This afternoon, I combed through Part I, II and III of my Untitled Faction books and did keyword searches in Google with the letters nih. I created the following notes that contain the name of the publication, date the article was published, the title of the article, author(s) names, the Abstract and Web address of the page in the PubMed/MEDLINE database. There are also a few extra links in this list that are not from the PubMed/MEDLINE database. I used >>> characters as separators.

The links to Part I, II and III of Untitled Faction. Notes: (1) the title page says anonymous for Mennonites. My name was on the title pages until recently. (2) Part III is unfinished.

Part I:
http://articles.x10.mx/untitled_faction_10_31_15.pdf

Part II:
http://articles.x10.mx/untitled_faction_part_2_11_15_15.pdf

Part III:

Mary Jo


Islam Fl, Campbell RA.
Author information
Abstract
Mental health stigma in Muslim communities may be partly due to a commonly held belief among some Muslims about the supernatural causes of mental illness (i.e. jinn-possesion brought on by one's sinful life). A thematic analysis was carried out on four English translations and the Arabic text of the Qur'an to explore whether the connection between jinn-possesion and insanity exists within the Muslim holy book. No connection between spirit-possesion and madness or mental illness was found. Pagans taunted and labelled people as jinn-possessed only to ostracize and scapegoat. Linking the labelling of people as jinn-possesison to a pagan practice may be used to educate Muslims, so they can reassess their community's stigma towards the mentally ill.

>>
J Psychol. 2001 May;135(3):292-300.
Scaling satan.

Wilson KM1, Huff JL.
Author information
Abstract
The influence on social behavior of beliefs in Satan and the nature of evil has received little empirical study. Elaine Pagels (1995) in her book, The Origin of Satan, argued that Christians' intolerance toward others is due to their belief in an active Satan. In this study, more than 200 college undergraduates completed the Manitoba Prejudice Scale and the Attitudes Toward Homosexuals Scale (B. Altemeyer, 1988), as well as the Belief in an Active Satan Scale, developed by the authors. The Belief in an Active Satan Scale demonstrated good internal consistency and temporal stability. Correlational analyses revealed that for the female
participants, belief in an active Satan was directly related to intolerance toward lesbians and gay men and intolerance toward ethnic minorities. For the male participants, belief in an active Satan was directly related to intolerance toward lesbians and gay men but was not significantly related to intolerance toward ethnic minorities. Results of this research showed that it is possible to meaningfully measure belief in an active Satan and that such beliefs may encourage intolerance toward others.

https://www.ncbi.nlm.nih.gov/pubmed/11577971

'If You Choose to Abort, You Have Acted As an Instrument of Satan': Zimbabwean Health Service Providers' Negative Constructions of Women Presenting for Post Abortion Care.

Chiweshe M1, Macleod C2.

Author information

Abstract

PURPOSE: Health service providers play a crucial role in providing post abortion care in countries where abortion legislation is restrictive and abortion is stigmatised. Research in countries where these factors apply has shown that health service providers can be barriers to women accessing post abortion services. Much of this research draws from attitude theory. In this paper, we utilise positioning theory to show how the ways in which Zimbabwean health service providers' position women and themselves are rooted in cultural and social power relations. In light of recent efforts by the Zimbabwean Ministry of Health and foreign organisations to improve post abortion care, we explore the implications that these positionings have for post abortion care.

METHOD: As part of a larger study on abortion decision-making, the data featured in this article were collected using in-depth semi-structured interviews with six health service providers working in different facilities in Harare, Zimbabwe. Discursive and positioning thematic analysis was used to analyse the data.

RESULTS: Our analysis points to women who have abortions being positioned in negative terms, as transgressors of acceptable norms; irresponsible and manipulative; and ignorant. The health service providers drew from cultural, religious, gender and trauma discourses that portray abortion as evil and socially unacceptable. Reflexive positions taken up by the health service providers include positions as being experts, helpers and protectors of culture/religion, sympathisers and professional positions as health care providers.

CONCLUSION: The continued strengthening of post abortion services should be conducted in conjunction with dialogical interventions that challenge health service providers to reflect on the power relations within which women who terminate pregnancies are located, that contest their negative positionings of these women and that present alternative narratives and subject positionings for both the women who have abortions and the health service providers.


Falcon visual acuity.

Fox R, Lehmkuhle SW, Westendorf DH.

Abstract

Grating acuity, the ability to resolve high-contrast square-wave gratings, was measured in a falcon and in humans under comparable conditions. This behavioral
test of falcon acuity supports the common belief that Falconiformes have superb vision-the falcon's threshold was 160 cycles per degree, while the human thresholds were 60 cycles per degree. Falcon acuity, however, was much more dependent on luminance, declining sharply with decreases in luminance.


Charles Manson and the family: the application of sociological theories to multiple murder.

Atchison AJ1, Heide KM.

Author information

Abstract

In 1969, Charles Manson and his "Family" of followers killed innocent people in an attempt to start a counterrevolution in the United States. Despite the notoriety of this cult leader and his followers over the past 40 years, the sociological literature on crime has not addressed the dynamics behind these seemingly senseless killings. To our knowledge, no serious attempt to apply criminological theory to these murderers and their actions has been made. In this article, labeling theory, general strain theory, and social learning theory are used to explain these murders using a case study approach. The article begins with a description of the goal of Manson's actions. The murders that took place and their victims are briefly summarized, and several criminological theories are introduced. Charles Manson's life is then chronicled, and the theories' connections to events in his life are illustrated. The article also highlights the lives of three followers and how the theories relate to particular events in their past history. The article concludes with a discussion of the limitations of this study and directions for future research.


Paleoparasitology: the origin of human parasites.

Araújo A1, Reinhard K, Ferreira LF, Pucu E, Chieffi PP.

Author information

Abstract

Parasitism is composed by three subsystems: the parasite, the host, and the environment. There are no organisms that cannot be parasitized. The relationship between a parasite and its host species most of the time do not result in damage or disease to the host. However, in a parasitic disease the presence of a given parasite is always necessary, at least in a given moment of the infection. Some parasite species that infect humans were inherited from pre-hominids, and were shared with other phylogenetically close host species, but other parasite species were acquired from the environment as humans evolved. Human migration spread inherited parasites throughout the globe. To recover and trace the origin and evolution of infectious diseases, paleoparasitology was created. Paleoparasitology is the study of parasites in ancient material, which provided new information on the evolution, paleoepidemiology, ecology and phylogenetics of infectious diseases.


Paleoparasitology: perspectives with new techniques.

Araújo A1, Reinhard K, Bastos OM, Costa LC, Pirmez C, Iñiguez A, Vicente AC, Morel
Paleoparasitology is the study of parasites found in archaeological material. The development of this field of research began with histological identification of helminth eggs in mummy tissues, analysis of coprolites, and recently through molecular biology. An approach to the history of paleoparasitology is reviewed in this paper, with special reference to the studies of ancient DNA identified in archaeological material.


Preface for Special Section on Paleoparasitology

Jong-Yil Chai,1,2,* Min Seo,3 and Dong Hoon Shin4

In any of specific regions or countries, the patterns of parasite infections are not constant throughout the centuries [1]. Epoch-making events, such as the emergence of agriculture, the beginning of sedentary life, modernization, industrialization, urbanization, and even the development of anti-helminthics evidently made serious changes in the history of parasitism. However, our knowledge about how it could evolve for a long time was not sufficient because very few research techniques were available for the study of parasitism of the past.

In this regard, the interdisciplinary collaboration of parasitology and archeology became important at any moment. The researchers subjected the samples collected from archeological sites to the conventional techniques used in parasitology. After the information obtained from the ancient parasite samples was proven to be authentic, the paleoparasitology, the research of the ancient parasite infection, could be regarded as a helpful tool for comprehending the parasitism of the past.

By a series of studies for the past several decades, the information about ancient parasitism finally started to be revealed, firmly based upon the actual academic evidences. Such achievements included the studies on the correlation of parasites, human host, and environment, the techniques developed for examining parasite remains preserved in various samples, and the interpretation of parasite findings in archeological remains from a paleogeographic view. In fact, previously published books and special issues successfully provided the most recent techniques and perspectives about paleoparasitology [2–4].

However, comparing with the other regions of the world, paleoparasitological reports had been very rare in Asia. Considering that multiple ancient civilizations prospered in ancient Asia for a long while, the parasitological samples of the same regions must have been studied much intensively because it could provide invaluable information to the concerned paleoparasitologists. Fortunately enough, however, the situation started to be changed at last, by the pioneering works of paleoparasitologists in the continent. In Korea, Japan, China, and Siberia, the scientific analyses managed to reveal the fundamental aspects of the ancient parasite infections there [5–8].

This special section in The Korean Journal of Parasitology represents such a development of the paleoparasitological interest among researchers in Asia. This
section is composed of multiple paleoparasitology reports from Asia, Europe, America, and the other areas. Briefly, Dufour et al. tries to talk about a case of human trichuriasis from a coffin in Jaunay-Clan site, exhibiting that hygiene and waste management might have been seriously problematic during Roman France period. Reinhard and Araujo are showing the pathoecology of parasitic diseases in relation to the diet and environment, based on the parasitological findings from a mummy of a Brazilian cave. Reinhard et al. also report the temporal and spatial distribution of Enterobius vermicularis in the Prehistoric Americas. Novo et al. contribute a review article about the paleoparasitology in Brazil, especially laying focus on the works of 2 great pioneers of the country. Morrow et al. is presenting their results of ELISA for Toxoplasma gondii and Trypanosoma cruzi.

We also note that 3 different papers are also talking about the parasite infections of ancient Asian society. As there have been very few scientific studies on intestinal parasites in Chinese history, Yeh and Mitchell’s work about ancient human parasites in ethnic Chinese populations is very meaningful to concerned researchers. Slepchenko et al. [8] also try to explain the traditional living habits of the Siberian Taz Tundra people by a paleoparasitological examination of soil samples collected from 19th to 20th century burials. They exhibit that diphyllobothriasis was the most common helminthic infection among the Siberian aboriginal, corroborating the previous ethnographic records about their consumption of uncooked reindeer cerebrum. Finally, Seo et al. [7] is summarizing a series of their studies on the patterns of ancient parasitism prevailing in rural and urban areas of the Korean history. In this paleoparasitological review, they exhibit that living in such highly populated areas could have facilitated the spread of parasite infections among ancient Korean population.

Taken together, paleoparasitology is the application of investigative techniques to archeological samples, revealing the parasitic infection patterns among past populations. Like the previous issue or section of paleoparasitology, the current collection of reports from different continents forms an important data resource that must be significant to forthcoming paleoparasitological studies. We admit that this special section is a kind of declaration that paleoparasitology can be established at last as an important research tool for studying ancient parasite infection patterns even in Asia, the largest and most populous continent with a long history and a deep-rooted cultural heritage.

Go to:
REFERENCES
8. Slepchenko SM, Gusev AV, Ivanov SN, Svyatova EO. Opisthorchiasis in infant remains from the medieval Zelenyi Yar burial ground of XII-XIII centuries AD. Mem Inst Oswaldo Cruz. 2015;110:974-980. [PMC free article] [PubMed]
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5127529/
NOTE: PUBMED/MEDLINE HAS SEVERAL MORE ARTICLES ON PALEOPARASITOLOGY

Army observers' report of Operation Highjump: Task Force 68, U.S. Navy
398 pages

Antarctic terrestrial life--challenging the history of the frozen continent?
Convey P1, Gibson JA, Hillenbrand CD, Hodgson DA, Pugh PJ, Smellie JL, Stevens MI.
Author information
Abstract
Antarctica is a continent locked in ice, with almost 99.7% of current terrain covered by permanent ice and snow, and clear evidence that, as recently as the Last Glacial Maximum (LGM), ice sheets were both thicker and much more extensive than they are now. Ice sheet modelling of both the LGM and estimated previous ice maxima across the continent give broad support to the concept that most if not all currently ice-free ground would have been overridden during previous glaciations. This has given rise to a widely held perception that all Mesozoic (pre-glacial) terrestrial life of Antarctica was wiped out by successive and deepening glacial events. The implicit conclusion of such destruction is that most, possibly all, contemporary terrestrial life has colonised the continent during subsequent periods of glacial retreat. However, several recently emerged and complementary strands of biological and geological research cannot be reconciled comfortably with the current reconstruction of Antarctic glacial history, and therefore provide a fundamental challenge to the existing paradigms. Here, we summarise and synthesise evidence across these lines of research. The emerging fundamental insights corroborate substantial elements of the contemporary Antarctic terrestrial biota being continuously isolated in situ on a multi-million year, even pre-Gondwana break-up timescale. This new and complex terrestrial Antarctic biogeography parallels recent work suggesting greater regionalisation and evolutionary isolation than previously suspected in the circum-Antarctic marine fauna. These findings both require the adoption of a new biological paradigm within Antarctica and challenge current understanding of Antarctic glacial history. This has major implications for our understanding of the key role of Antarctica in the Earth System.

Discovery of a big void in Khufu's Pyramid by observation of cosmic-ray muons.
Morishima K1, Kuno M1, Nishio A1, Kitagawa N1, Manabe Y1, Moto M1, Takasaki F2, Fujii H2, Satoh K2, Kodama H2, Hayashi K2, Odaka S2, Procureur S3, Attié D3, Bouteille S3, Calvet D3, Filosa C3, Magnier P3, Mandjavidze I3, Riallot M3, Marini B4, Gable P5, Date Y6, Sugihara M7, Elshayeb Y8, Elnady T9, Ezzy M8, Guerriero E5, Steiger V4, Serikoff N4, Mouret JB10,11,12, Charlès B13, Helal H4,8, Tayoubi M4,13.
Author information
Abstract
The Great Pyramid, or Khufu's Pyramid, was built on the Giza plateau in Egypt during the fourth dynasty by the pharaoh Khufu (Cheops), who reigned from 2509 bc to 2483 bc. Despite being one of the oldest and largest monuments on Earth, there is no consensus about how it was built. To understand its internal structure better, we imaged the pyramid using muons, which are by-products of cosmic rays that are only partially absorbed by stone. The resulting cosmic-ray muon
radiography allows us to visualize the known and any unknown voids in the pyramid in a non-invasive way. Here we report the discovery of a large void (with a cross-section similar to that of the Grand Gallery and a minimum length of 30 metres) situated above the Grand Gallery. This constitutes the first major inner structure found in the Great Pyramid since the nineteenth century. The void, named ScanPyramids' Big Void, was first observed with nuclear emulsion films installed in the Queen's chamber, then confirmed with scintillator hodoscopes set up in the same chamber and finally re-confirmed with gas detectors outside the pyramid. This large void has therefore been detected with high confidence by three different muon detection technologies and three independent analyses. These results constitute a breakthrough for the understanding of the internal structure of Khufu's Pyramid. Although there is currently no information about the intended purpose of this void, these findings show how modern particle physics can shed new light on the world's archaeological heritage.


PMCID: PMC5430851
PMID: 28446789

Imaging of underground cavities with cosmic-ray muons from observations at Mt. Echia (Naples)
G. Saracino, corresponding author1,2 L. Amato,3 F. Ambrosino,1,2 G. Antonucci,3 L. Bonechi,4 L. Cimmino,2 L. Consiglio,5 R. D.' Alessandro,4,6 E. De Luzio,7 G. Minin,7 P. Noli,2 L. Scognamiglio,5 P. Strolin,1,2 and A. Varriale5

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Go to:
Abstract
Muography is an imaging technique based on the measurement of absorption profiles for muons as they pass through rocks and earth. Muons are produced in the interactions of high-energy cosmic rays in the Earth’s atmosphere. The technique is conceptually similar to usual X-ray radiography, but with extended capabilities of investigating over much larger thicknesses of matter thanks to the penetrating power of high-energy muons. Over the centuries a complex system of cavities has been excavated in the yellow tuff of Mt. Echia, the site of the earliest settlement of the city of Naples in the 8th century BC. A new generation muon detector designed by us, was installed under a total rock overburden of about 40 metres. A 26 days pilot run provided about 14 millions of muon events. A comparison of the measured and expected muon fluxes improved the knowledge of the average rock density. The observation of known cavities proved the validity of the muographic technique. Hints on the existence of a so far unknown cavity was obtained. The success of the investigation reported here demonstrates the substantial progress of muography in underground imaging and is likely to open new avenues for its widespread utilisation.

Go to:
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5430851/

doi: 10.2183/pjab.92.265
PMCID: PMC5243946
PMID: 27725469

Radiography with cosmic-ray and compact accelerator muons; Exploring inner-structure of large-scale objects and landforms
Kanetada NAGAMINE*1*2*3†

Author information ► Article notes ► Copyright and License information ► Disclaimer
Cosmic-ray muons (CRM) arriving from the sky on the surface of the earth are now known to be used as radiography purposes to explore the inner-structure of large-scale objects and landforms, ranging in thickness from meter to kilometers scale, such as volcanic mountains, blast furnaces, nuclear reactors etc. At the same time, by using muons produced by compact accelerators (CAM), advanced radiography can be realized for objects with a thickness in the sub-millimeter to meter range, with additional exploration capability such as element identification and bio-chemical analysis. In the present report, principles, methods and specific research examples of CRM transmission radiography are summarized after which, principles, methods and perspective views of the future CAM radiography are described.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5243946/

NOTE: SEVERAL MORE ARTICLES ON PUBMED/MEDLINE RE: COSMIC RAY MUONS

Published online 2018 Mar 22. doi: 10.1038/s41598-018-22939-w
PMCID: PMC5864935
PMID: 29568057

Evidence that the Great Pacific Garbage Patch is rapidly accumulating plastic
L. Lebreton, corresponding author1, 2 B. Slat,1 F. Ferrari,1 B. Sainte-Rose,1 J. Aitken,3 R. Marthouër,3 S. Hajbani,1 S. Cunsolo,1, 4 A. Schwarz,1 A. Levivier,1 K. Noble,1, 5 P. Debeljak,1, 6 H. Maral,1, 7 R. Schoeneich-Argent,1, 8 R. Brambini,1, 9 and J. Reisser1
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Ocean plastic can persist in sea surface waters, eventually accumulating in remote areas of the world’s oceans. Here we characterise and quantify a major ocean plastic accumulation zone formed in subtropical waters between California and Hawaii: The Great Pacific Garbage Patch (GPGP). Our model, calibrated with data from multi-vessel and aircraft surveys, predicted at least 79 (45–129) thousand tonnes of ocean plastic are floating inside an area of 1.6 million km2; a figure four to sixteen times higher than previously reported. We explain this difference through the use of more robust methods to quantify larger debris. Over three-quarters of the GPGP mass was carried by debris larger than 5 cm and at least 46% was comprised of fishing nets. Microplastics accounted for 8% of the total mass but 94% of the estimated 1.8 (1.1–3.6) trillion pieces floating in the area. Plastic collected during our study has specific characteristics such as small surface-to-volume ratio, indicating that only certain types of debris have the capacity to persist and accumulate at the surface of the GPGP. Finally, our results suggest that ocean plastic pollution within the GPGP is increasing exponentially and at a faster rate than in surrounding waters.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5864935/

PMCID: PMC1637951
PMID: 10706539
Research Article
The dead zones: oxygen-starved coastal waters.
S Joyce
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This article has been cited by other articles in PMC.

Abstract
After the great Mississippi River flood of 1993, the hypoxic (or low-oxygen) "dead zone" in the Gulf of Mexico more than doubled its size, reaching an all-time high of over 7,700 square miles in July of 1999. Scientists attribute the Gulf of Mexico dead zone largely to nutrient runoff from agriculture in the Mississippi River basin. During the warm months, these nutrients fuel eutrophication, or high organic production, causing large algal blooms. When the algae decay, the result is hypoxia. Reports of such hypoxic events around the world have been increasing since the mid 1960s. Eutrophication and hypoxia have resulted in mortality of bottom-dwelling life in dozens of marine ecosystems and have stressed fisheries worldwide. Some algal blooms can alter the function of coastal ecosystems or, potentially, threaten human health. Anthropogenic nutrient loading from sources such as agriculture, fossil fuel emissions, and climate events is believed to be related to the global increase in frequency, size, and duration of certain algal blooms. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1637951/

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doi: 10.1029/2007JC004533
PMCID: PMC2615559
PMID: 19137076
Tracing the Early Development of Harmful Algal Blooms on the West Florida Shelf with the Aid of Lagrangian Coherent Structures
M. J. Olascoaga,1 F. J. Beron-Vera,1 L. E. Brand,1 and H. Koçak2
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See other articles in PMC that cite the published article.
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Abstract
Several theories have been proposed to explain the development of harmful algal blooms (HABs) produced by the toxic dinoflagellate Karenia brevis on the West Florida Shelf. However, because the early stages of HAB development are usually not detected, these theories have been so far very difficult to verify. In this paper we employ simulated Lagrangian coherent structures (LCSs) to trace potential early locations of the development of a HAB in late 2004 before it was transported to a region where it could be detected by satellite imagery. The LCSs, which are extracted from surface ocean currents produced by a data-assimilative HYCOM (HYbrid-Coordinate Ocean Model) simulation, constitute material fluid barriers that demarcate potential pathways for HAB evolution. Using a simplified population dynamics model we infer the factors that could possibly lead to the development of the HAB in question. The population dynamics model determines nitrogen in two components, nutrients and phytoplankton, which are assumed to be passively advected by surface ocean currents produced by the above HYCOM simulation. Two nutrient sources are inferred for the HAB whose evolution is found to be strongly tied to the simulated LCSs. These nutrient sources are found to be located nearshore and possibly due to land runoff.
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2615559/

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PMCID: PMC2964858
PMID: 21037979
Satellite remote sensing of harmful algal blooms: A new multi-algorithm method for detecting the Florida Red Tide (Karenia brevis)

Gustavo A. Carvalho,1,2,* Peter J. Minnett,1,2 Lora E. Fleming,2,3 Viva F. Banzon,1 and Warner Baringer1

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See other articles in PMC that cite the published article.

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Abstract
In a continuing effort to develop suitable methods for the surveillance of Harmful Algal Blooms (HABs) of Karenia brevis using satellite radiometers, a new multi-algorithm method was developed to explore whether improvements in the remote sensing detection of the Florida Red Tide was possible. A Hybrid Scheme was introduced that sequentially applies the optimized versions of two pre-existing satellite-based algorithms: an Empirical Approach (using water-leaving radiance as a function of chlorophyll concentration) and a Bio-optical Technique (using particulate backscatter along with chlorophyll concentration). The long-term evaluation of the new multi-algorithm method was performed using a multi-year MODIS dataset (2002 to 2006; during the boreal Summer-Fall periods – July to December) along the Central West Florida Shelf between 25.75°N and 28.25°N. Algorithm validation was done with in situ measurements of the abundances of K. brevis; cell counts ≥1.5×10⁴ cells l⁻¹ defined a detectable HAB. Encouraging statistical results were derived when either or both algorithms correctly flagged known samples. The majority of the valid match-ups were correctly identified (~80% of both HABs and non-blooming conditions) and few false negatives or false positives were produced (~20% of each). Additionally, most of the HAB-positive identifications in the satellite data were indeed HAB samples (positive predictive value: ~70%) and those classified as HAB-negative were almost all non-bloom cases (negative predictive value: ~86%). These results demonstrate an excellent detection capability, on average ~10% more accurate than the individual algorithms used separately. Thus, the new Hybrid Scheme could become a powerful tool for environmental monitoring of K. brevis blooms, with valuable consequences including leading to the more rapid and efficient use of ships to make in situ measurements of HABs.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2964858/

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PMCID: PMC5543702
PMID: 28781587
Eutrophication and Harmful Algal Blooms: A Scientific Consensus
J. Heisler,1,* P. Glibert,2,# J. Burkholder,3 D. Anderson,4 W. Cochlan,5 W. Dennison,2 C. Gobler,6a,6b Q. Dortch,7 C. Heil,8a,8b E. Humphries,9 A. Lewitus,10a,10b R. Magnien,11a,11b H. Marshall,12 K. Sellner,13 D. Stockwell,14 D. Stoecker,2 and M. Suddleson7

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The publisher's final edited version of this article is available at Harmful Algae
See other articles in PMC that cite the published article.

Go to:
Abstract
In January 2003, the US Environmental Protection Agency sponsored a “roundtable discussion” to develop a consensus on the relationship between eutrophication and harmful algal blooms (HABs), specifically targeting those relationships for which management actions may be appropriate. Academic, federal, and state agency representatives were in attendance. The following seven statements were unanimously adopted by attendees based on review and analysis of current as well as pertinent
Degraded water quality from increased nutrient pollution promotes the development and persistence of many HABs and is one of the reasons for their expansion in the U.S. and the world; 2) The composition - not just the total quantity - of the nutrient pool impacts HABs; 3) High biomass blooms must have exogenous nutrients to be sustained; 4) Both chronic and episodic nutrient delivery promote HAB development; 5) Recently developed tools and techniques are already improving the detection of some HABs, and emerging technologies are rapidly advancing toward operational status for the prediction of HABs and their toxins; 6) Experimental studies are critical to further the understanding of the role of nutrients in HAB expression, and will strengthen prediction and mitigation of HABs; and 7) Management of nutrient inputs to the watershed can lead to significant reduction in HABs. Supporting evidence and pertinent examples for each consensus statement is provided herein.

Go to:
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5543702/

PMCID: PMC4284478
PMID: 25517134
Mitigating Harmful Cyanobacterial Blooms in a Human- and Climatically-Impacted World
Hans W. Paerl
John C. Meeks, External Editor and Robert Haselkorn, External Editor
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This article has been cited by other articles in PMC.

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Abstract
Bloom-forming harmful cyanobacteria (CyanoHABs) are harmful from environmental, ecological and human health perspectives by outcompeting beneficial phytoplankton, creating low oxygen conditions (hypoxia, anoxia), and by producing cyanotoxins. Cyanobacterial genera exhibit optimal growth rates and bloom potentials at relatively high water temperatures; hence, global warming plays a key role in their expansion and persistence. CyanoHABs are regulated by synergistic effects of nutrient (nitrogen:N and phosphorus:P) supplies, light, temperature, vertical stratification, water residence times, and biotic interactions. In most instances, nutrient control strategies should focus on reducing both N and P inputs. Strategies based on physical, chemical (nutrient) and biological manipulations can be effective in reducing CyanoHABs; however, these strategies are largely confined to relatively small systems, and some are prone to ecological and environmental drawbacks, including enhancing release of cyanotoxins, disruption of planktonic and benthic communities and fisheries habitat. All strategies should consider and be adaptive to climatic variability and change in order to be effective for long-term control of CyanoHABs. Rising temperatures and greater hydrologic variability will increase growth rates and alter critical nutrient thresholds for CyanoHAB development; thus, nutrient reductions for bloom control may need to be more aggressively pursued in response to climatic changes globally.
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4284478/

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Physical and chemical evidence remaining after the explosion of large improvised bombs. Part 2: Firings of calcium ammonium nitrate/sugar mixtures.
Cullum H1, Lowe A, Marshall M, Hubbard P.
Author information
Abstract
Six test firings of large improvised explosive devices were carried out. The principal objectives of the firings were to measure the physical effects of the explosions upon representative objects placed nearby and to recover any chemical traces deposited on these objects. The results are intended for use as an aid in determining the approximate size and type of an explosive employed in terrorist attacks. Three 454 kg charges of a mixture of calcium ammonium nitrate (CAN) fertilizer and sugar, and three 2268 kg charges of a similar mixture, all confined in cylindrical steel containers were fired. Each charge was surrounded by 19 road signs mounted on posts and four vehicles, to act as witness materials. The analysis of aqueous swab extracts taken from the witness materials after firing showed the recovery of nitrate, ammonium and low levels of glucose. No sucrose was detected. Nitrate was usually recovered in greater quantities than ammonium and recovery generally decreased with increasing distance from the charges in any given direction. Quantities recovered from objects placed at the same distance in different directions varied considerably. Patterns of physical damage to the witness materials could be discerned according to their distance from the charge and the size of the charge. The velocities of detonation and air blast effects were measured.


Physical and chemical evidence remaining after the explosion of large improvised bombs. Part 1: firings of ammonium nitrate/sugar and urea nitrate.

Author information
Abstract
Recent criminal acts in the United Kingdom, United States and other countries have demonstrated the dangers to public safety from the criminal use of improvised explosives on a large scale. Four sets of trials were carried out over four years, partly in collaboration with the United States Federal Bureau of Investigation, involving the firing of large bombs, mostly fertilizer based. The principal objectives of the firings were to measure the physical effects of the explosions upon objects representative of those that would be found at a real bomb scene and to recover any chemical traces deposited on these objects. The results are intended for use as an aid in determining the approximate size and type of an explosive employed in a terrorist attack. This paper describes the background behind the trials, the procedures for preparation of witness materials and charges, and the collection and analysis of physical and chemical evidence.


Case study and lessons learned from the ammonium nitrate explosion at the West Fertilizer facility.

Laboureur DM1, Han Z1, Harding BZ1, Pineda A1, Pittman WC1, Rosas C1, Jiang J1, Mannan MS2.
Author information
Abstract
In West, Texas on April 17, 2013, a chemical storage and distribution facility caught fire followed by the explosion of around 30 tons of ammonium nitrate while the emergency responders were trying to extinguish the fire, leading to 15 fatalities and numerous buildings, businesses and homes destroyed or damaged. This
incident resulted in devastating consequences for the community around the facility, and shed light on a need to improve the safety management of local small businesses similar to the West facility. As no official report on the findings of the incident has been released yet, this article first investigates the root causes of the incident, and presents a simplified consequence analysis. The article reviews the regulations applicable to this type of facility and recommended emergency response procedures to identify gaps between what happened in West and the current regulations, and discusses how the current regulations could be modified to prevent or minimize future losses. Finally, the federal response that followed the incident until the publication of this paper is summarized.


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ALSO:
The Fertilizer Bomb | The New Yorker
https://www.newyorker.com/tech/elements/the-fertilizer-bomb
Apr 18, 2013 - Like fertilizers, many of the most famous bomb-making chemicals are nitrogen compounds. So why are they so explosive?
Missing: nih | Must include: nih

Theosophy and the Dark Star Connection
By Gregg Jenner
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PMCID: PMC1689335
PMID: 9744106
The curse of the pharaoh hypothesis.
S Gandon
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This article has been cited by other articles in PMC.
Abstract
The 'curse of the pharaoh' has been used as a metaphor for the hypothesis that higher parasite propagule survival selects for higher virulence. Indeed, the mysterious death of Lord Carnavon after entering the tomb of the Egyptian pharaoh Tutankhamen could potentially be explained by an infection with a highly virulent and very long-lived pathogen. In this paper, I investigate whether parasite virulence increases with high propagule survival. In this respect, I derive an analytic expression of the evolutionarily stable level of parasite virulence as a function of propagule survival rate when the host-parasite system has reached a stable ecological equilibrium. This result shows that, if multiple infection occurs, higher propagule survival generally increases parasite virulence. This effect is enhanced when parasite dispersal coevolves with parasite virulence. In a more general perspective, the model shows the importance of taking into account the combination of direct and indirect effects (which I call inclusive effects) of higher transmission ability on the evolution of parasite virulence. The recognition of these effects has several practical implications for virulence management.
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1689335/

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Published online 2016 Dec 21. doi: 10.1038/srep39592
PMCID: PMC5175129
PMID: 28000742
Pentacle gold–copper alloy nanocrystals: a new system for entering male germ cells
in vitro and in vivo
Yu Lin,1,* Rong He,2,* Liping Sun,3 Yushan Yang,2 Wengqing Li,a,3 and Pei Sun,1
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Abstract
Gold-based nanocrystals have attracted considerable attention for drug delivery and biological applications due to their distinct shapes. However, overcoming biological barriers is a hard and inevitable problem, which restricts medical applications of nanomaterials in vivo. Seeking for an efficient transportation to penetrate biological barriers is a common need. There are three barriers: blood-testis barrier, blood-placenta barrier, and blood-brain barrier. Here, we pay close attention to the blood-testis barrier. We found that the pentacle gold-copper alloy nanocrystals not only could enter GC-2 cells in vitro in a short time, but also could overcome the blood-testis barrier and enter male germ cells in vivo. Furthermore, we demonstrated that the entrance efficiency would become much higher in the development stages. The results also suggested that the pentacle gold-copper alloy nanocrystals could easier enter to germ cells in the pathological condition. This system could be a new method for theranostics in the reproductive system.
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5175129/

Published online 2015 Aug 6. doi: 10.1155/2015/530362
PMCID: PMC4544442
PMID: 26347313
New Ancient Egyptian Human Mummies from the Valley of the Kings, Luxor: Anthropological, Radiological, and Egyptological Investigations
Frank Rühli, 1 , * Salima Ikram, 2 and Susanne Bickel 3
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Abstract
The Valley of the Kings (arab. Wadi al Muluk; KV) situated on the West Bank near Luxor (Egypt) was the site for royal and elite burials during the New Kingdom (ca. 1500–1100 BC), with many tombs being reused in subsequent periods. In 2009, the scientific project “The University of Basel Kings' Valley Project” was launched. The main purpose of this transdisciplinary project is the clearance and documentation of nonroyal tombs in the surrounding of the tomb of Pharaoh Thutmosis III (ca. 1479–1424 BC; KV 34). This paper reports on newly discovered ancient Egyptian human mummified remains originating from the field seasons 2010–2012. Besides macroscopic assessments, the remains were conventionally X-rayed by a portable X-ray unit in situ inside KV 31. These image data serve as basis for individual sex and age determination and for the study of probable pathologies and embalming techniques. A total of five human individuals have been examined so far and set into an Egyptological context. This project highlights the importance of ongoing excavation and science efforts even in well-studied areas of Egypt such as the Kings' Valley.
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4544442/

Ni-Ankh-Sekhmet: first rhinologist in history.
Pahor All, Farid A.
Author information
Abstract
Ni-Ankh-Sekhmet has always been referred to as the first rhinologist in history. Translations of the hieroglyphics depicted on all the illustrations accompanying previous publications do not substantiate this claim. The research presented is a result of an investigation of the original monument related to the doctor at its
present location in the Egyptian Museum, Cairo. The research proves that Ni-Ankh-Sekhmet was the first rhinologist in history. 

PMCID: PMC3503359 PMID: 23181186

The Air of History: Early Medicine to Galen (Part I) 
Rachel Hajar, M. D. 
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INTRODUCTION 
Is history important? My answer is, “Yes, history is very important.” Physicians understand very clearly that the past matters. We ask very detailed questions about our patients’ medical history, trying to reconstruct an accurate picture of their state of health. We know that health is heavily influenced by the past: heredity, past behaviors, past experiences, and past diseases. These data give us clues to our patients’ present health condition. We make notes about the patients’ status and file these notes. On the patient’s next visit, we pull out that patient's file which contains all the notes from past visits. The patient's past medical status gives us important perspective on the patient's present condition. We plan and approach our management strategies based on our perspective of the patient. 
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3503359/

PMCID: PMC3972951 PMID: 24744920

Imhotep and the Discovery of Cerebrospinal Fluid 
Patric Blomstedt* 
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Abstract 
Herbowski (2013) suggested recently the Egyptian Imhotep from the 3rd dynasty in Egypt to be the discoverer of cerebrospinal fluid. There are, however, no sources within the first 2000 years after Imhotep suggesting him to be in any way connected with the field of medicine. Over the course of three millennia Imhotep evolves into the sage who besides architecture also masters the arts of medicine, magic, astronomy, and astrology, at the same time as him being transformed from man to demi-God, and finally to a God. The identification of Imhotep as a doctor has thus little to do with facts and it is unlikely that he had anything to do with the Edwin-Smith papyrus from a much later period where CSF is first mentioned. 
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3972951/

BMJ. 1999 Jun 5; 318(7197): 1543. 
PMCID: PMC1115907 PMID: 10356015

When I use a word . . . 
X marks the spot 
Jeff Aronson, clinical pharmacologist, Oxford 
Copyright and License information ► Disclaimer 
This article has been cited by other articles in PMC. The ℞ symbol is well known as the sign of a prescription, and it is often said that it is Rx, a shortened version of the Latin word recipe, take. But ℞ is not R plus x; it is a corruption of a symbol that was once used by the ancient Egyptians to
The Ancient Egyptians wrote Calendars of Lucky and Unlucky Days that assigned astronomically influenced prognoses for each day of the year. The best preserved of these calendars is the Cairo Calendar (hereafter CC) dated to 1244–1163 B.C. We have presented evidence that the 2.85 days period in the lucky prognoses of CC is equal to that of the eclipsing binary Algol during this historical era. We wanted to find out the vocabulary that represents Algol in the mythological texts of CC. Here we show that Algol was represented as Horus and thus signified both divinity and kingship. The texts describing the actions of Horus are consistent with the course of events witnessed by any naked eye observer of Algol. These descriptions support our claim that CC is the oldest preserved historical document of the discovery of a variable star. The period of the Moon, 29.6 days, has also been discovered in CC. We show that the actions of Seth were connected to this period, which also strongly regulated the times described as lucky for Heaven and for Earth. Now, for the first time, periodicity is discovered in the descriptions of the days in CC. Unlike many previous attempts to uncover the reasoning behind the myths of individual days, we discover the actual rules in the appearance and behaviour of deities during the whole year.
perceived as serious risks for contracting meningitis. These sentiments are reflected in the prose of Solzhenitsyn and other contemporary Russian authors. However, in the fictional literature of the nineteenth century, emotional or intellectual disturbances rather than the wrath of winter were portrayed worldwide as the most frequent cause of brain inflammation. Both physicians and laity blamed nervous breakdown or mental distress for the development of meningitis and the tragic deaths of the eminent Russian writer Gogol, talented poet Nadson, and heir to the Imperial throne Grand Duke Nicholas Romanov. Even in the twentieth century, esteemed Russian artists, including Pasternak, Paustovsky, and Roerich, highlighted this belief. Following the discovery of the infectious nature of meningitis, fictional depictions of the illness changed. While literary accounts of brain inflammation by the realists (e.g., Dostoevsky and Flaubert) were rather imprecise, the descriptions of the course and symptoms of meningitis by the modernists (e.g., Balmont, Hesse, and Huxley) became detailed and recognizable. Typically, the victim of the disease is a boy, and his imminent agony is preceded by immense suffering that devastates his parents. The dreadful experience of seeing children in the merciless clutches of meningitis had a profound personal effect on Maugham, Twain, and Russian philosopher Tikhomirov, changing their spiritual convictions. However, several authors, among them Avseenko, Davydov, Gazdanov, and Shmelyov, created uplifting stories of survival of the affliction. In this chapter, references to meningitis in the medical and fictional literature are explored through a cultural and historical prism, which may help readers to understand how and why this disease has held a special significance in the Russian psyche.


[Article in Swedish]
Berghult B.
Abstract
In ancient Egypt during the reign of Pharaoh Djoser, circa 2650 BC, the Step Pyramid was constructed by Imhotep. He was later worshiped as the God of Medicine. One of his contemporaries was the powerful writer Hesy who is reproduced on a panel showing a rebus of a swallow, a tusk and an arrow. He is therefore looked upon as being the first depicted odontologist. The art of writing begun in Egypt in about 3100 BC and the medical texts we know from different papyri were copied with hieratic signs around 1900-1100 BC. One of the most famous is the Papyrus Ebers. It was purchased by professor Ebers on a research travel to Luxor in 1873. Two years later a beautiful facsimile in color was published and the best translation came in 1958 in German. The text includes 870 remedies and some of them are related to teeth and oral troubles like pain in the mouth, gingivitis, periodontitis and cavities in the teeth. The most common oral pain was probably pulpitis caused by extreme attrition due to the high consumption of bread contaminated with soil and/or quern minerals. Another text is the Papyrus Edwin Smith with four surgical cases of dental interest. The "toothworms" that were presumed to bring about decayed teeth have not been identified in the medical texts. It was not until 1889 W.D. Miller presented a scientific explanation that cavities were caused by bacteria. In spite of extensive research only a few evidence of prosthetic and invasive treatments have been found and these dental artifacts have probably been made post mortem. Some of the 150 identified doctors were associated with treatments of disorders of the mouth. The stele of Seneb from Sa'is during the 26th dynasty of Psamtik, 664-525 BC, shows a young man who probably was a dental healer well known to Pharaoh and his court. Clement of Alexandria mentions circa 200 AD that the written knowledge of the old Egyptians was gathered in 42 collections of papyri. Number 37-42 contained the medical writings. The household remedies in ancient Egypt were unique and future research will most likely give us new answers about pathology and health care of that time and a better understanding of old
medical concepts.

Touch-free in situ investigation of ancient Egyptian pigments.

Uda M1, Sassa S, Taniguchi K, Nomura S, Yoshimura S, Kondo J, Iskander N, Zaghloul B.
Author information
Abstract
Some of the pigments painted on the Funerary Stele of Amenemhat (ca. 2000 B.C.)
exhibited at the Egyptian Museum, Cairo and on the walls of the Tomb of Userhat
(ca. 1420 B.C.), a rock-cut tomb in Thebes, Egypt, were investigated in situ using
both a convenient home-made hand-held type of X-ray diffractometer and a commercial
X-ray fluorescence spectrometer in a complementary way under touch-free conditions.
CaCO3.3MgCO3 (huntite) was found in the white-painted parts of these two ancient
monuments. An arsenic (As)-bearing phase was detected in the yellow-painted parts
of the latter monument. The occurrence of huntite in Egypt has not been reported
previously.


Front Psychol. 2017; 8: 2308.
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How Will We React to the Discovery of Extraterrestrial Life?
Jung Yul Kwon,1,† Hannah L. Bercovici,2,3 Katja Cunningham,1 and Michael E. W.
Varnum1,3,*†
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This article has been cited by other articles in PMC.
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Abstract
How will humanity react to the discovery of extraterrestrial life? Speculation on
this topic abounds, but empirical research is practically non-existent. We report
the results of three empirical studies assessing psychological reactions to the
discovery of extraterrestrial life using the Linguistic
/Users/maryjofahey/Desktop/InDesign_docs.nih_papers_08_06_18.txtInquiry and Word
Count (LIWC) text analysis software. We examined language use in media coverage of
past discovery announcements of this nature, with a focus on extraterrestrial
microbial life (Pilot Study). A large online sample (N = 501) was asked to write
about their own and humanity’s reaction to a hypothetical announcement of such a
discovery (Study 1), and an independent, large online sample (N = 256) was asked to
read and respond to a newspaper story about the claim that fossilized
extraterrestrial microbial life had been found in a meteorite of Martian origin
(Study 2). Across these studies, we found that reactions were significantly more
positive than negative, and more reward vs. risk oriented. A mini-meta-analysis
revealed large overall effect sizes (positive vs. negative affect language: g =
0.98; reward vs. risk language: g = 0.81). We also found that people’s forecasts of
their own reactions showed a greater positivity bias than their forecasts of
humanity’s reactions (Study 1), and that responses to reading an actual
announcement of the discovery of extraterrestrial microbial life showed a greater
positivity bias than responses to reading an actual announcement of the creation of
man-made synthetic life (Study 2). Taken together, this work suggests that our
reactions to a future confirmed discovery of microbial extraterrestrial life are
likely to be fairly positive.
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5767786/
YALE IN THE 19TH CENTURY
During the 19th century, Yale College was an academic powerhouse. Having celebrated its centennial in the first year of the new century, the college was transforming itself from a regional New England school whose main function was the education of young men for the Congregational ministry to a dynamic national school whose new function was to train the leaders of the expanding, dynamic America that sprung into being in that century.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3012287/

A war over mental health professionalism: Scientology versus psychiatry
Stephen A. Kent and Terra A. Manca
Abstract
Over 60 years ago, founder L. Ron Hubbard began what has become Scientology's greatest battle. Scientology emerged from Dianetics, which Hubbard hoped would replace the psychiatric profession. In this article, we discuss how Scientology attempted to position itself as a rival profession to psychiatry and the consequences of those attempts. Scientology's battle with psychiatry gained some success from the social conditions during which it emerged, but it continues in a time that has seen increasing success with various psychiatric treatments. As such, Scientology's direct influence on the psychiatric profession may be difficult to measure, but its actions have coincided with substantial challenges to psychiatry.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3856510/

L Ron Hubbard's science fiction quest against psychiatry.
Hirshbein L.
Abstract
Layfayette Ronald Hubbard (1911-1986) was a colourful and prolific American writer of science fiction in the 1930s and 1940s. During the time between his two decades of productivity and his return to science fiction in 1980, Hubbard founded the Church of Scientology. In addition to its controversial status as a religion and its troubling pattern of intimidation and litigation directed towards its foes, Scientology is well known as an organised opponent to psychiatry. This paper looks at Hubbard's science fiction work to help understand the evolution of Scientology's antipsychiatry stance, as well as the alternative to psychiatry offered by Hubbard.
Yes, even the JCI can weigh in on celebrity gossip, but hopefully without becoming a tabloid. Rather, we want to shine a light on the reckless comments actor Tom Cruise has recently made that psychiatry is a “quack” field and his belief that postpartum depression cannot be treated pharmacologically. We can only hope that his influence as a celebrity does not hold back those in need of psychiatric treatment.

The healthy nature of any debate with ‘proponents for’ and ‘opponents against’ a theme or a subject, in any form, and its beneficial effects are well known and recognized. The value of such debates on issues having importance in the growth of any discipline of science, including those of the medical sciences is immense, and yet it would be unthinkable to be dealing with ‘anti-cardiologists’ or ‘anti-paediatricians’! The fact that ‘antipsychiatry’ has existed in one form or the other for some time, and indeed has sometimes been vehement enough to approach psychiatry as a demon to be exorcised, is noteworthy.

In the fall of 1945, Secretary of Commerce Henry Wallace handpicked Edward Condon, a respected theoretical physicist, to become director of the National Bureau of Standards. Already regarded by many academic and industrial scientists as a second-rate research institution, the Bureau had deteriorated further during the Great Depression. An ardent New Dealer who favored government action to prevent anticompetitive behavior in the marketplace, Wallace claimed that giant corporations leveraged their extensive patent holdings and research capabilities to manipulate markets and restrict competition at the expense of smaller firms without similar resources. Through a revitalized Bureau of Standards, Wallace intended to mitigate monopolistic behavior among large companies by transforming the Department
of Commerce into an effective clearinghouse for scientific research that would stimulate technological innovation in small businesses. The Bureau's postwar expansion, however, foundered on congressional efforts to dismantle the legacies of the New Deal, Condon's lack of commitment to the technical requirements of the small business community, and the intense competition for resources within an institutionally pluralist federal research establishment dominated by the exigencies of the Cold War. Without sufficient financial support from congressional appropriations committees, Condon turned to the military to fund new research programs at the Bureau of Standards. These programs, however, owed their institutional growth to the demands of the national security state, not to the fading influence of Henry Wallace's New Deal liberalism.


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PMCID: PMC4967954
PMID: 27390148
Opinion, Opinion
Life's arrow: the Epistemic Singularity
Ladislav Kováč, Professor of Biochemistry 1
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For centuries people have been asking, "Why is there something rather than nothing?" Science has not been able to give us an answer so far. We still have to live with the basic statement that "Everything that is is, and it is as long as it keeps its identity, that is, its onticity", which we may call the "Strong Ontic Principle". Nonetheless, science can answer another ontological question, namely "Why does something happen; why there are events in the universe?" The answer is the second law of thermodynamics, which we may call the "Weak Ontic Principle". It was discovered by Rudolf Clausius in 1865, and it has been applied successfully in technological practice. However, at the conceptual level, the law has been subject to an amazing misinterpretation for almost a century. Its recent reformulation may become one of the most remarkable chapters in the history of science.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4967954/

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PMCID: PMC4269110
PMID: 25565984
Brain-machine interfaces as a challenge to the “moment of singularity”
Philip Kennedy*
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This article has been cited by other articles in PMC.
Ray Kurzweil predicts that artificial intelligence will equal and then surpass human intelligence in the not-too-distant future, in what he calls the “moment of singularity.” Advances in brain/machine interfacing (BMI) may be viewed as a challenge to this futuristic prediction. BMIs strive to instrument human brains with unlimited memory, calculation, and communication abilities, which provide a competitive edge to human brain power versus artificial intelligence. This paper makes a case for a hybrid human/robot that merges the brain function with artificial intelligence components, and prevents the “moment of singularity” from ever occurring.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4269110/

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IMAGE
4AQQ: Dodecahedron Formed Of Penton Base Protein From Adenovirus Ad3
Structure of the dodecahedral penton particle from human adenovirus type 3.

Fuschiotti P1, Schoehn G, Fender P, Fabry CM, Hewat EA, Chroboczek J, Ruigrok RW, Conway JF.

Abstract
The sub-viral dodecahedral particle of human adenovirus type 3, composed of the viral penton base and fiber proteins, shares an important characteristic of the entire virus: it can attach to cells and penetrate them. Structure determination of the fiberless dodecahedron by cryo-electron microscopy to 9 Angstroms resolution reveals tightly bound pentamer subunits, with only minimal interfaces between penton bases stabilizing the fragile dodecahedron. The internal cavity of the dodecahedron is approximately 80 Angstroms in diameter, and the interior surface is accessible to solvent through perforations of approximately 20 Angstroms diameter between the pentamer towers. We observe weak density beneath pentamers that we attribute to a penton base peptide including residues 38-48. The intact amino-terminal domain appears to interfere with pentamer-pentamer interactions and its absence by mutation or proteolysis is essential for dodecamer assembly. Differences between the 9 Angstroms dodecahedron structure and the adenovirus serotype 2 (Ad2) crystallographic model correlate closely with differences in sequence. The 3D structure of the dodecahedron including fibers at 16 Angstroms resolution reveals extra density on the top of the penton base that can be attributed to the fiber N terminus. The fiber itself exhibits striations that correlate with features of the atomic structure of the partial Ad2 fiber and that represent a repeat motif present in the amino acid sequence. These new observations offer important insights into particle assembly and stability, as well as the practicality of using the dodecahedron in targeted drug delivery. The structural work provides a sound basis for manipulating the properties of this particle and thereby enhancing its value for such therapeutic use.

Adenovirus Dodecahedron Allows Large Multimeric Protein Transduction in Human Cells
P. Fender,1,* G. Schoehn,1,2 J. Foucaud-Gamen,3 E. Gout,1 A. Garcel,1 E. Drouet,3 and J. Chroboczek1

Abstract
Adenovirus dodecahedron is a virus-like particle composed of only two viral proteins of human adenovirus serotype 3 that are responsible for virus attachment and internalization. We show here that this dodecameric particle, devoid of genetic information, efficiently penetrates human cells and can deliver large multimeric proteins such as immunoglobulins.

Adenovirus Dodecahedron, as a Drug Delivery Vector

Monika Zochowska, 1 Agnieszka Paca, 1 , # Guy Schoehn, 2 Jean-Pierre Andrieu, 3 Jadwiga Chroboczek, 1 , 3 , * Bernard Dublet, 3 and Ewa Szolajska 1 , *

Ganesh Chandra Jagetia, Editor

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Go to:
Abstract
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Background

Bleomycin (BLM) is an anticancer antibiotic used in many cancer regimens. Its utility is limited by systemic toxicity and dose-dependent pneumonitis able to progress to lung fibrosis. The latter can affect up to nearly 50% of the total patient population, out of which 3% will die. We propose to improve BLM delivery by tethering it to an efficient delivery vector. Adenovirus (Ad) dodecahedron base (DB) is a particulate vector composed of 12 copies of a pentameric viral protein responsible for virus penetration. The vector efficiently penetrates the plasma membrane, is liberated in the cytoplasm and has a propensity to concentrate around the nucleus; up to 300000 particles can be observed in one cell in vitro.

PMCID: PMC255711
PMID: 3110430
The dodecahedral framework of the bacteriophage phi 6 nucleocapsid is composed of protein P1.
N T Ktistakis and D Lang

PMCID: PMC452509
PMID: 9003759
Adenovirus 3 penton dodecahedron exhibits structural changes of the base on fibre binding.
G Schoehn, P Fender, J Chroboczek, and E A Hewat

It was recently shown that co-expression of adenovirus type 3 (Ad3) penton base and fibre in the baculovirus system produces dodecahedral particles, as does the
expression of the penton base alone. The structure of both of these dodecahedral particles, with and without fibre, has been determined by cryoelectron microscopy and 3-dimensional reconstruction techniques to a resolution of 25 and 20 Å, respectively. The general form of the penton base resembles that of the base protein in the recent reconstruction of adenovirus type 2. There is a remarkable difference in the penton base structure with and without the fibre. The five small protuberances on the outer surface of each base move away from the 5-fold axis by approximately 15 Å when the fibre is present. These protuberances are of relatively low density and most probably represent a flexible loop possibly containing the RGD site involved in integrin binding. The fibre is apparently bound to the outer surface of the penton base, rather than inserted into it. The fibre is flexible and the shaft contains two distinct globular regions 26 Å in diameter. The volume of the inner cavity of the dodecahedron is 350 +/- 100 nm³. This small volume precludes the use of the inner cavity to house genetic information for gene therapy; however, the possibility remains of linking the gene to the dodecahedron surface in the hope that it will be internalized with the dodecahedron.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC452509/

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Why isn't the N20 dodecahedron ideal for three-coordinate nitrogen?

Strout DL1.
Author information
Abstract
Nitrogen molecules are the focus of much attention for their potential as high-energy density materials. The usefulness of such molecules as energy sources depends on the stability of the molecules with respect to dissociation. Many such molecules dissociate too easily to be a stable fuel, and the reasons for such instability are related to the details of structure and bonding of the molecule. Such details will be examined for isomers of the molecule N20. N20 has a highly symmetric isomer in which the 20 atoms occupy the vertexes of a dodecahedron. This isomer is a cage molecule in which all of the faces are regular pentagons that have interior angles of 108 degrees. These angles are very close to the known bond angles in very stable nitrogen compounds such as ammonia. Such a structure with only pentagons should provide an ideal bonding environment for three-coordinate nitrogen. However, by use of theoretical calculations including density-functional theory and fourth-order perturbation theory, along with the Dunning correlation-consistent basis sets, it will be shown that dodecahedral N20 is not the most stable cage for N20. The reasons why will be discussed in terms of the structure and bonding of the molecules.

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Adenovirus dodecahedron, a new vector for human gene transfer.

Fender P1, Ruigrok RW, Gout E, Buffet S, Chroboczek J.
Author information
Abstract
Recombinant adenovirus is one of most efficient delivery vehicles for gene therapy. However, the initial enthusiasm for the use of recombinant adenovirus for gene therapy has been tempered by strong immune responses that develop to the virus and virus-infected cells. Even though recombinant adenoviruses are replication-defective, they introduce into the recipient cell, together with the gene of interest, viral genes that might lead to fortuitous recombination if the recipient is infected by wild-type adenovirus. We propose the use of a dodecahedron made of adenovirus pentons or penton bases as an alternative vector for human gene
therapy. The penton is a complex of two oligomeric proteins, a penton base and fiber, involved in the cell attachment, internalization, and liberation of virus into the cytoplasm. The dodecahedron retains many of the advantages of adenovirus for gene transfer such as efficiency of entry, efficient release of DNA from endosomes, and wide range of cell and tissue targets. Because it consists of only one or two adenovirus proteins instead of the 11 contained in an adenovirus virion and it does not contain the viral genome, it is potentially a safer alternative to recombinant adenovirus.


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SEARCH: Piazza Navona

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PMCID: PMC4006159
PMID: 24921104
John Ray in Italy: lost manuscripts rediscovered
Michael Hunter*
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Abstract
This paper discloses the content of two manuscripts of John Ray that have hitherto been unknown to Ray scholars. The manuscripts survive in the Hampshire Record Office, having descended through the Prideaux-Brune family. They record information about Ray's tour of Italy in the 1660s that does not appear in his Observations ... made in a journey through ... the Low-countries, Germany, Italy and France (1673), including a visit to the museum of Athanasius Kircher in Rome, and provide clues concerning the composition of Ray's 1673 book.
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4006159/

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PMCID: PMC1483825
PMID: 16759353
Secular humanism and "scientific psychiatry"
Thomas Szaszcorresponding author1
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Go to:
Abstract
The Council for Secular Humanism identifies Secular Humanism as a "way of thinking and living" committed to rejecting authoritarian beliefs and embracing "individual freedom and responsibility ... and cooperation." The paradigmatic practices of psychiatry are civil commitment and insanity defense, that is, depriving innocent persons of liberty and excusing guilty persons of their crimes: the consequences of both are confinement in institutions ostensibly devoted to the treatment of mental diseases. Black's Law Dictionary states: "Every confinement of the person is an 'imprisonment,' whether it be in a common prison, or in private house, or in the stocks, or even by forcibly detaining one in the public streets." Accordingly, I maintain that Secular Humanism is incompatible with the principles and practices of psychiatry.
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1483825/

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Medical faculty as humanistic physicians and teachers: the perceptions of students at innovative and traditional medical schools.

Maheux B1, Beaudoin C, Berkson L, Côté L, Des Marchais J, Jean P.

Author information

Abstract

BACKGROUND AND OBJECTIVES:
The training of caring physicians represents an important goal of medical education. Little is known however, on whether medical faculty constitute good role models for teaching humanistic skills to medical students. In this study, we examined to what extent medical students at innovative and traditional schools perceived their teachers as humanistic physicians and teachers. We also explored whether pre-clinical and clinical students shared the same perceptions.


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[The spirit of humanism should be cultivated in the nursing profession].

[Article in Chinese]

Yeh MY1, Lee S.

Author information

Abstract

As nursing is an art that emphasizes the nature of caring it should have humanistic attributes. Humanistic education of a nursing professional should emphasize a person-centered perspective in order to foster cultivation of the humanities and infuse the spirit of humane care into medical practice. Cultivation of humanism refers to the emotional level of personal-affective experience that blends humanistic science and aesthetic experience to enhance nurse observational abilities. The ability generated by self-awareness and reflection can trigger deep empathy and empathetic performance, which is ideal humanistic-nursing behavior in nursing staff. Traditional nursing education focuses on acquiring professional knowledge and largely ignores the cultivation of a humanist spirit. To help nurses adjust to the rapidly changing environment of nursing care and demonstrate a professional and humane character, in addition to advocating for a humane medical environment, the six Es of humanistic-nursing education (Example, Explanation, Exhortation, Environment, Experience, Expectation) should be promoted. The six Es are essential to building a framework to cultivate humanistic education strategies and strengthen humanist content in nursing education. In order to instill deeply the spirit of humanistic care in nursing and make the nursing-care process more humane, these ideals must be emphasized in nursing education to raise the level of humanism.


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The health care leader as humanist.

Kilpatrick AO1.

Author information

Abstract

This paper discusses the nature of humanism in healthcare management and leadership. Humanism in healthcare management should entail serving 1) patients and their families, 2) organizational members, and 3) the community. The article describes how humanism is largely absent from healthcare organizations as a critical and important value. In the twentieth century, a number of models of healthcare leadership were developed that were humanistic in focus. These models primarily stressed the value of attention by leaders on the needs and values of
people working in the organization. However, humanistic, healthcare leadership involves not only motivating and empowering employees, but a primary, essential focus is for leaders to create environments that support and uplift patients and their families. Humanistic care in healthcare organizations can be facilitated by leaders establishing positive, supportive, and empowering environments for clinicians and other employees. Secondly, managers can establish programs to develop and train employees to provide humanistic care.


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Virtuous colours for Mary. Identification of lapis lazuli, smalt and cochineal in the Andean colonial image of Our Lady of Copacabana (Bolivia).

Tomasini EP1, Marte F2, Careaga VP1, Landa CR3, Siracusano G4,5, Maier MS6,5.
Author information
Abstract
The image of Our Lady of Copacabana, a gilded polychrome sculpture carved in maguey wood in 1583, is one of the most important devotions in the Americas. In former research, we have identified the use of gypsum, Armenian bole, cerussite and atacamite in its polychromy. In this study, a red sample taken from the Virgin's tunic and a blue sample extracted from the cloak have been analysed with the aim to identify both pigments and offer insights into the painting technique. Analysis by micro-Raman spectroscopy complemented with scanning electron microscopy-energy dispersive spectroscopy and high-performance liquid chromatography allowed the identification of carmine lake in the red sample. Analysis by micro-Raman spectroscopy of the surface of the blue sample and its cross section showed the presence of smalt—the blue-glass pigment—over a cerussite layer, bathed by a very thin ultramarine layer—from a probable native origin—following a pictorial tradition that would last even until the eighteenth century. This is the first time that lapis lazuli has been scientifically identified in a Spanish American colonial painted layer. This article is part of the themed issue 'Raman spectroscopy in art and archaeology'.


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Kidney and urinary tract disease in ancient Babylonia, with translations of the cuneiform sources.

Geller MJ1, Cohen SL.
Author information
Abstract
The large corpus of Babylonian medical texts is much less known to medical history than the contemporary medical papyri from Egypt, but offer a rich new source of information regarding ancient diagnosis and treatment of disease. The Babylonian physicians systematically noted systems related to kidney and urinary tract diseases. Pharmacological prescriptions tended to consist of plant and mineral substances administered either orally in drinks, or were inserted directly into the urethra through a tube.


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NOTE: Several articles on Babylonia

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About 1700 years BC, the prophet Zoroaster declared equal right for women and men to choose their “own ways.” There is much evidence that ancient Persians believed in the equal contribution of women and men toward producing a child, and all its hereditary characteristics.

Even more surprising are the phrases in Vandidad book, which were gathered by Mobedans in the Mad dynasty about egg extraction (gametes) from animal reproductive organs (gonads) and their storage for future conception.

Centuries later, Western philosopher beliefs in regard to reproduction were contrary to Persian knowledge. The Greek philosophers believed that man's water (semen) contains all human characteristics, and the female uterus is only responsible for nurturing and development of fetus. After detection of the ovum (de Graaf 2nd half 17 century) Malpigy proposed the preformation theory (ovist) which means there is a miniature human inside ovum, that grows after Semen has entered the uterus and grow into a well-developed fetus. This hypothesis was later delegated to spermatozoa. These contradictory and inappropriate beliefs were subject to discussions and dispute, until C.E. Wolf demonstrated that the embryo is a product of the fertilization of ovum by spermatozoa.

800 years prior this the sage Ferdowsi “The Great Iranian Poet” explains nicely the equal participation of man and woman in the production of the fetus and transmission of characters.

After the renaissance and especially in recent years, tremendous achievements have been made in unraveling biological secrets of reproduction. There was no work on genetics in Iran until 1936, when a genetic course was added to the biology curriculum in related colleges and universities; Iranian Genetics Society was founded in 1966, initiating a steady movement in this field.

Although there was an inevitable gap during the revolution and war in our country, now there is great effort by researchers to eliminate the gap and bring us into the mainstream of world science, and development in biomedical sciences in the third millennium.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3385176/
blood components from other individuals, claiming a fear of blood-borne pathogens - the stated part - but also likely a perceived threat from something more spiritual that accompanies blood - the unstated part. While the majority of the population in industrialised countries say that they are willing to donate blood, most people when matching medical conditions refrain from presenting themselves for donation; some think that it may be dangerous for themselves, but many more have irrational feelings about blood and/or are embarrassed to present medically valid arguments to not give or attempt to give blood.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3926721/

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SEARCH: death rate is now higher than the birth rate europe nih

PMCID: PMC4255510
PMID: 25489464
Declining birth rate in Developed Countries: A radical policy re-think is required
G. Nargund
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This article has been cited by other articles in PMC.
There is a concern about declining birth rates in both the developing and developed world (www.rand.org). Fertility rates tend to be higher in poorly resourced countries but due to high maternal and perinatal mortality, there is a reduction in birth rates. In developing countries children are needed as a labour force and to provide care for their parents in old age. In these countries, fertility rates are higher due to the lack of access to contraceptives and generally lower levels of female education. The social structure, religious beliefs, economic prosperity and urbanisation within each country are likely to affect birth rates as well as abortion rates. Developed countries tend to have a lower fertility rate due to lifestyle choices associated with economic affluence where mortality rates are low, birth control is easily accessible and children often can become an economic drain caused by housing, education cost and other cost involved in bringing up children. Higher education and professional careers often mean that women have children late in life. This can result in a demographic economic paradox.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4255510/

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Published online 2012 May 9. doi: 10.1098/rspb.2012.0671
PMCID: PMC3385739
PMID: 22572206
Extreme insular dwarfism evolved in a mammoth
Victoria L. Herridge* and Adrian M. Lister
Author information ► Article notes ► Copyright and License information ► Disclaimer
This article has been cited by other articles in PMC.
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Abstract
The insular dwarfism seen in Pleistocene elephants has come to epitomize the island rule; yet our understanding of this phenomenon is hampered by poor taxonomy. For Mediterranean dwarf elephants, where the most extreme cases of insular dwarfism are observed, a key systematic question remains unresolved: are all taxa phyletic dwarfs of a single mainland species Palaeoloxodon antiquus (straight-tusked elephant), or are some referable to Mammutthus (mammoths)? Ancient DNA and geochronological evidence have been used to support a Mammutthus origin for the Cretan 'Palaeoloxodon' creticus, but these studies have been shown to be flawed. On the basis of existing collections and recent field discoveries, we present new, morphological evidence for the taxonomic status of 'P'. creticus, and show that it is indeed a mammoth, most probably derived from Early Pleistocene Mammutthus
meridionalis or possibly Late Pliocene Mammuthus rumanus. We also show that Mammuthus creticus is smaller than other known insular dwarf mammoths, and is similar in size to the smallest dwarf Palaeoloxodon species from Sicily and Malta, making it the smallest mammoth species known to have existed. These findings indicate that extreme insular dwarfism has evolved to a similar degree independently in two elephant lineages.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3385739/

PMCID: PMC1602848
PMID: 339998
Cleopatra's needle: dermatology's weightiest achievement.
P W Copeman
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1602848/?page=1

Published online 2017 Jan 11. doi: 10.1098/rsos.160722
PMCID: PMC5319340
PMID: 28280574
The extreme insular adaptation of Garganornis ballmanni Meijer, 2014: a giant Anseriformes of the Neogene of the Mediterranean Basin
Marco Pavia,1 Hanneke J. M. Meijer,2 Maria Adelaide Rossi,3 and Ursula B. Göhlich4
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This article has been cited by other articles in PMC.

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Abstract
New skeletal elements of the recently described endemic giant anseriform Garganornis ballmanni Meijer, 2014 are presented, coming from the type-area of the Gargano and from Scontrone, southern and central Italy, respectively. The new remains represent the first bird remains found at Scontrone so far, and another shared element between these two localities, both part of the Apulia-Abruzzi Palaeobioprovince. The presence of a very reduced carpometacarpus confirms its flightlessness, only previously supposed on the basis of the very large size, while the morphologies of tarsometatarsus and posterior phalanges clearly indicate the adaptation of G. ballmanni to a terrestrial, non-aquatic, lifestyle. Its very large body size is similar to that observed in different, heavily modified, insular waterfowl and has been normally interpreted as the response to the absence of terrestrial predators and a protection from the aerial ones. The presence of a carpal knob in the proximal carpometacarpus also indicates a fighting behaviour for this large terrestrial bird species.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5319340/

Mammuthus primigenius (Woolly Mammoth) Metagenome
https://www.ncbi.nlm.nih.gov/books/NBK6862/

Genome Biol. 2015; 16: 228.
Published online 2015 Nov 4. doi: 10.1186/s13059-015-0800-4
PMCID: PMC4632474
PMID: 26530525
Mammoth 2.0: will genome engineering resurrect extinct species?
Beth Shapirocorresponding author
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It is impossible to ‘clone’ species for which no living cells exist. Genome editing may therefore provide the only means to bring extinct species — or, more accurately, extinct traits — back to life.

Go to:
Abstract
It is impossible to ‘clone’ species for which no living cells exist. Genome editing may therefore provide the only means to bring extinct species — or, more accurately, extinct traits — back to life.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4632474/

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PMCID: PMC80518
PMID: 11033718
Patenting life: genetically altered mice an invention, court declares
Carolyn Brown
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Researchers are hailing a Federal Court of Appeal decision that nonhuman life forms can be patented in Canada, although some doubt that the ruling will have a major effect on their work.

The decision concerns the “oncomouse” developed at Harvard University — a genetically altered mouse that gets cancer very easily, making it an ideal test platform for new therapies. The mouse has been patented for many years in the US. In fact, “transgenic” animals such as the oncomouse can be patented in the US, Japan and many European countries. Until Aug. 3, 2000, however, they could not be patented in Canada. Lower organisms such as bacteria, fungi, yeast and moulds could be patented, as could processes to produce transgenic animals, but an earlier court decision had rejected the patenting of actual plants and animals.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC80518/

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PMCID: PMC5427059
PMID: 28497354
Farmer-suicide in India: debating the role of biotechnology
Gigesh Thomas corresponding author and Johan De Tavernier
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Go to:
Abstract
Indian Biotech opponents have attributed the increase of suicides to the monopolization of GM seeds, centering on patent control, application of terminator technology, marketing strategy, and increased production costs. The contentions of the biotech opponents, however, have been criticized for a lack of transparency in their modus operandi i.e. the use of methodology in their argumentation. The fact is, however, that with the intention of getting the attention of those capable of determining the future of GM cotton in India, opponents resorted to generating controversies. Therefore, this article will review and evaluate the multifaceted contentions of both opponents and defenders. Although the association between seed monopolization and farmer-suicide is debatable, we will show that there is a link between the economic factors associated with Bt. cultivation and farmer suicide. The underlying thesis of biotech opponents becomes all the more significant when analysed vis-à-vis the contention of the globalization critics that there has been a political and economic marginalization of the Indian farmers. Their accusation assumes significance in the context of a fragile democracy like India where market forces are accorded precedence over farmers’ needs until election time.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5427059/

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This study aimed to develop a system of quantitative analysis of canine Chiari-like malformation and syringomyelia on variable quality MRI. We made a series of measurements from magnetic resonance DICOM images from Griffon Bruxellois dogs with and without Chiari-like malformation and syringomyelia and identified several significant variables. We found that in the Griffon Bruxellois dog, Chiari-like malformation is characterized by an apparent shortening of the entire cranial base and possibly by increased proximity of the atlas to the occiput. As a compensatory change, there appears to be an increased height of the rostral cranial cavity with lengthening of the dorsal cranial vault and considerable reorganization of the brain parenchyma including ventral deviation of the olfactory bulbs and rostral invagination of the cerebellum under the occipital lobes.
and Siberia6–8, introduced via a proximal source related to either the inhabitants of either the Eurasian steppel,6,9 or Armenia4,9. Modern Greeks resemble the Mycenaeans, but with some additional dilution of the early Neolithic ancestry. Our results support the idea of continuity but not isolation in the history of populations of the Aegean, before and after the time of its earliest civilizations.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5565772/

PMCID: PMC1084374
PMID: 16576444
Plato's Atlantis in Palaeogeography
William Diller Matthew
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https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1084374/

Adaptive impact of the chimeric gene Quetzalcoatl in Drosophila melanogaster.

Rogers RL1, Bedford T, Lyons AM, Hart1 DL.
Author information
Abstract
Chimeric genes, which form through the genomic fusion of two protein-coding genes, are a significant source of evolutionary novelty in Drosophila melanogaster. However, the propensity of chimeric genes to produce adaptive phenotypic changes is not fully understood. Here, we describe the chimeric gene Quetzalcoatl (Qtzl; CG31864), which formed in the recent past and swept to fixation in D. melanogaster. Qtzl arose through a duplication on chromosome 2L that united a portion of the mitochondrially targeted peptide CG12264 with a segment of the polycomb gene escl. The 3' segment of the gene, which is derived from escl, is inherited out of frame, producing a unique peptide sequence. Nucleotide diversity is drastically reduced and site frequency spectra are significantly skewed surrounding the duplicated region, a finding consistent with a selective sweep on the duplicate region containing Qtzl. Qtzl has an expression profile that largely resembles that of escl, with expression in early pupae, adult females, and male testes. However, expression patterns appear to have been decoupled from both parental genes during later embryonic development and in head tissues of adult males, indicating that Qtzl has developed a distinct regulatory profile through the rearrangement of different 5' and 3' regulatory domains. Furthermore, misexpression of Qtzl suppresses defects in the formation of the neuromuscular junction in larvae, demonstrating that Qtzl can produce phenotypic effects in cells. Together, these results show that chimeric genes can produce structural and regulatory changes in a single mutational step and may be a major factor in adaptive evolution.


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PMCID: PMC2757926
NIHMSID: NIHMS145691
PMID: 19133822
U.S. Scientists' Role in the Eugenics Movement (1907–1939): A Contemporary Biologist's Perspective
Steven A. Farbercorresponding author
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In this special issue devoted to the study of pigmentation, it is only fitting that we reflect on how this trait has been utilized to promote specific political and social agendas in both the United States and Europe. It was Francis Galton, a cousin of Darwin, who coined the term “eugenics” in 1883 while advocating that society should promote the marriage of what he felt were the fittest individuals by providing monetary incentives.1 Shortly thereafter, many intellectuals and political leaders (e.g., Alexander Graham Bell, Winston Churchill, John Maynard Keynes, and Woodrow Wilson) accepted the notion that modern societies, as a matter of policy, should promote the improvement of the human race through various forms of governmental intervention. While initially this desire was manifested as the promotion of selective breeding, it ultimately contributed to the intellectual underpinnings of state-sponsored discrimination, forced sterilization, and genocide.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2757926/

 OTHER:
August 2011 AOM: Michigan Copper in the Mediterranean
https://grahamhancock.com/wakefieldjs1/

PMCID: PMC139048
PMID: 12493675
The mummy's curse: historical cohort study
Mark R Nelson, NHMRC fellow
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Go to:
Abstract
Go to:
Objective
To examine survival of individuals exposed to the “mummy's curse” reputedly associated with the opening of the tomb of Tutankhamen in Luxor, Egypt, between February 1923 and November 1926.
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC139048/

SEE: UNTITLED FACTION, PART II, P. 112, 113

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PMID: 22303049
Negative symptoms presenting as neuropsychiatric manifestation of vitamin B12 deficiency
Manoj Kumar Sahoo, Ajit Avasthi, and Parampreet Singh1
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Abstract
Long lists of psychiatric illness or symptoms have been documented to be caused by vitamin B12 deficiency. We describe an atypical case of a young adult who presented with predominant negative symptoms followed by neurological symptoms consistent with vitamin B12 deficiency. The symptoms showed complete remission after vitamin B12 supplementation. The uniqueness of this case is that vitamin B12 deficiency presented with predominant negative symptoms without other psychotic and manic symptoms, which has not been reported previously.