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Literatur

Aktuell

Gracely 1985

Richard H. Gracely, Ronald Dubner, William R. Deeter & Patricia J. Wolskee, *Clinicians' expectations influence placebo analgesia*. Lancet **325** (1985), 43.

The patients were told that they might receive a placebo (saline), a narcotic analgesic (fentanyl 1.1 µg/kg), or a narcotic antagonist (naloxone 10 mg) and that these medications might decrease their pain, increase it, or have no effect. The clinicians administering the drugs and questionnaire knew that group PN would receive only placebo (n=8) or naloxone (n= 5) and not fentanyl and that group PNF would receive fentanyl (n = 18) as well as placebo (n= 18) or naloxone (n= 11). All drugs were administered double blind.

Jensen 2012

Karin B. Jensen et al., *Nonconscious activation of placebo and nocebo pain responses*. PNAS **109** (2012), 15959–15964.

Karin B. Jensen, Ted J. Kaptchuk, Irving Kirsch, Jacqueline Raicek, Kara M. Lindstrom, Chantal Berna, Randy L. Gollub, Martin Ingvar and Jian Kong

The dominant theories of human placebo effects rely on a notion that consciously perceptible cues, such as verbal information or distinct stimuli in classical conditioning, provide signals that activate placebo effects. However, growing evidence suggest that behavior can be triggered by stimuli presented outside of conscious awareness. Here, we performed two experiments in which the responses to thermal pain stimuli were assessed. The first experiment assessed whether a conditioning paradigm, using clearly visible cues for high and low pain, could induce placebo and nocebo responses. The second experiment, in a separate group of subjects, assessed whether conditioned placebo and nocebo responses could be triggered in response to nonconscious (masked) exposures to the same cues. A total of 40 healthy volunteers (24 female,mean age 23 y)were investigated in a laboratory setting. Participants rated each pain stimulus on a numeric response scale, ranging from0= no pain to 100=worst imaginable pain. Significant placebo and nocebo effects were found in both experiment 1 (using clearly visible stimuli) and experiment 2 (using nonconscious stimuli), indicating that the mechanisms responsible for placebo and nocebo effects can operate without conscious awareness of the triggering cues. This is a unique experimental verification of the influence of nonconscious conditioned stimuli on placebo/nocebo effects and the results challenge the exclusive role of awareness and conscious cognitions in placebo responses.

analgesia | hyperalgesia | consciousness

Jockers 2012

Matthew L. Jockers, Matthew Sag & Jason Schultz, *Don't let copyright block data mining*. nature **490** (2012), 29–30.

Matthew L. Jockers, Matthew Sag and Jason Schultz explain why humanities scholars have pitched in to the Authors Guild v. Google lawsuit.

Unless a book's copyright protection has expired, or the copyright owner has agreed to make the content freely available, the search engine displays just three-line 'snippets' from each book – enough to tell the searcher that the listed item is indeed what they are

looking for. With the right tools, however, data from the full text can, in principle, be mined and used in large-scale analyses.
Copyright law has long recognized the distinction between protecting an author's original expression and the public's right to access the facts and ideas contained within that expression. We believe that copyright law is not (and should not be) an obstacle to statistical and computational analysis of the millions of books owned by university libraries. We are not talking about republishing them or even quoting from them. We simply want to extract information from and about them to sift out trends and patterns.
It is time for the US courts to recognize explicitly that, in the digital age, copying books for non-expressive purposes is not infringement. Courts have already applied this logic in analogous cases: Google, Microsoft and others copy web pages to feed into their Internet search engines; the online service Turnitin copies exam papers and other sources so that plagiarism can be detected. These practices have been challenged and found to be legal under copyright law.

Montgomery 1997

Guy H. Montgomery & Irving Kirsch, *Classical conditioning and the placebo effect*. Pain **72** (1997), 107–113.

Stimulus substitution models posit that placebo responses are due to pairings of conditional and unconditional stimuli. Expectancy theory maintains that conditioning trials produce placebo response expectancies, rather than placebo responses, and that the expectancies elicit the responses. We tested these opposing models by providing some participants with information intended to impede the formation of placebo expectancies during conditioning trials and by assessing placebo expectancies. Although conditioning trials significantly enhanced placebo responding, this effect was eliminated by adding expectancies to the regression equation, indicating that the effect of pairing trials on placebo response was mediated completely by expectancy. Verbal information reversed the effect of conditioning trials on both placebo expectancies and placebo responses, and the magnitude of the placebo effect increased significantly over 10 extinction trials. These data disconfirm a stimulus substitution explanation and provide strong support for an expectancy interpretation of the conditioned placebo enhancement produced by these methods.

Keywords: Stimulus substitution; Placebo responses; Expectancies; Conditioning

Mueller 2012

Jutta L. Mueller, Angela D. Friederici & Claudia Männel, *Auditory perception at the root of language learning*. PNAS **109** (2012), 15953–15958.

pnas109-15953-Supplement.wav

Learning a spoken language presupposes efficient auditory functions. In the present event-related potential study, we tested whether and how basic auditory processes are related to online learning of a linguistic rule in infants and adults. Participants listened to frequent standard stimuli, which were interspersed with infrequent pitch deviants and rule deviants, violating a nonadjacent dependency between two syllables. Only infants who showed the more mature mismatch response for the pitch deviants (i.e., a negativity) showed a mismatch response to the rule deviants. Concordantly, the small group of adults who showed evidence of rule learning showed larger mismatch effects for pitch processing. We conclude that the ability to extract linguistic rules develops in early infancy and is tightly linked to functional aspects of basic auditory mechanisms.

language acquisition | AXB rules | pitch perception | mismatch negativity

Myrskylä 2012

Mikko Myrskylä & Andrew Fenelon, *Maternal Age and Offspring Adult*

Health: Evidence from the health and retirement study. Demography (2012), preprint, 1–27. DOI:10.1007/s13524-012-0132-x.
Demography2012-preprint-Supplement.pdf
Advanced maternal age is associated with negative offspring health outcomes. This interpretation often relies on physiological processes related to aging, such as decreasing oocyte quality. We use a large, population-based sample of American adults to analyze how selection and lifespan overlap between generations influence the maternal age-offspring adult health association. We find that offspring born to mothers younger than age 25 or older than 35 have worse outcomes with respect to mortality, self-rated health, height, obesity, and the number of diagnosed conditions than those born to mothers aged 25-34. Controls for maternal education and age at which the child lost the mother eliminate the effect for advanced maternal age up to age 45. The association between young maternal age and negative offspring outcomes is robust to these controls. Our findings suggest that the advanced maternal age-offspring adult health association reflects selection and factors related to lifespan overlap. These may include shared frailty or parental investment but are not directly related to the physiological health of the mother during conception, fetal development, or birth. The results for young maternal age add to the evidence suggesting that children born to young mothers might be better off if the parents waited a few years.
Keywords Maternal age | Maternal education | Reproductive aging | Orphanhood | Health

Quint 2012

Marcel Quint, Hajk-Georg Drost, Alexander Gabel, Kristian Karsten Ullrich, Markus Bönn & Ivo Grosse, *A transcriptomic hourglass in plant embryogenesis.* nature **490** (2012), 98–101.
n490-0098-Supplement1.pdf, n490-0098-Supplement2.xls, n490-0098-Supplement3.xls, n490-0098-Supplement4.xls
Animal and plant development starts with a constituting phase called embryogenesis, which evolved independently in both lineages1. Comparative anatomy of vertebrate development-based on the Meckel-Serre's law2 and von Baer's laws of embryology3 from the early nineteenth century-shows that embryos from various taxa appear different in early stages, converge to a similar form during mid-embryogenesis, and again diverge in later stages. This morphogenetic series is known as the embryonic 'hourglass'4,5, and its bottleneck of high conservation in mid-embryogenesis is referred to as the phylotypic stage6. Recent analyses in zebrafish and Drosophila embryos provided convincing molecular support for the hourglass model, because during the phylotypic stage the transcriptome was dominated by ancient genes7 and global gene expression profiles were reported to be most conserved8. Although extensively explored in animals, an embryonic hourglass has not been reported in plants, which represent the second major kingdom in the tree of life that evolved embryogenesis. Here we provide phylotranscriptomic evidence for a molecular embryonic hourglass in Arabidopsis thaliana, using two complementary approaches . This is particularly significant because the possible absence of an hourglass based on morphological features in plants suggests that morphological and molecular patterns might be uncoupled. Together with the reported developmental hourglass patterns in animals, these findings indicate convergent evolution of the molecular hourglass and a conserved logic of embryogenesis across kingdoms.

Saslis-Lagoudakis 2012

C. Haris Saslis-Lagoudakis et al., *Phylogenies reveal predictive power of traditional medicine in bioprospecting.* PNAS **109** (2012), 15835–15840.
C. Haris Saslis-Lagoudakis, Vincent Savolainen, Elizabeth M. Williamson, Félix Forest, Steven J. Wagstaff, Sushim R. Baral, Mark F. Watson, Colin A. Pendry and Julie A. Hawkins

There is controversy about whether traditional medicine can guide drug discovery, and investment in bioprospecting informed by ethnobotanical data has fluctuated. One view is that traditionally used medicinal plants are not necessarily efficacious and there are no robust methods for distinguishing those which are most likely to be bioactive when selecting species for further testing. Here, we reconstruct a genus-level molecular phylogenetic tree representing the 20,000 species found in the floras of three disparate biodiversity hotspots: Nepal, New Zealand, and the Cape of South Africa. Borrowing phylogenetic methods from community ecology, we reveal significant clustering of the 1,500 traditionally used species, and provide a direct measure of the relatedness of the three medicinal floras. We demonstrate shared phylogenetic patterns across the floras: related plants from these regions are used to treat medical conditions in the same therapeutic areas. This finding strongly indicates independent discovery of plant efficacy, an interpretation corroborated by the presence of a significantly greater proportion of known bioactive species in these plant groups than in random samples. We conclude that phylogenetic cross-cultural comparisons can focus screening efforts on a subset of traditionally used plants that are richer in bioactive compounds, and could revitalize the use of traditional knowledge in bioprospecting.
ethnobotany | ethnopharmacology | herbal medicine | phylogeny | systematics

Valet 2012

Jean-Pierre Valet, Alexandre Fournier, Vincent Courtillot & Emilio Herrero-Bervera, *Dynamical similarity of geomagnetic field reversals*. nature **490** (2012), 89–93.

No consensus has been reached so far on the properties of the geomagnetic field during reversals or on the main features that might reveal its dynamics. A main characteristic of the reversing field is a large decrease in the axial dipole and the dominant role of non-dipole components1-3. Other features strongly depend on whether they are derived from sedimentary or volcanic records. Only thermal remanent magnetization of lava flows can capture faithful records of a rapidly varying non-dipole field, but, because of episodic volcanic activity, sequences of overlying flows yield incomplete records. Here we show that the ten most detailed volcanic records of reversals can be matched in a very satisfactory way, under the assumption of acommonduration, revealingcommon dynamical characteristics. We infer that the reversal process has remained unchanged, with the same time constants and durations, at least since 180 million years ago. We propose that the reversing field is characterized by three successive phases: a precursory event, a 180° polarity switch and a rebound. The first and third phases reflect the emergence of the non-dipole field with large-amplitude secular variation. They are rarely both recorded at the same site owing to the rapidly changing field geometry and last for less than 2,500 years. The actual transit between the two polarities does not last longer than 1,000 years and might therefore result frommechanisms other than those governing normal secular variation. Such changes are too brief to be accurately recorded by most sediments.

Anthropologie

Conrad 2011

Donald F. Conrad et al., *Variation in genome-wide mutation rates within and between human families*. nature genetics **43** (2011), 712–714.

NatGen43-0712-Supplement1.pdf, NatGen43-0712-Supplement2.xls

Donald F. Conrad, Jonathan E. M. Keebler, Mark A. DePristo, Sarah J. Lindsay, Yujun Zhang, Ferran Casals, Youssef Idaghdour, Chris L. Hartl, Carlos Torroja, Kiran V. Garimella, Martine Zilversmit, Reed Cartwright, Guy A. Rouleau, Mark Daly, Eric A. Stone, Matthew E. Hurles & Philip Awadalla for the 1000 Genomes project

J.B.S. Haldane proposed in 1947 that the male germline may be more mutagenic than the female germline1. Diverse studies have supported Haldane's contention of a higher average mutation rate in the male germline in a variety of mammals, including humans2,3. Here we present, to our knowledge, the first direct comparative analysis of male and female germline mutation rates from the complete genome sequences of two parent-offspring trios. Through extensive validation, we identified 49 and 35 germline de novo mutations (DNMs) in two trio offspring, as well as 1,586 non-germline DNMs arising either somatically or in the cell lines from which the DNA was derived. Most strikingly, in one family, we observed that 92 % of germline DNMs were from the paternal germline, whereas, in contrast, in the other family, 64 % of DNMs were from the maternal germline. These observations suggest considerable variation in mutation rates within and between families.

Domínguez-Rodrigo 2012

Manuel Domínguez-Rodrigo et al., *Earliest Porotic Hyperostosis on a 1.5-Million-Year-Old Hominin, Olduvai Gorge, Tanzania*. PLoS ONE **7** (2012), e46414. DOI:10.1371/journal.pone.0046414.

Manuel Domínguez-Rodrigo, Travis Rayne Pickering, Fernando Diez-Martín, Audax Mabulla, Charles Musiba, Gonzalo Trancho, Enrique Baquedano, Henry T. Bunn, Doris Barboni, Manuel Santonja, David Uribelarrea, Gail M. Ashley, María del Sol Martínez-IJvila, Rebeca Barba, Agness Gidna, José Yravedra & Carmen Arriaza

Meat-eating was an important factor affecting early hominin brain expansion, social organization and geographic movement. Stone tool butchery marks on ungulate fossils in several African archaeological assemblages demonstrate a significant level of carnivory by Pleistocene hominins, but the discovery at Olduvai Gorge of a child's pathological cranial fragments indicates that some hominins probably experienced scarcity of animal foods during various stages of their life histories. The child's parietal fragments, excavated from 1.5-million-year-old sediments, show porotic hyperostosis, a pathology associated with anemia. Nutritional deficiencies, including anemia, are most common at weaning, when children lose passive immunity received through their mothers' milk. Our results suggest, alternatively, that (1) the developmentally disruptive potential of weaning reached far beyond sedentary Holocene food-producing societies and into the early Pleistocene, or that (2) a hominin mother's meat-deficient diet negatively altered the nutritional content of her breast milk to the extent that her nursing child ultimately died from malnourishment. Either way, this discovery highlights that by at least 1.5 million years ago early human physiology was already adapted to a diet that included the regular consumption of meat.

Hawks 2012

John Hawks, *Longer time scale for human evolution*. PNAS **109** (2012), 15531–15532.

A mere 2 y ago, genomic evidence from Neanderthals suggested that they had originated within the past 270,000 to 440,000 y (12). This troublesome date excludes specimens that have appeared to be strong candidates for Neanderthal ancestors, including the large sample of skeletal remains from Sima de los Huesos, Atapuerca, Spain, possibly more than 530,000 y old. Now, the maximum value for Neanderthal-human common ancestry from 2010 seems instead closer to a minimum date. Langergraber et al. (6) suggest a range from 420,000 to 780,000 y, bringing much of the Middle Pleistocene record of Europe into the scope of Neanderthal ancestry.

Langergraber 2012

Kevin E. Langergraber et al., *Generation times in wild chimpanzees and gorillas suggest earlier divergence times in great ape and human evolution*. PNAS **109** (2012), 15716–15721.

Kevin E. Langergraber, Kay Prüfer, Carolyn Rowney, Christophe Boesch, Catherine Crockford, Katie Fawcett, Eiji Inoue, Miho Inoue-Muruyama, John C. Mitani, Martin N. Muller, Martha M. Robbins, Grit Schubert, Tara S. Stoinski, Bence Viola, David Watts, Roman M. Wittig, Richard W. Wrangham, Klaus Zuberbühler, Svante Pääbo and Linda Vigilant
Fossils and molecular data are two independent sources of information that should in principle provide consistent inferences of when evolutionary lineages diverged. Here we use an alternative approach to genetic inference of species split times in recent human and ape evolution that is independent of the fossil record. We first use genetic parentage information on a large number of wild chimpanzees and mountain gorillas to directly infer their average generation times. We then compare these generation time estimates with those of humans and apply recent estimates of the human mutation rate per generation to derive estimates of split times of great apes and humans that are independent of fossil calibration. We date the human-chimpanzee split to at least 7-8 million years and the population split between Neanderthals and modern humans to 400,000-800,000 y ago. This suggests that molecular divergence dates may not be in conflict with the attribution of 6- to 7-million-y-old fossils to the human lineage and 400,000-y-old fossils to the Neanderthal lineage.
hominin | molecular dating | primate | speciation

Sankararaman 2012

Sriram Sankararaman, Nick Patterson, Heng Li, Svante Pääbo & David Reich, *The Date of Interbreeding between Neandertals and Modern Humans.* PLoS Genetics **8** (2012), x, e1002947. DOI:10.1371/journal.pgen.1002947.
PLoSGen08.10-e1002947-Supplement.pdf
Comparisons of DNA sequences between Neandertals and present-day humans have shown that Neandertals share more genetic variants with non-Africans than with Africans. This could be due to interbreeding between Neandertals and modern humans when the two groups met subsequent to the emergence of modern humans outside Africa. However, it could also be due to population structure that antedates the origin of Neandertal ancestors in Africa. We measure the extent of linkage disequilibrium (LD) in the genomes of present-day Europeans and find that the last gene flow from Neandertals (or their relatives) into Europeans likely occurred 37,000-86,000 years before the present (BP), and most likely 47,000-65,000 years ago. This supports the recent interbreeding hypothesis and suggests that interbreeding may have occurred when modern humans carrying Upper Paleolithic technologies encountered Neandertals as they expanded out of Africa.

Scally 2012

Aylwyn Scally & Richard Durbin, *Revising the human mutation rate: Implications for understanding human evolution.* Nature Reviews Genetics **13** (2012), 745–753.
NatRevGen13-745-Supplement.pdf
It is now possible to make direct measurements of the mutation rate in modern humans using next-generation sequencing. These measurements reveal a value that is approximately half of that previously derived from fossil calibration, and this has implications for our understanding of demographic events in human evolution and other aspects of population genetics. Here, we discuss the implications of a lower-than-expected mutation rate in relation to the timescale of human evolution.

Bibel

Miller 1987

Patrick D. Miller, Jr., Paul D. Hanson & S. Dean Mc-

BRIDE (Hrsg.), *Ancient Israelite Religion, Essays in Honor of Frank Moore Cross*. (Minneapolis 2009).

Energie

GALVIN 2012

Ray Galvin & Minna Sunikka-Blank, *Including fuel price elasticity of demand in net present value and payback time calculations of thermal retrofits: Case study of German dwellings*. Energy and Buildings **50** (2012), 219–228.

In the domestic heating sector a number of different mathematical models are used to evaluate the economic viability of thermal retrofit measures. Currently, however, none of these models incorporate the effect of fuel price elasticity of demand. This paper offers a method for incorporating a factor for fuel price elasticity into models for assessing the net present value and payback time of thermal retrofits of existing homes. A set of working equations is developed, and empirically tested in a case study, a housing estate retrofit project in Ludwigshafen, Germany. The value used in these equations for year-onyear price elasticity, -0.476, is derived from further empirical studies. The inclusion of price elasticity is found to lower the net present value by 14-24 % and lengthen the payback time by 5 years in some cases, and hundreds of years in others. It also shows CO2 saved over the technical lifetime of the retrofit measures to be 15-24 % lower than anticipated. These findings have implications for government policy and investment decisions of businesses, private households and housing providers.

Keywords: Price elasticity | Energy saving | Thermal refits | Net present value | Payback time

JACOBSON 2012

Mark Z. Jacobson & Cristina L. Archer, *Saturation wind power potential and its implications for wind energy*. PNAS **109** (2012), 15679–15684.

Wind turbines convert kinetic to electrical energy, which returns to the atmosphere as heat to regenerate some potential and kinetic energy. As the number of wind turbines increases over large geographic regions, power extraction first increases linearly, but then converges to a saturation potential not identified previously from physical principles or turbine properties. These saturation potentials are >250 terawatts (TW) at 100 m globally, approximately 80 TW at 100 m over land plus coastal ocean outside Antarctica, and approximately 380 TW at 10 km in the jet streams. Thus, there is no fundamental barrier to obtaining half (approximately 5.75 TW) or several times the world's all-purpose power from wind in a 2030 clean-energy economy.

atmospheric modeling | climate feedbacks | renewable energy | water vapor | clean energy economy

SUNIKKA-BLANK 2012

Minna Sunikka-Blank & Ray Galvin, *Introducing the prebound effect: The gap between performance and actual energy consumption*. Building Research & Information **40** (2012), 260–273.

German regulations for the thermal renovation of existing homes demand high thermal standards, which the government claims are technically and economically feasible. This paper examines existing data on 3400 German homes; their calculated energy performance ratings (EPR) are then plotted against the actual measured consumption. The results indicate that occupants consume, on average, 30 % less heating energy than the calculated rating. This phenomenon is identified as the 'prebound' effect and increases with the calculated rating. The opposite phenomenon, the rebound effect, tends to occur for

low-energy dwellings, where occupants consume more than the rating. A similar phenomenon has been recognized in recent Dutch, Belgian, French and UK studies, suggesting policy implications in two directions. Firstly, using a dwelling's energy rating to predict fuel and CO2 savings through retrofits tends to overestimate savings, underestimate the payback time and possibly discourage cost-effective, incremental improvements. Secondly, the potential fuel and CO2 savings through non-technical measures such as occupant behaviour may well be far larger than is generally assumed in policies so policy-makers need a better understanding of what drives or inhibits occupants' decisions.
Keywords: building performance, thermal retrofits, climate policy, energy rating, energy policy, energy use behaviour

Klima

Sapart 2012

C. J. Sapart et al., *Natural and anthropogenic variations in methane sources during the past two millennia.* nature **490** (2012), 85–88.
n490-0085-Supplement1.pdf, n490-0089-Supplement1.pdf
C. J. Sapart, G. Monteil, M. Prokopiou, R. S. W. van de Wal, J. O. Kaplan, P. Sperlich, K. M. Krumhardt, C. van der Veen, S. Houweling, M. C. Krol, T. Blunier, T. Sowers, P. Martinerie, E.Witrant, D. Dahl-Jensen & T. Röckmann
Methane is an important greenhouse gas that is emitted from multiple natural and anthropogenic sources. Atmospheric methane concentrations have variedon a number of timescales in the past, but what has caused these variations is not always well understood1-8. The different sources and sinks of methane have specific isotopic signatures, and the isotopic composition of methane can therefore help to identify the environmental drivers of variations in atmospheric methane concentrations9. Here we present high-resolution carbon isotope data (d13C content) for methane from two ice cores from Greenland for the past two millennia. We find that the d13C content underwent pronounced centennial-scale variations between 100 BC and AD 1600. With the help of two-boxmodel calculations, we show that the centennial-scale variations in isotope ratios can be attributed to changes in pyrogenic and biogenic sources. We find correlations between these source changes and both natural climate variability-such as theMedieval ClimateAnomaly and the Little Ice Age-and changes in human population and land use, such as the decline of the Roman empire and the Han dynasty, and the population expansion during the medieval period.

Methoden

Domínguez-Rodrigo 2009

M. Domínguez-Rodrigo, S. de Juana, A. B. Galán & M. Rodríguez, *A new protocol to differentiate trampling marks from butchery cut marks.* Journal of Archaeological Science **36** (2009), 2643–2654.
Microscopic signatures have previously been used to emphasize the similarities of butchery and trampling marks. The experimental background applied to differentiate both types of marks has been rather limited and authors have sometimes reached conflicting conclusions. This is partly due to methodological reasons: some authors have used very high magnification to examine microscopic features, whereas others have relied on more reduced magnification. Likewise, some experiments have exposed bones to trampling for reduced periods (minutes) whereas others have used longer time periods (hours). The present study stresses that the use of a scanning electronic microscope is not practical for identifying the impact of butchery and trampling marks in complete bone assemblages.

It also emphasizes that previous studies have not addressed all the possible variables that could potentially be used to discriminate these marks, nor have they quantified the morphological patterns of each type of mark. Here we present a multivariate analysis of more than a dozen variables and show that butchery and trampling marks have very distinctive microscopic morphology. We advocate the use of a low magnification approach ($\leq 40\times$), which can enable the analysis of complete assemblages using either hand lenses or binocular lenses. We also show the morphological criteria that differentiate butchery cut marks made with simple and retouched tools. We show that whereas complete discrimination of marks is impossible due to some degree of overlap, the list of criteria derived through multivariate analyses can be confidently used to correctly differentiate butchery and trampling marks in more than 90 % of cases.
Keywords: Trampling marks | Cut marks | Butchery | Equifinality | Multivariate analysis | Simple flakes | Retouched flakes

Story or Book

Doyle 2012

Arthur Conan Doyle, *Diary of an Arctic Adventure*. nature **490** (2012), 35.
Dangerous Work: Diary of an Arctic Adventure. Arthur Conan Doyle (Eds Jon Lellenberg and Daniel Stashower). British Library Publishing 368 pp. £25 (2012)
Who knew that Arctic explorers lauded the creator of fiction's most famous sleuth for his own detective work on routes to the North Pole? Arthur Conan Doyle – author of Sherlock Holmes – published the data in the article 'The Glamour of the Arctic' after a youthful stint as ship's surgeon on a Greenland whaler. His diary of the 1880 voyage is here reproduced in facsimile, with published pieces inspired by the trip. Hair-raising incidents abound, from a sudden on-board death by peritonitis to the young medic's periodic falls into ice-strewn waters.

Tang 2012

Grace Tang, *Man's best friend, Animal instincts*. nature **490** (2012), 136.

Weinstein 2012

Lawrence Weinstein, *Guesstimation 2.0*. nature **490** (2012), 35.
Guesstimation 2.0: Solving Today's Problems on the Back of a Napkin. Lawrence Weinstein. Princeton University Press 377 pp. £13.95 (2012)
This follow-up to the popular Guesstimation offers more on the joy of mathematical estimation, and inspiration for the budding analyst. Physicist Lawrence Weinstein trawls questions from the pragmatic to the bizarre. Among them are his probings of energy, transportation and recycling such as gauging the US plastic-bag pile-up on the basis of hydrocarbon use. He also covers the senses, heavenly bodies, radiation – and the amount of urine in public swimming pools.