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Cultural Universals

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Music, language, ownership, and the use of fire are all *cultural universals*, or traits expressed in all known human populations. Spanning behaviors, technologies, affective states, institutions, and linguistic patterns, cultural universals are of interest to cognitive scientists, because they help elucidate humans' shared psychological capacities—although their reliable emergence may also partly reflect shared environmental constraints and convergent cultural evolutionary trajectories. Current research on cultural universals explores why such traits predictably develop, how environmental variation shapes their expression, and whether claims of universality hold up under more diverse sampling. However they arise, cultural universals are critical for understanding the regularities of human social life and psychology.

History

The formal study of cultural universals coincided with the development of anthropology and evolutionary biology in the 19th century. [Darwin \(1872\)](#), after writing to correspondents around the world, reported cross-cultural similarities in emotional expression, which he took as evidence that human emotions have an evolved, adaptive basis. Scholars including Edward Tylor, James Frazer, and Edvard Westermarck surveyed diverse societies to identify common cultural traits or evolutionary trajectories that all societies seem to follow. The pioneer of American anthropology, Franz Boas, is often associated with cultural relativism, yet he, too, recognized the existence of cultural universals and the value of cross-cultural comparison ([Boas, 1896, 1928](#)).

The first half of the 20th century marked a shift away from comparative work and toward the study of cultural particularities. Prominent anthropologists such as George Murdock and Claude Lévi-Strauss continued to research universals, yet it was the cognitive revolution and the expansion of evolutionary approaches to human behavior that substantially reignited scholarly interest. [Chomsky \(1965\)](#) theorized about a *universal grammar* [see [Language Acquisition](#)], [Ekman \(1972\)](#) returned to Darwin's investigations of universal emotions, and [Brown \(1991\)](#) proposed hundreds of universals across categories like emotion, language, social life, and symbolic culture. An image of humans, shaped by natural selection and fundamentally similar, began to crystallize.

Core concepts

Psychic unity

Cultural universals are of interest to cognitive scientists because of the *psychic unity* of humanity—the assumption, first explicitly articulated in the 19th century, that typically developing humans share a set of psychological capacities. Although common cognitive underpinnings are not the only reason a trait might be universal, they are often among the most important, and the ubiquity of a trait can thus suggest psychological processes that occur similarly across cultures. For example, the universality of both music and supernatural belief has inspired rigorous investigations into the psychological tendencies presumed

to underlie them, such as rhythmic entrainment and agency detection [see [Theory of Mind](#)] ([Barrett & Lanman, 2008](#); [Singh & Mehr, 2023](#)).

Categories of universality

Absolute universals, such as language or music, appear in all human populations ([Brown, 1991](#)). They contrast with *near-universals*, such as the ability to make fire, which occur in most but not all human populations. *Statistical universals* appear above a predefined threshold. Cultural universals include both psychological universals and behavioral universals. The universality of a psychological predisposition does not always entail behavioral universality. Lullabies are found across a wide range of human societies ([Mehr et al., 2019](#)), but arguably the best studied exceptions, the Northern Aché of Paraguay, seem to have lost them along with other complex cultural traits following a series of population bottlenecks ([Singh & Hill, 2025](#)). Lullabies are thus behavioral near-universals, whereas the psychological mechanisms involved in producing and responding to them seem universal.

Plasticity and reaction norms

Humans, like all organisms, exhibit *phenotypic plasticity*, expressing different traits in response to environmental conditions [see [The Extended Evolutionary Synthesis](#)]. The range of phenotypes that a single genotype can produce across different environments is known as its *reaction norm*. Plasticity complicates the study of cultural universals because a universal psychological system may, through the influence of different environments, lead to variable behavioral expression across cultures. Researchers strive to uncover how environmental factors moderate this heterogeneous expression. The severity of jealousy, for example, varies considerably across societies, yet such variation seems partly driven by cross-cultural differences in parental investment and paternity certainty ([Scelza et al., 2020](#)).

Questions, controversies, and new developments

While cognitive scientists largely agree that the foundations of human psychology are the same everywhere ([Barrett, 2020](#)), key universals have been challenged. Ekman's theory that humans universally exhibit a set of "basic emotions," such as sadness, anger, and disgust, is increasingly debated in light of further work on emotional expression ([Barrett, 2006](#)). Meanwhile, linguists have accumulated evidence contesting many purported universals of language, from tense-marking to personal pronouns, suggesting that the psychological mechanisms involved in linguistic learning and communication are much more flexible than once thought [see [Linguistic Universals](#); [Linguistic Variation](#)] ([Evans & Levinson, 2009](#)).

The recognition of a lack of diversity in psychological research has also inspired a more rigorous investigation of supposed universals [see [WEIRD](#)], revealing other claims to have been erroneous or more complicated. Since Aristotle, Westerners have assumed a universal hierarchy of senses, according to which people are best at communicating about sight and hearing, followed by touch, taste, and smell. When a large, international team tested the proposal, however, they instead found "rampant variation,"

with no indication of a single sensory hierarchy across 20 languages ([Majid et al., 2018](#)). Likewise, the Big Five model of personality variation—which posits that personality traits mostly vary along five dimensions—has been replicated in wealthy, industrialized populations, yet studies in more diverse samples have uncovered substantial cross-cultural variation ([Durkee et al., 2022](#)). Tsimane forager-horticulturalists in Bolivia, for instance, cluster along two dimensions, not five ([Gurven et al., 2013](#)).

Properly testing universality requires building samples that encompass as many dimensions of variation as possible, particularly those relevant to the trait of interest ([Majid, 2023](#)). Anthropologists have designed geographically and culturally diverse lists of human cultures to test universality, such as the Standard Cross-Cultural Sample (186 societies; [Murdock & White, 1969](#)) and Probability Sample File (60 societies; [Naroll, 1967](#)), yet relying on such collections has limitations, both because their manageable size ends up excluding much of human diversity and because the groups being compared are not completely independent. Most tests of universality are also constrained by their reliance on living or recently studied populations, although this restriction will become less relevant as researchers develop tools capable of probing the psychologies of deceased individuals, such as by analyzing historical artifacts (e.g., literature, music, painting; [Baumard et al., 2024](#); [Muthukrishna et al., 2021](#)).

Once a trait is determined to be widespread or universal, explaining its prevalence can still prove challenging. It might be the case that all typically developing humans express the trait regardless of their environment, as seems the case for innate behaviors like smiling. Alternatively, its ubiquity may be the result of cultural diffusion or convergent cultural evolution [see [Cultural Attractors](#)]. Distinguishing among these explanations is sometimes straightforward; domesticated dogs are clearly widespread because of diffusion, for example. Nevertheless, scholars continue to struggle to isolate the relative roles of biology and cultural transmission in producing many widespread traits, including music ([Singh & Mehr, 2023](#)).

Broader connections

Any meaningful inquiry into human nature must reconcile our many differences with our apparent commonalities. Cognitive scientists aim, in part, to identify the computational architecture—assumed to be largely conserved across individuals—behind behavior that is flexible, variable, and open-ended. A goal of evolutionary anthropologists is to understand how natural selection has shaped adaptations that allow humans to flourish in a greater diversity of environments than any other primate. Cultural evolutionists investigate how shared features of human psychology, such as social learning tendencies [see [Social Learning](#)], give rise to emergent population-level processes that, over time, result in both convergent and dazzlingly diverse cultural traits [see [Iterated Learning](#); [Cultural Evolution](#)]. The study of cultural universals is critical to these projects. Whether a basic computational faculty, a behavioral tendency, or a culturally evolved trait, a cultural universal suggests an underlying intransigence, often in the human mind, that constrains and guides our species' incredible variety.

Further reading

- Barrett, H. C. (2020). Towards a cognitive science of the human: Cross-cultural approaches and their urgency. *Trends in Cognitive Sciences*, 24(8), 620–638. <https://doi.org/10.1016/j.tics.2020.05.007>
- Evans, N., & Levinson, S. C. (2009). The myth of language universals: Language diversity and its importance for cognitive science. *Behavioral and Brain Sciences*, 32(5), 429–448. <https://doi.org/10.1017/S0140525X0999094X>
- Majid, A. (2023). Establishing psychological universals. *Nature Reviews Psychology*, 2(4), 199–200. <https://doi.org/10.1038/s44159-023-00169-w>
- Singh, M., & Mehr, S. A. (2023). Universality, domain-specificity, and development of psychological responses to music. *Nature Reviews Psychology*, 2, 333–346. <https://doi.org/10.1038/s44159-023-00182-z>

References

- Barrett, H. C. (2020). Towards a cognitive science of the human: Cross-cultural approaches and their urgency. *Trends in Cognitive Sciences*, 24(8), 620–638. <https://doi.org/10.1016/j.tics.2020.05.007>

[↩](#)

- Barrett, J. L., & Lanman, J. A. (2008). The science of religious beliefs. *Religion*, 38(2), 109–124. <https://doi.org/10.1016/j.religion.2008.01.007>

[↩](#)

- Barrett, L. F. (2006). Are emotions natural kinds? *Perspectives on Psychological Science*, 1(1), 28–58. <https://doi.org/10.1111/j.1745-6916.2006.00003.x>

[↩](#)

- Baumard, N., Safra, L., Martins, M., & Chevallier, C. (2024). Cognitive fossils: Using cultural artifacts to reconstruct psychological changes throughout history. *Trends in Cognitive Sciences*, 28(2), 172–186. <https://doi.org/10.1016/j.tics.2023.10.001>

[↩](#)

- Boas, F. (1896). The limitations of the comparative method of anthropology. *Science*, 4(103), 901–908. <https://doi.org/10.1126/science.4.103.901>

[↩](#)

- Boas, F. (1928). *Primitive art*. Harvard University Press.

[↩](#)

- Brown, D. (1991). *Human universals*. McGraw Hill.

[↩](#)

- Chomsky, N. (1965). *Aspects of the Theory of Syntax*. MIT Press.

↩

- Darwin, C. (1872). *The expression of the emotion in man and animals*. John Murray.
<https://doi.org/10.1037/10001-000>

↩

- Durkee, P. K., Lukaszewski, A. W., von Rueden, C. R., Gurven, M. D., Buss, D. M., & Tucker-Drob, E. M. (2022). Niche diversity predicts personality structure across 115 nations. *Psychological Science*, 33, 285–298. <https://doi.org/10.1177/09567976211031571>

↩

- Ekman, P. (1972). Universals and cultural differences in facial expressions of emotion. In *Nebraska Symposium on Motivation* (Vol. 19, pp. 207–282). University of Nebraska Press.

↩

- Evans, N., & Levinson, S. C. (2009). The myth of language universals: Language diversity and its importance for cognitive science. *Behavioral and Brain Sciences*, 32(5), 429–448.
<https://doi.org/10.1017/S0140525X0999094X>

↩

- Gurven, M., von Rueden, C., Massenkoff, M., Kaplan, H., & Lero Vie, M. (2013). How universal is the Big Five? Testing the five-factor model of personality variation among forager–farmers in the Bolivian Amazon. *Journal of Personality and Social Psychology*, 104(2), 354–370. <https://doi.org/10.1037/a0030841>

↩

- Majid, A. (2023). Establishing psychological universals. *Nature Reviews Psychology*, 2(4), 199–200.
<https://doi.org/10.1038/s44159-023-00169-w>

↩

- Majid, A., Roberts, S. G., Cilissen, L., Emmorey, K., Nicodemus, B., O’Grady, L., Woll, B., LeLan, B., de Sousa, H., Cansler, B. L., Shayan, S., de Vos, C., Senft, G., Enfield, N. J., Razak, R. A., Fedden, S., Tufvesson, S., Dingemanse, M., Ozturk, O., ... Levinson, S. C. (2018). Differential coding of perception in the world’s languages. *Proceedings of the National Academy of Sciences*, 115(45), 11369–11376.
<https://doi.org/10.1073/pnas.1720419115>

↩

- Mehr, S. A., Singh, M., Knox, D., Ketter, D. M., Pickens-Jones, D., Atwood, S., Lucas, C., Jacoby, N., Egner, A. A., Hopkins, E. J., Howard, R. M., Hartshorne, J. K., Jennings, M. V., Simson, J., Bainbridge, C. M., Pinker, S., O'Donnell, T. J., Krasnow, M. M., & Glowacki, L. (2019). Universality and diversity in human song. *Science*, 366(6468), eaax0868. <https://doi.org/10.1126/science.aax0868>

↩

- Murdock, G. P., & White, D. R. (1969). Standard Cross-Cultural Sample. *Ethnology*, 8(4), 329–369. <https://doi.org/10.2307/3772907>

↩

- Muthukrishna, M., Henrich, J., & Slingerland, E. (2021). Psychology as a Historical Science. *Annual Review of Psychology*, 72, 717–749. <https://doi.org/10.1146/annurev-psych-082820-111436>

↩

- Naroll, R. (1967). The proposed HRAF probability sample. *Cross-Cultural Research*, 2(2), 70–80. <https://doi.org/10.1177/106939716700200202>

↩

- Scelza, B. A., Prall, S. P., Blumenfield, T., Crittenden, A. N., Gurven, M., Kline, M., Koster, J., Kushnick, G., Mattison, S. M., Pillsworth, E., Shenk, M. K., Starkweather, K., Stieglitz, J., Sum, C. Y., Yamaguchi, K., & McElreath, R. (2020). Patterns of paternal investment predict cross-cultural variation in jealous response. *Nature Human Behaviour*, 4(1), 20–26. <https://doi.org/10.1038/s41562-019-0654-y>

↩

- Singh, M., & Hill, K. (2025). Loss of dance and infant-directed song among the Northern Aché. *Current Biology*, 35(10), 2444–2447. <https://doi.org/10.1016/j.cub.2025.04.018>

↩

- Singh, M., & Mehr, S. A. (2023). Universality, domain-specificity, and development of psychological responses to music. *Nature Reviews Psychology*, 2, 333–346. <https://doi.org/10.1038/s44159-023-00182-z>

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