

References

Aktuell

FRITZ 2017

Claudia Fritz, Joseph Curtin, Jacques Poitevineau & Fan-Chia Tao, *Listener evaluations of new and Old Italian violins*. [PNAS 114 \(2017\), 5395–5400](#).

Old Italian violins are routinely credited with playing qualities supposedly unobtainable in new instruments. These qualities include the ability to project their sound more effectively in a concert hall—despite seeming relatively quiet under the ear of the player—%

compared with new violins. Although researchers have long tried to explain the “mystery” of Stradivari’s sound, it is only recently that studies have addressed the fundamental assumption of tonal superiority. Results from two studies show that, under blind conditions, experienced violinists tend to prefer playing new violins over Old Italians. Moreover, they are unable to tell new from old at better than chance levels. This study explores the relative merits of Stradivari and new violins from the perspective of listeners in a hall. Projection and preference are taken as the two broadest criteria by which listeners might meaningfully compare violins. Which violins are heard better, and which are preferred? In two separate experiments, three new violins were compared with three by Stradivari. Projection was tested both with and without orchestral accompaniment. Projection and preference were judged simultaneously by dividing listeners into two groups. Results are unambiguous. The new violins projected better than the Stradivaris whether tested with orchestra or without, the new violins were generally preferred by the listeners, and the listeners could not reliably distinguish new from old. The single best-projecting violin was considered the loudest under the ear by players, and on average, violins that were quieter under the ear were found to project less well.

Keywords: perception | listener | violin | Stradivari

Significance: Old Italian violins are widely believed to have playing qualities unobtainable in new violins, including the ability to project their sound more effectively in a hall. Because Old Italian instruments are now priced beyond the reach of the vast majority of players, it seems important to test the fundamental assumption of their tonal superiority. A recent study found that, under blind conditions, violin soloists generally prefer new violins and are unable to distinguish between new and old at better than chance levels. This paper extends the results to listeners in a hall. We find that they generally prefer new violins over Stradivaris, consider them better-projecting, and are no better than players at telling new and old apart.

PIPERNO 2017

Dolores R. Piperno, Crystal McMichael & Mark B. Bush, *Further evidence for localized, short-term anthropogenic forest alterations across pre-Columbian Amazonia*. [PNAS 114 \(2017\), E4118–E4119](#).

Recognizing that ancient forest clearance and fire over wide areas of Amazonia have not been demonstrated, scholars increasingly attempt to discern the nature and extent of prehistoric forest management practices. Watling et al. argue forests were altered for millennia before geoglyph construction with agroforestry and

resource management, predominantly using palm phytoliths as manipulation markers. We have argued elsewhere that modern botanical inventories, also used by Watling et al. as a proxy for forest management, may for a number of reasons be poor reflectors of the prehistoric era.

WATLING 2017

Jennifer Watling et al., *It is too soon to argue for localized, short-term human impacts in interfluvial Amazonia, Reply to Piperno et al.* [PNAS 114 \(2017\), E4120–E4121](#).

Jennifer Watling, José Iriarte, Francis E. Mayle, Denise Schaan, Luiz C.R. Pessenda, Neil J. Loader, F. Alayne Street-Perrott, Ruth E. Dickau, Antonia Damasceno & Alceu Ranzi

Although acknowledging that we detected localized human impacts in our study area, Piperno et al. downplay the increases in palms observed at the geoglyph sites, stating it's “unclear” whether humans actively managed the forest in these locations. Independent of one's opinion about intentionality, we argue that the rapid decline of palms after geoglyph abandonment suggests that their previously high levels were because of much more regular, longer-term human influences than Piperno et al. suggest.

Anthropologie

SKELTON 2017

Alice E. Skelton, Gemma Catchpole, Joshua T. Abbott, Jenny M. Bosten & Anna Franklin, *Biological origins of color categorization.* [PNAS 114 \(2017\), 5545–5550](#).

[pnas114-05545-Supplement.docx](#)

The biological basis of the commonality in color lexicons across languages has been hotly debated for decades. Prior evidence that infants categorize color could provide support for the hypothesis that color categorization systems are not purely constructed by communication and culture. Here, we investigate the relationship between infants' categorization of color and the commonality across color lexicons, and the potential biological origin of infant color categories. We systematically mapped infants' categorical recognition memory for hue onto a stimulus array used previously to document the color lexicons of 110 nonindustrialized languages. Following familiarization to a given hue, infants' response to a novel hue indicated that their recognition memory parses the hue continuum into red, yellow, green, blue, and purple categories. Infants' categorical distinctions aligned with common distinctions in color lexicons and are organized around hues that are commonly central to lexical categories across languages. The boundaries between infants' categorical distinctions also aligned, relative to the adaptation point, with the cardinal axes that describe the early stages of color representation in retinogeniculate pathways, indicating that infant color categorization may be partly organized by biological mechanisms of color vision. The findings suggest that color categorization in language and thought is partially biologically constrained and have implications for broader debate on how biology, culture, and communication interact in human cognition.

Keywords: color lexicons | infant | categorization | color perception | vision

Significance: Humans parse the continuum of color into discrete categories (e.g., “red” and “blue”), and the origin of these categories has been debated for many decades. Here, we provide evidence that infants have color categories for red, yellow, green, blue, and purple. We show that infants' categorical distinctions align

strikingly with those that are commonly made in the world's different color lexicons. We also find that infants' categorical distinctions relate to the activities of the two neural subsystems responsible for the early stages of color representation. These findings suggest that color categorization is partly organized and constrained by the biological mechanisms of color vision and not arbitrarily constructed by language.

Archäologie

JUNG 2016

Reinhard Jung, "Friede den Hütten, Krieg den Palästen!", *In the Bronze age aegaeon*. In: HARALD MELLER, HANS PETER HAHN, REINHARD JUNG & ROBERTO RISCH (Hrsg.), *Arm und Reich – Zur Ressourcenverteilung in prähistorischen Gesellschaften*, 8. Mitteldeutscher Archäologentag vom 22. bis 24. Oktober 2015 in Halle (Saale). (Halle 2016), 553–577.

The demise and possible overthrow of the Mycenaean state and the ensuing historical developments are the subject of this paper. After a short summary of previous explanations, the discussion of the archaeological evidence starts with the burnt destructions of the latest Mycenaean palaces. With a special focus on the citadel of Tiryns, a new explanation for these destructions is proposed: arson as a result of class struggle and war. In order to find out which social groups may have been the main actors in these conflicts, the role of the Mycenaean qa-si-re-we and their Iron Age successors, the βασιληες is explored. The next step is an analysis of the contradictions inherent in the Mycenaean economic system. Building on that analysis, the hypothesis is presented that a kind of dual power régime may have preceded the fall of the palace state and indeed contributed to it. A discussion of the new ruling class and its role in the Mycenaean post-palatial period concludes the article.

Der Niedergang und mögliche Umsturz des mykenischen Staates sowie die anschließenden historischen Entwicklungen bilden das Thema dieses Beitrags. Nach einer kurzen Zusammenfassung früherer Erklärungen werden zunächst die archäologischen Befunde besprochen, die mit der Brandzerstörung der spätesten mykenischen Paläste in Verbindung stehen. Mit einem Schwerpunkt auf der Burg von Tiryns wird ein neuer Erklärungsversuch vorgestellt: Brandstiftung als Ergebnis von Klassenkampf und Krieg. Um herauszufinden, welche sozialen Gruppen die Hauptakteure in diesen Konflikten gewesen sein können, wird näher auf die Rolle der mykenischen qa-si-re-we und ihrer eisenzeitlichen Nachfolger, der βασιληες eingegangen. Als nächster Schritt folgt eine Analyse der dem mykenischen Wirtschaftssystem inhärenten Widersprüche. Darauf aufbauend wird die Hypothese vorgebracht, dass eine Art Doppelherrschaft dem Fall des Palaststaates vorangegangen sein und zu seinem Untergang beigetragen haben mag. Eine Diskussion der neuen herrschenden Klasse und ihrer Rolle in der mykenischen Nachpalastzeit beschließt den Artikel.

Bibel

FANTALKIN 2017

Alexander Fantalkin & Israel Finkelstein, *The Date of Abandonment and Territorial Affiliation of Khirbet Qeiyafa, An Update*. [Tel Aviv: Archaeology 44 \(2017\), 53–60.](#)

The article deals with the two most important—and disputed—issues related to the site of Khirbet Qeiyafa: its date, and more specifically, the date of its abandonment, and its territorial-political affiliation. Regarding the latter, we show that many features in the material culture of the site have northern associations.

Keywords: Khirbet Qeiyafa | Radiocarbon dating

Biologie

WAN 2017

Peng Wan et al., *Hybridizing transgenic Bt cotton with non-Bt cotton counters resistance in pink bollworm*. [PNAS 114 \(2017\), 5413–5418](#).

Peng Wan, Dong Xu, Shengbo Cong, Yuying Jiang, Yunxin Huang, Jintao Wang, Huaiheng Wu, Ling Wang, Kongming Wu, Yves Carrière, Andrea Mathias, Xianchun Li & Bruce E. Tabashnik

Extensive cultivation of crops genetically engineered to produce insecticidal proteins from the bacterium *Bacillus thuringiensis* (Bt) has suppressed some major pests, reduced insecticide sprays, enhanced pest control by natural enemies, and increased grower profits. However, these benefits are being eroded by evolution of resistance in pests. We report a strategy for combating resistance by crossing transgenic Bt plants with conventional non-Bt plants and then crossing the resulting first-generation (F1) hybrid progeny and sowing the second-generation (F2) seeds. This strategy yields a random mixture within fields of three-quarters of plants that produce Bt toxin and one-quarter that does not. We hypothesized that the non-Bt plants in this mixture promote survival of susceptible insects, thereby delaying evolution of resistance. To test this hypothesis, we compared predictions from computer modeling with data monitoring pink bollworm (*Pectinophora gossypiella*) resistance to Bt toxin Cry1Ac produced by transgenic cotton in an 11-y study at 17 field sites in six provinces of China. The frequency of resistant individuals in the field increased before this strategy was widely deployed and then declined after its widespread adoption boosted the percentage of non-Bt cotton plants in the region. The correspondence between the predicted and observed outcomes implies that this strategy countered evolution of resistance. Despite the increased percentage of non-Bt cotton, suppression of pink bollworm was sustained. Unlike other resistance management tactics that require regulatory intervention, growers adopted this strategy voluntarily, apparently because of advantages that may include better performance as well as lower costs for seeds and insecticides.

Keywords: sustainability | evolution | resistance management | genetically modified | refuge

Significance: Crops genetically engineered to produce insecticidal proteins from the bacterium *Bacillus thuringiensis* (Bt) kill some major pests and reduce use of insecticide sprays. However, evolution of pest resistance to Bt proteins decreases these benefits. We report a strategy for combating resistance by crossing transgenic Bt plants with conventional non-Bt plants and then sowing the second-generation seeds. This strategy yields a random mixture within fields of three-quarters of plants that produce Bt protein and one-quarter that does not. An 11-y field study in China shows this strategy countered resistance to Bt cotton of pink bollworm, one of the world's most devastating pests. This outcome illustrates that non-Bt plants in a seed mixture can boost survival of susceptible insects and delay resistance.

Klima

WENINGER 2009

Bernhard Weninger, Omry Barzilai, Zeidan Kafai, Bernhard Lucke, Rupert Bäumler, Hans Georg K. Gebel & Gary O. Rollefson, *Rubble Slides and Rapid Climate Change*. *Neo-Lithics* **2009**, i, 1–51.

Thanks to the highly precise (U/Th) dating for the Soreq d13C record, in comparison with the archaeological observations (Rollefson 2009) and inally also the 14C data for the Yarmoukian period (Table 1), such an intriguing ‘deluge’ explanation would readily support our hypothesis that the Yarmoukian rubble slides were caused by torrential episodic rainfall during the otherwise arid 8.6–8.0 ka cal. B.P. RCC period. We therefore confidently conclude that the Yarmoukian rubble slides in the southern Jordan valley, although maybe in combination with widespread human-induced environmental degradation, had essentially natural causes.

Kultur

CHANG 2017

Andrew Chang, Steven R. Livingstone, Dan J. Bosnyak & Laurel J. Trainor, *Body sway reflects leadership in joint music performance*. *PNAS* **114** (2017), E4134–E4141.

The cultural and technological achievements of the human species depend on complex social interactions. Nonverbal interpersonal coordination, or joint action, is a crucial element of social interaction, but the dynamics of nonverbal information flow among people are not well understood. We used joint music making in string quartets, a complex, naturalistic nonverbal behavior, as a model system. Using motion capture, we recorded body sway simultaneously in four musicians, which reflected real-time interpersonal information sharing. We used Granger causality to analyze predictive relationships among the motion time series of the players to determine the magnitude and direction of information flow among the players. We experimentally manipulated which musician was the leader (followers were not informed who was leading) and whether they could see each other, to investigate how these variables affect information flow. We found that assigned leaders exerted significantly greater influence on others and were less influenced by others compared with followers. This effect was present, whether or not they could see each other, but was enhanced with visual information, indicating that visual as well as auditory information is used in musical coordination. Importantly, performers’ ratings of the “goodness” of their performances were positively correlated with the overall degree of body sway coupling, indicating that communication through body sway reflects perceived performance success. These results confirm that information sharing in a nonverbal joint action task occurs through both auditory and visual cues and that the dynamics of information flow are affected by changing group relationships.

Keywords: leadership | joint action | music performance | body sway | Granger causality

Significance: People perform tasks in coordination with others in daily life, but the mechanisms are not well understood. Using Granger causality models to examine string quartet dynamics, we demonstrated that musicians assigned as leaders affect other performers more than musicians assigned as followers. These effects were present during performance, when musicians could only hear each other, but were magnified when they could also see each other, indicating that both auditory and visual cues affect nonverbal social interactions. Furthermore, the overall

degree of coupling between musicians was positively correlated with ratings of performance success. Thus, we have developed a method for measuring nonverbal interaction in complex situations and have shown that interaction dynamics are affected by social relations and perceptual cues.

Methoden

BOGHOSSIAN 2017

Peter Boghossian & James Lindsay, *The Conceptual Penis as a Social Construct, A Sokal-Style Hoax on Gender Studies*. *Skeptic* 2017, May 19. <http://www.skeptic.com/reading_room/conceptual-penis-social-construct-sokal-style-hoax-on-gender-studies/> (2017-05-21).

If you're having trouble understanding what any of that means, there are two important points to consider. First, we don't understand it either. Nobody does. This problem should have rendered it unpublishable in all peer-reviewed, academic journals. Second, these examples are remarkably lucid compared to much of the rest of the paper. No one knows what any of this means because it is complete nonsense. Anyone claiming to is pretending. Full stop.

First, Cogent Social Sciences operates with the legitimizing imprimatur of Taylor and Francis, with which it is clearly closely partnered. Second, it's held out as a high-quality open-access journal by the Directory of Open Access Journals (DOAJ), which is intended to be a reliable list of such journals. In fact, it carries several more affiliations with similar credentialing organizations.

These facts cast considerable doubt on the facile defense that Cogent Social Sciences is a sham journal that accepted "The Conceptual Penis as a Social Construct" simply to make money. As a result, wherever Cogent Social Sciences belongs on the spectrum just noted, there are significant reasons to believe that much of the problem lies within the very concept of any journal being a "rigorous academic journal in gender studies."

Our hoax was similar [to Sokal's], of course, but it aimed to expose a more troubling bias. The most potent among the human susceptibilities to corruption by fashionable nonsense is the temptation to uncritically endorse morally fashionable nonsense. That is, we assumed we could publish outright nonsense provided it looked the part and portrayed a moralizing attitude that comported with the editors' moral convictions.