. "The Structure of Cross-Cultural Musical Diversity." *Proceedings of the Royal Society B: Biological Sciences* 279 (1733): 1606–12. https://doi.org/10.1098/rspb.2011.1750.

Savage, Patrick E., Steven Brown, Emi Sakai, and Thomas E. Currie. 2015. "Statistical Universals Reveal the Structures and Functions of Human Music." *Proceedings of the National Academy of Sciences* 112 (29): 8987–92. https://doi.org/10.1073/pnas.1414495112.

Scalise Sugiyama, Michelle. 2011. "The Forager Oral Tradition and the Evolution of Prolonged Juvenility." *Frontiers in Psychology* 2: 133. https://doi.org/10.3389/fpsyg.2011.00133.

Stuckey, Heather L., and Jeremy Nobel. 2010. "The Connection Between Art, Healing, and Public Health: A Review of Current Literature." *American Journal of Public Health* 100 (2): 254–63. https://doi.org/10.2105/AJPH.2008.156497.

Wanner, Eric. 1972. "Power and Inhibition: A Revision of the Magical Potency Theory." In *The Drinking Man*, edited by David C. McClelland, William N. Davis, Rudolph Kalin, and Eric Wanner, 73–98. New York: Free Press.

Whiting, John WM, and Irvin L. Child. 1953. "Child Training and Personality: A Cross-Cultural Study." Yale University Press.

Wright, G. O. 1970. "Projection and Displacement: A Cross-cultural Study of Folktale Aggression." In *Cross-cultural Studies*, edited by D. R. Price-Williams, 348–60.