

Machine Assisted Thought

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Lee Dirks

Three Papers

- 2012arXiv1209.1318K
 - **Finding and Recommending Scholarly Articles**
- 2011ApSSP...1...23K
 - **The Emerging Scholarly Brain**
- 1993ASSL..182...21K
 - **Advice from the Oracle: Really Intelligent Information Retrieval**

Numbers

Today's rapidly growing flood of big data represents immense opportunity for forward-thinking marketers. But to fully leverage the potential that exists within these massive streams of structured and unstructured data, organizations must quickly optimize ad delivery, evaluate campaign results, improve site selection and retarget ads. This is where the IBM Netezza® Factor comes into play, enabling a fluid analysis of complex data capable of unleashing a torrent of innovative, next-level ideas and results.

DRIVING MARKETING EFFECTIVENESS BY MANAGING

THE FLOOD OF BIG DATA

US\$2.1

BILLION SPENT IN
U.S. ON MOBILE ADS¹

IN 2011

MOBILE
AD

4.8

TRILLION ONLINE AD
IMPRESSIONS²

IN 2011

ONLINE AD
IMPRESSIONS

US\$83.2

BILLION ESTIMATED³

FOR 2012

ONLINE
AD SPEND

230

MILLION TWEETS⁴

A DAY

TWITTER

100

TERABYTES OF DATA
UPLOADED⁵

DAILY

FACEBOOK

294

BILLION EMAILS
SENT⁶

EVERY DAY

EMAIL

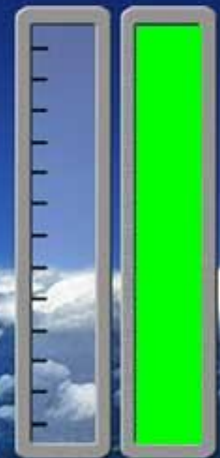
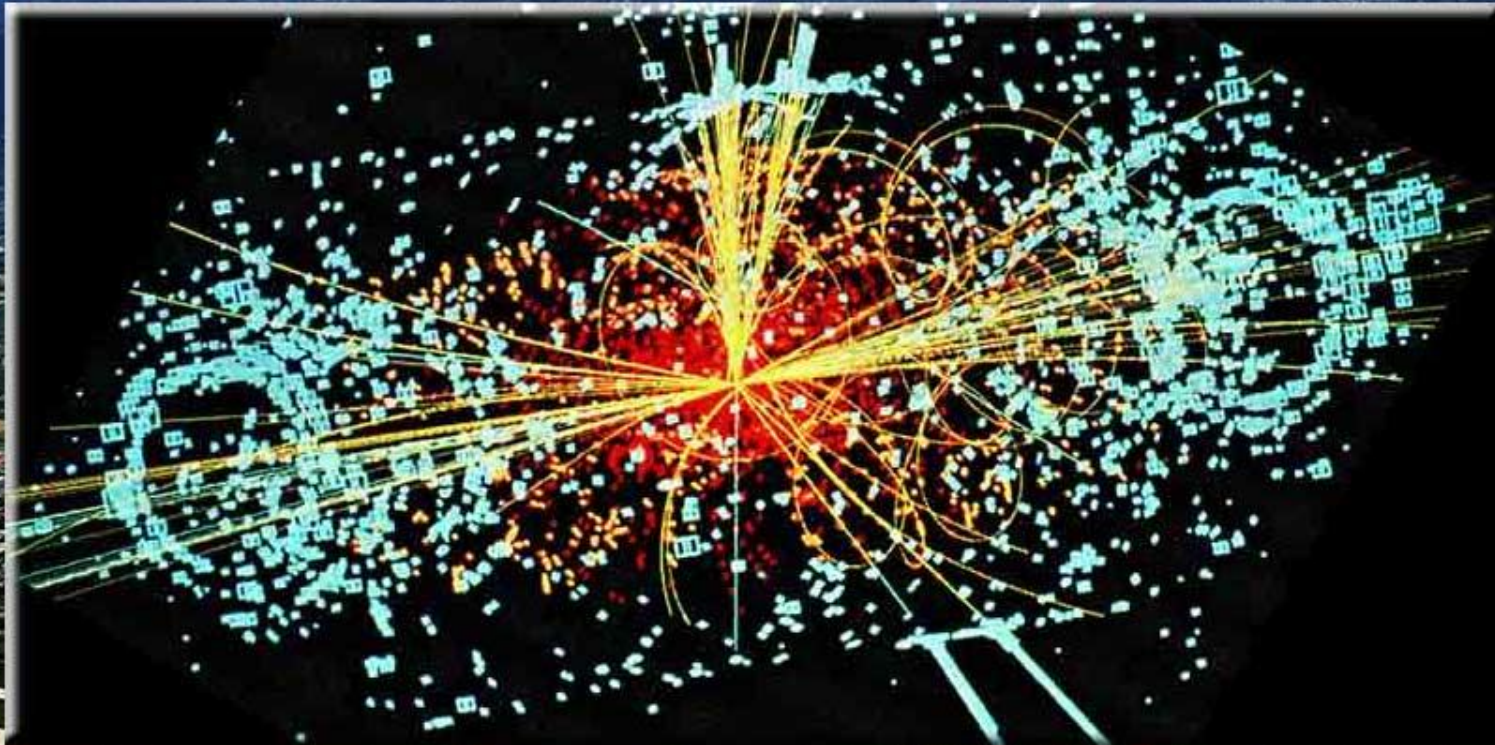
BIG DATA = BIG OPPORTUNITY

LHC: The Large Hadron Collider

CMS -- Le "Compact Muon Solenoid"

Cette image montre une collision simulée d'une collision du CMS. Le centre de l'image montre où les protons sont entrés en collision et l'énergie résultante d'annihilation produit des jets de nouvelles particules qui peuvent se déplacer dans le détecteur.

L'image est une de celles que nous espérons voir quand CMS sera en fonction: elle met en évidence le boson de Higgs, la particule qui confère une masse à toutes les autres particules et que le LHC devrait pouvoir détecter.



SPS
Ring

LHC
Ring

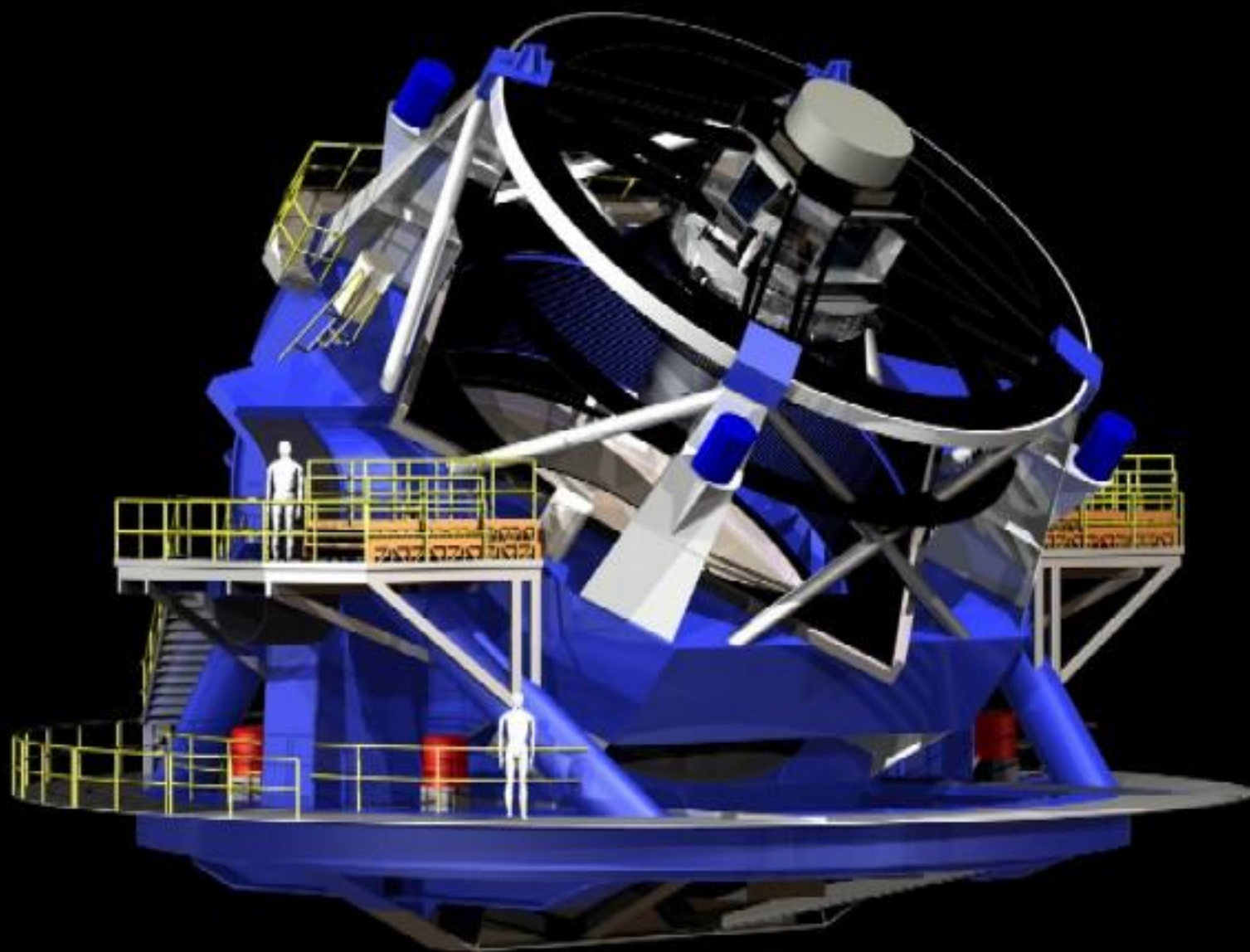
CMS



Détecteur CMS: Récupération des données

1: CMS, 2: ATLAS, 3: LHCb, 4: ALICE





-72

Critik
der
reinen Vernunft

von
Immanuel Kant,
Professor in Königsberg,
der Königl. Academie der Wissenschaften in Berlin
Mitglied.



Neueste Auflage.

Frankfurt und Leipzig

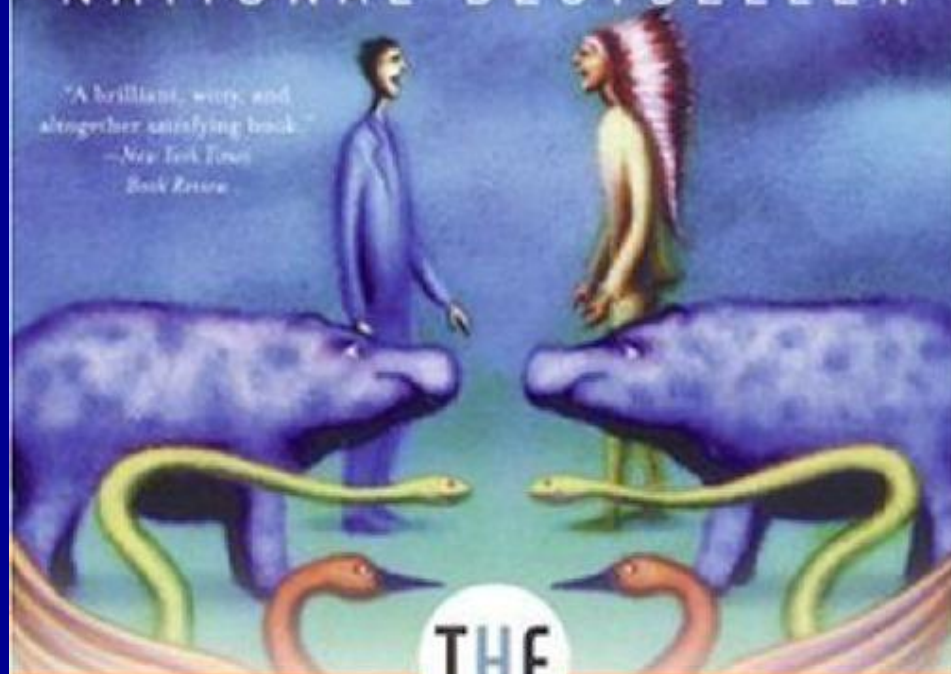
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Conceive
Perceive

Words

NATIONAL BESTSELLER

"A brilliant, witty, and
altogether satisfying book."
—*New York Times*
Book Review



THE

LANGUAGE

INSTINCT

HOW THE MIND CREATES LANGUAGE

STEVEN PINKER

AUTHOR OF *THE STUFF OF THOUGHT*

HARPERPERENNIAL  MODERNCLASSICS

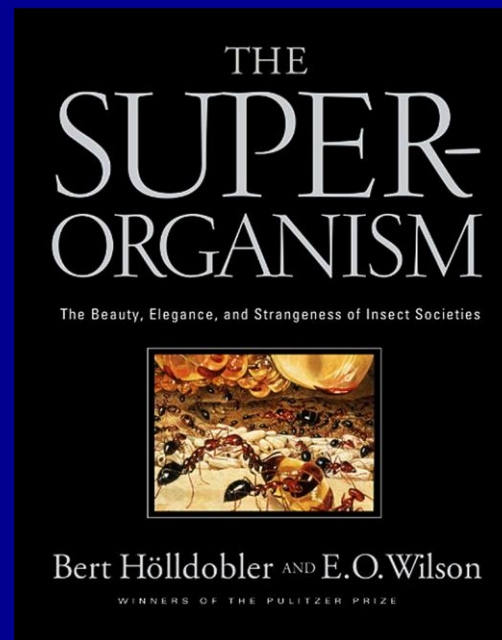
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INSIGHTS,
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& MORE...





102.465

Super-organisms



... the highest level of the ant colony is the totality of its membership rather than a particular set of superordinate individuals who direct the activity of members at lower levels.

Hölldobler and Wilson (1990)





MATT
GREENING

These are termites



WORKER

Actual size 1/4-inch



SOLDIER

Actual size 5/16-inch



QUEEN

Actual size 1/2-inch



High Society

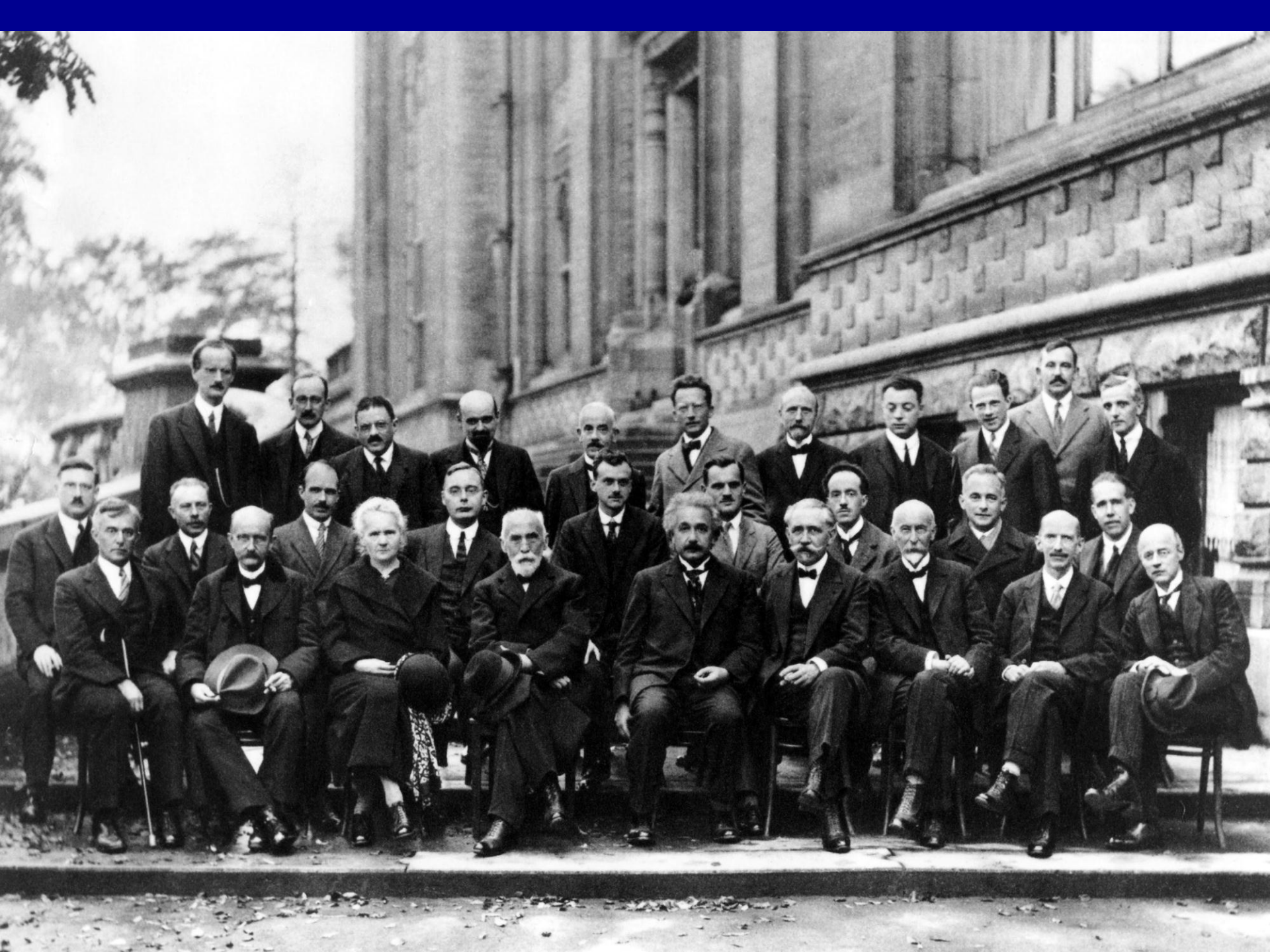


Original Soundtrack

BING
CROSBY

GRACE
KELLY

FRANK
SINATRA



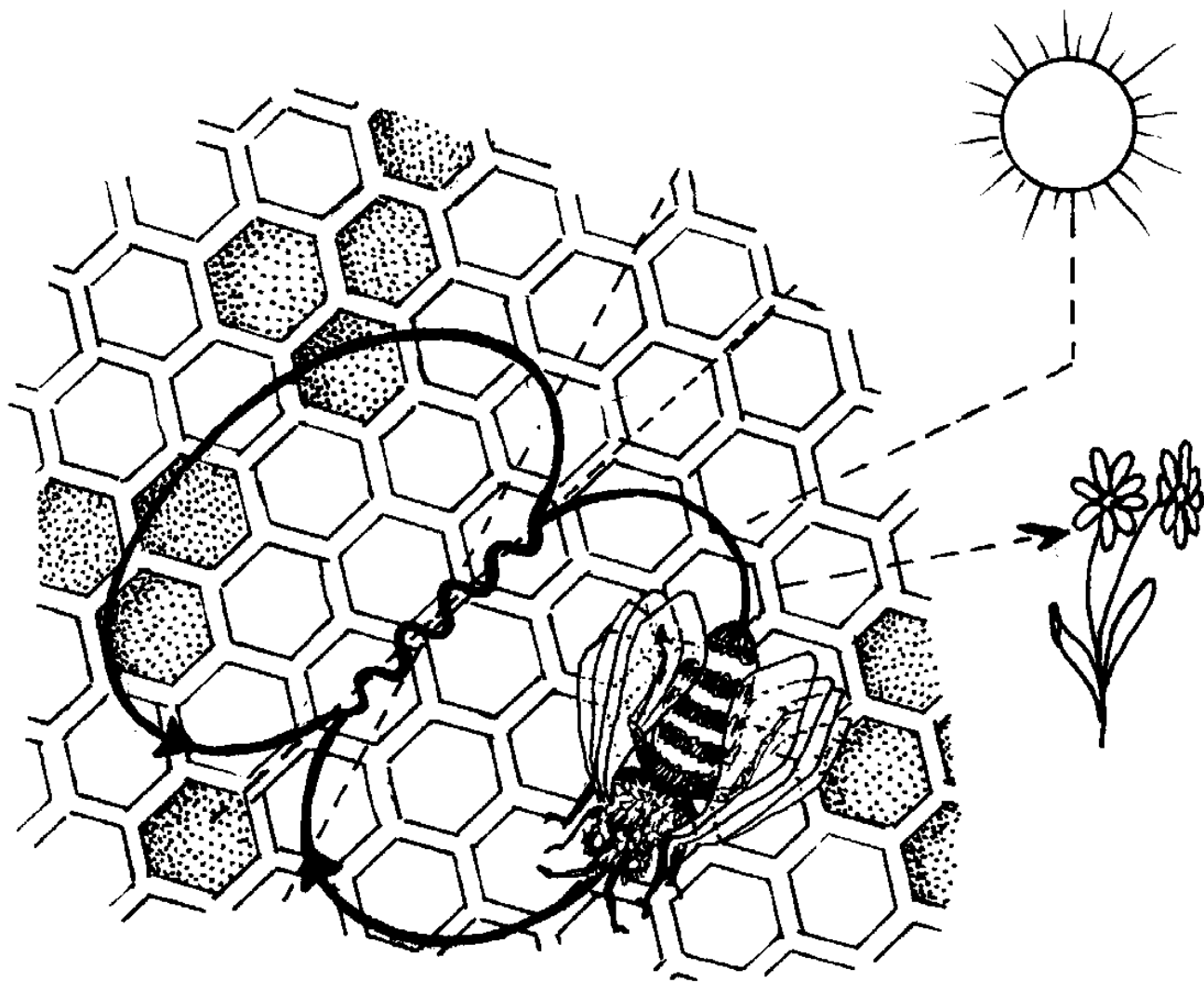


Spain
San Lorenzo de El Escorial
2 - 5 October, 2005

ADASS XV

Communication





Guy / 00

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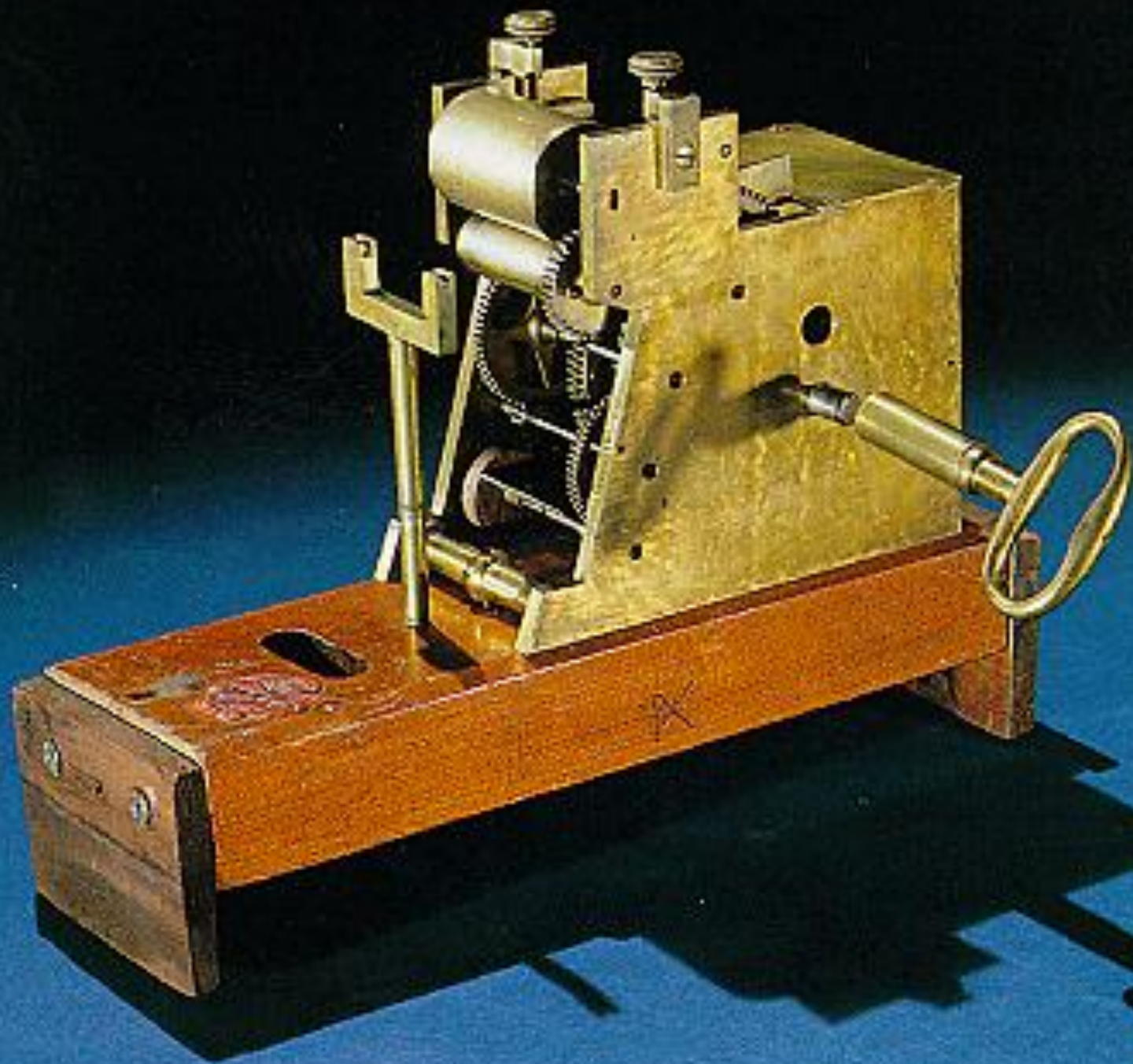
The system of radiation which embraces the whole planet, and includes the million million brains of the race, becomes the physical basis of a racial self. . .

But chiefly the racial mind transcends the minds of groups and individuals in philosophical insight into the true nature of space and time, mind and its objects, cosmical striving and cosmical perfection....

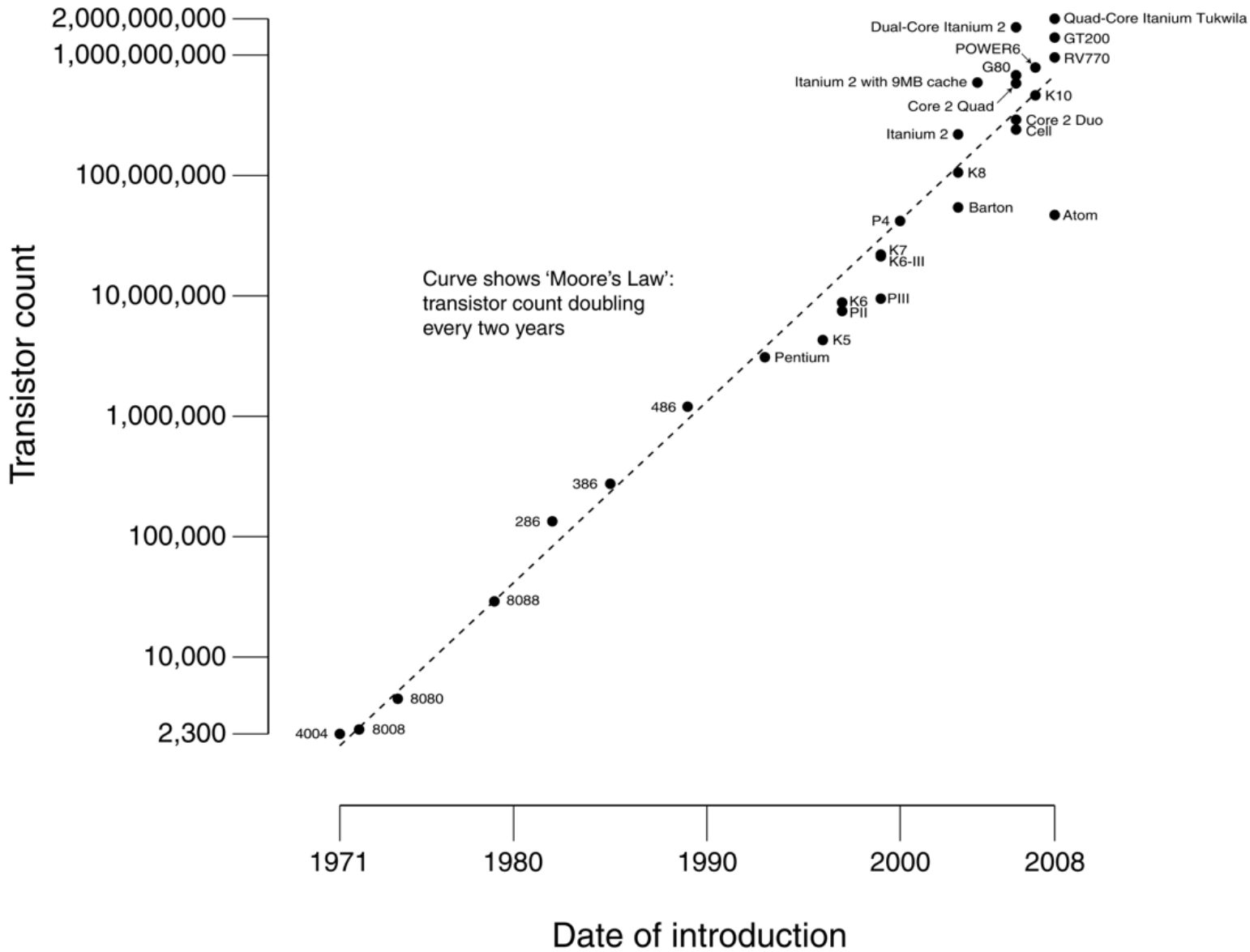
For all the daily business of life, then, each of us is mentally a distinct individual, though his ordinary means of communication with others is “telepathic.” But frequently he wakes up to be a group-mind. . .

Of this obviously, I can tell you nothing, save that it differs from the lowlier state more radically than the infant mind differs from the mind of the individual adult, and that it consists of insight into many unsuspected and previously inconceivable features of the familiar world of men and things.





CPU Transistor Counts 1971-2008 & Moore's Law









OFFSHORE SET-UPS HELPED ROMNEYS INCREASE WEALTH

FUNDS IN THE CAJMANS

With Bain's Strategies,
Taxes Were Reduced
and Profits Grew

By MICHAEL LEE
and NICK MATTHEWS

Started deep in the tax returns released by Mitt Romney's presidential campaign are references to dozens of offshore holdings with names like Time Funding (Cayman Islands) LLC and Lander to Credit (Cayman Islands) Limited (C.I.) based in the Caribbean Islands.

Mr. Romney, responding to opponents' harpings about his use of corporate tax havens, has offered a narrow defense, saying only that the investments, many made through the private equity firm he founded, Bain Capital, have yielded him "an average of 10 percent a year."

A review of thousands of pages of financial documents and interviews with tax lawyers found that in some cases, the offshore arrangements enabled his individual retirement account to avoid taxes on its investments and they would have reduced Mr. Romney's personal income tax bill.

But perhaps a more significant aspect of Mr. Romney's offshore investments has been on the profit side of the ledger — in the way Bain's low-tax-rate strategies have increased his income.

Some of the offshore entities created have earned companies
(Continued on Page A1)

A Legal Circle Reaches Deep To Aid Obama

Donations by Lawyers
for White-House

By ERIC Lipton

WASHINGTON — As the White House administration has cracked down on corporate law, lawyers representing white-collar executives have stepped into the breach to support the president's policies. They are donating generously to the president's reelection campaign.

Lawyers in the tight circle who specialize in filing lawsuit claims on behalf of clients with evidence of wrongdoing have raised more than \$1 million so far for President Obama. The government, meanwhile, has paid out \$1.4 billion to whistleblowers during his tenure, with law firms taking a cut in some cases of up to 40 percent of the proceeds.

The lawyers have contributed directly to Mr. Obama's campaign, served as "honorary" white-collar contributors from within, donated to the Democratic National Committee and written large checks to Political USA, the "Super PAC" supporting Mr. Obama's reelection efforts. They have also donated heavily to Congressional Democrats.

Their support comes as Mitt Romney, the Republican presidential nominee, has called for repeal of the Dodd-Frank act, which imposed new oversight of the financial services industry and expanded the government's whistleblower programs to the securities and exchange commissions, which has set some limits on what lawyers can do for clients. Romney groups have also pushed for
(Continued on Page A1)



SPRINGFIELD, Mo. A vehicle struck by a truck killed at least 20 people and injured dozens. Page A6.

U.S. Abandoning Hopes for Taliban Peace Deal

By WALTER BORNHEIM
and BOB NORDLAND

BAGHDAD, Afghanistan — With the surge of American troops over and the Taliban still a potent force, American generals and other officials acknowledge that they have all but written off what was once one of the cornerstones of their strategy to end the war here: halting the Taliban into a
(Continued on Page A1)

peace deal.
The once ambitious American plan for ending the war are now being replaced by the far more realistic goal of ending the struggle for the Afghan for many years ahead among themselves in the years after their Western forces depart, and to ensure Pakistan is not bound with any extraneous settlement. Military and diplomatic officials here and in Washington say that people attempt to engage directly with Taliban leaders this year, they now expect that any significant progress will come only after 2014, and the bulk of NATO troops have left.
"I don't see it happening in the next couple years," said a senior coalition official. He and a number of other officials spoke on the condition of anonymity because of the delicacy of the effort to open talks.
"It's a very delicate issue, and I'm not going to talk you off a cliff," the official said. "It will be a constant battle, and it will be for years."

The failure to broker a peace deal with the Taliban underwrites the fragility of the government during the surge of American troops ordered by President Obama in 2010. The U.S. military troops were both territory held by the Taliban but by nearly all references failed to end a crippling blow.
Critics of the Obama administration say the United States also weakened its own hand by agreeing to the 2011 deadline for its own involvement in combat operations, voluntarily ending the surge. The Taliban has been waiting for over a decade. The Obama administration defends the deadline as crucial to persuading the Afghan government and military to assume full responsibility for the country and politically legitimacy for democratic elections of what has already become the country's longest war.
Among American...
(Continued on Page A1)

SENATE LEADERS SEE PATH TO AVERT MANDATORY CUTS

FACING JAN. 1 DEADLINE

bipartisan Support for a
3-Step Plan to Avert
the "Fiscal Cliff"

By JONATHAN WEISSMAN

WASHINGTON — Senate leaders are closing in on a path for dealing with the "fiscal cliff" facing the country in January, trying to try to cut a bipartisan coalition of Congress to reach agreement on a comprehensive deficit reduction deal rather than a short-term solution.

Senate Democrats and Republicans remain far apart on the details, and House Republicans continue to insist any discussion of tax increases. But negotiators and aides say that a bipartisan group of senators is working around an anti-White House strategy to pass a version of anti-deficit tax increases and deep spending cuts.

First, senators would push for an agreement on a deficit reduction target — likely to be around \$1 trillion over 10 years — to be reached through a process created by an overhaul of the tax cuts savings from changes to social programs like Medicare and Social Security, and cuts to federal programs. Over the framework to agreement, lawmakers would make the extended instructions to relevant Congressional committees to draft the details over the months to come.

If those efforts failed, another plan would take effect, probably a more dramatic one that proposed by President Obama's fiscal commission led by Erskine B. Bowles, the Clinton White House chief of staff, and former Senator Alan K. Simpson of Wyoming, a Republican. Those recommendations included changes to federal programs and actions that would lower tax rates over all but eliminate or scale through deductions and credits to yield as much as \$1 trillion in additional revenue.

Finally, they would vote to pull off the anti-deficit spending cuts, known as sequestration, and tax
(Continued on Page A1)



Steven Kivela, author of "Blood Exile," is holding mammals with a pair of panthers in Alaska.

BARRY COMMONWEALTH

Saw an Earth at Risk and Let the World Know

By DANIEL LEROY
Barry Commonwell, a founder of...
...of Columbia and Harvard, he came armed with a combination of scientific expertise and belief and his work in the global...
...through the 1960s and '70s, and led in a widely read for president...
...in 2005, the year of the first...

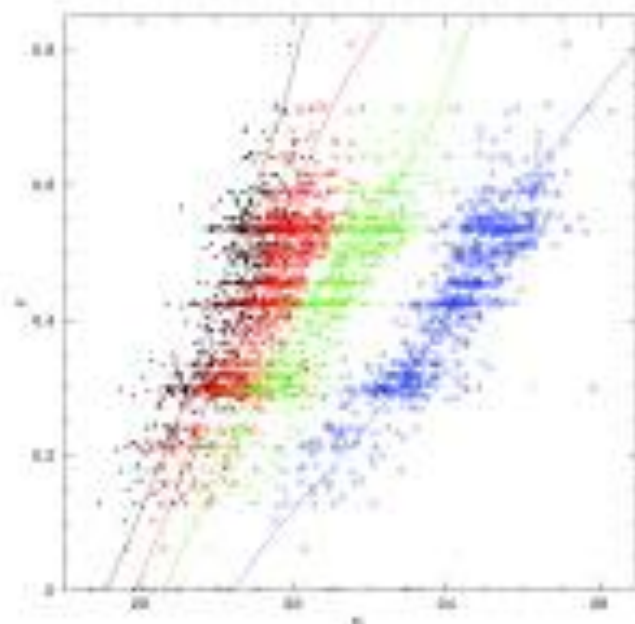
THE ASTRONOMICAL JOURNAL

FOUNDED BY B. A. GOULD
1849

VOLUME 134

October 2007 ~ No. 1822

NUMBER 4



(See Page A150)

Published for the
AMERICAN ASTRONOMICAL SOCIETY
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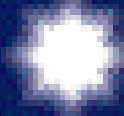


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GUILLIELMI OBYLLIS, A.M.
Hujus Collegii quondam
Discipuli Scholaris.

20

19

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kurtz weak gravitational lensing

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^kurtz weak gravitational lensing - *Most recent*

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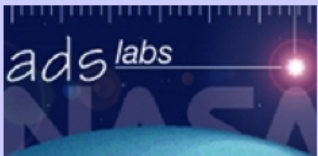
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Testing Weak-lensing Maps with Redshift Surveys: A Subaru Field
 Kurtz, Michael J.; Geller, Margaret J.; Utsumi, Yousuke; Miyazaki, Satoshi; *and 2 coauthors*



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Testing Weak-lensing Maps with Redshift Surveys: A Subaru Field

Kurtz, Michael J.; Geller, Margaret J.; Utsumi, Yousuke; Miyazaki, Satoshi;
Dell'Antonio, Ian P.; Fabricant, Daniel G.

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The Astrophysical Journal, Volume 750, Issue 2, article id. 168 (2012).
Published in May 2012

DOI: [10.1088/0004-637X/750/2/168](https://doi.org/10.1088/0004-637X/750/2/168)

We use a dense redshift survey in the foreground of the Subaru GTO2deg2 weak-lensing field (centered at $\alpha_{2000} = 16^{\text{h}}04^{\text{m}}44^{\text{s}}$; $\delta_{2000} = 43^{\circ}11'24''$) to assess the completeness and comment on the purity of massive halo identification in the weak-lensing map. The redshift survey (published here) includes 4541 galaxies; 4405 are new redshifts measured with the Hectospec on the MMT. Among the weak-lensing peaks with a signal-to-noise greater than 4.25, 2/3 correspond to individual massive systems; this result is essentially identical to the Geller et al. test of the Deep Lens Survey (DLS) field F2. The Subaru map, based on images in substantially better seeing than the DLS, enables detection of less massive halos at fixed redshift as expected. We demonstrate that the procedure adopted by Miyazaki et al. for removing some contaminated peaks from the weak-lensing map improves agreement between the lensing map and the redshift survey in the identification of candidate massive systems.

Keywords:

Astronomy: cosmology: observations, galaxies: clusters: general, galaxies: distances and redshifts, gravitational lensing: weak, large-scale structure of Universe

arXiv: [arXiv:1102.5743](https://arxiv.org/abs/1102.5743)

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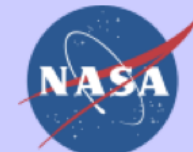
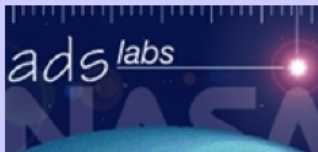
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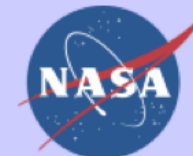
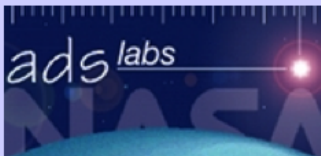
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5. [2000AJ....120.2747C](#) Cited by 150 [[E](#) [F](#) [X](#) [D](#) [R](#) [C](#) [S](#) [N](#) [U](#)]
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8. [1999ApJS..122..51D](#) Cited by 366 [[E](#) [F](#) [X](#) [D](#) [R](#) [C](#) [S](#) [N](#) [U](#)]
A Spectroscopic Catalog of 10 Distant Rich Clusters of Galaxies
Dressler, Alan; Smail, Ian; Poggianti, Bianca M.; Butcher, Harvey; *and 3 coauthors*
9. [2005PASP..117.1411F](#) Cited by 114 [[E](#) [X](#) [R](#) [C](#) [S](#) [U](#)]
Hectospec, the MMT's 300 Optical Fiber-Fed Spectrograph



1999ApJS..122...51D

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A Spectroscopic Catalog of 10 Distant Rich Clusters of Galaxies

Dressler, Alan; Smail, Ian; Poggianti, Bianca M.; Butcher, Harvey; Couch, Warrick J.; Ellis, Richard S.; Oemler, Augustus, Jr.

The Astrophysical Journal Supplement Series, Volume 122, Issue 1, pp. 51-80.
Published in May 1999

DOI: [10.1086/313213](https://doi.org/10.1086/313213)

We present spectroscopic observations of galaxies in the fields of 10 distant clusters for which we have previously presented deep imaging with WFPC2 on board the Hubble Space Telescope. The clusters span the redshift range $z=0.37-0.56$ and are the subject of a detailed ground- and space-based study to investigate the evolution of galaxies as a function of environment and epoch. The data presented here include positions, photometry, redshifts, spectral line strengths, and classifications for 657 galaxies in the fields of the 10 clusters. The catalog is composed of 424 cluster members across the 10 clusters and 233 field galaxies, with detailed morphological information from our WFPC2 images for 204 of the cluster galaxies and 71 in the field. We illustrate some basic properties of the catalog, including correlations between the morphological and spectral properties of our large sample of cluster galaxies. A direct comparison of the spectral properties of the high-redshift cluster and field populations suggests that the phenomenon of strong Balmer lines in otherwise passive galaxies (commonly called E+A but renamed here as the k+a class) shows an order-of-magnitude increase in the rich cluster environment compared with a more modest increase in the field population. This suggests that the process or processes involved in producing k+a galaxies are either substantially more effective in the cluster environment or that this environment prolongs the visibility of this phase. A more detailed analysis and modeling of these data is presented in Poggianti et al.

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- [2011ApJ...733L..30H](#) Hildebrandt,+: Lensing Magnification: A Novel Method to Weigh High-redshift Clusters and its Application to SpARCS
- [2009ApJ...705..809T](#) Tran,+: A Spectroscopically Confirmed Excess of 24 μm Sources in a Super Galaxy Group at $z = 0.37$: Enhanced Dusty Star Formation Relative to the Cluster and Field Environment
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- [2011arXiv1110.1377K](#) Kelly,+: Core-Collapse Supernovae and Host Galaxy Stellar Populations
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- [1998ApJ...500..525S](#) Schlegel,+: Maps of Dust Infrared Emission for Use in Estimation of Reddening and Cosmic Microwave Background Radiation Foregrounds

Keywords:

Astronomy: GALAXIES: CLUSTERS: GENERAL GALAXIES: DISTANCES AND REDSHIFTS

A SPECTROSCOPIC CATALOG OF 10 DISTANT RICH CLUSTERS OF GALAXIES

ALAN DRESSLER,¹ IAN SMAIL,^{2,3} BIANCA M. POGGIANTI,^{4,5,6} HARVEY BUTCHER,⁷
WARRICK J. COUCH,⁸ RICHARD S. ELLIS,⁴ AND AUGUSTUS OEMLER, JR.¹

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ABSTRACT

We present spectroscopic observations of galaxies in the fields of 10 distant clusters for which we have previously presented deep imaging with WFPC2 on board the *Hubble Space Telescope*. The clusters span the redshift range $z = 0.37\text{--}0.56$ and are the subject of a detailed ground- and space-based study to investigate the evolution of galaxies as a function of environment and epoch. The data presented here include positions, photometry, redshifts, spectral line strengths, and classifications for 657 galaxies in the fields of the 10 clusters. The catalog is composed of 424 cluster members across the 10 clusters and 233 field galaxies, with detailed morphological information from our WFPC2 images for 204 of the cluster galaxies and 71 in the field. We illustrate some basic properties of the catalog, including correlations between the morphological and spectral properties of our large sample of cluster galaxies. A direct comparison of the spectral properties of the high-redshift cluster and field populations suggests that the phenomenon of strong Balmer lines in otherwise passive galaxies (commonly called E + A but renamed here as the k + a class) shows an order-of-magnitude increase in the rich cluster environment compared with a more modest increase in the field population. This suggests that the process or processes involved in producing k + a galaxies are either substantially more effective in the cluster environment or that this environment prolongs the visibility of this phase. A more detailed analysis and modeling of these data is presented in Poggianti et al.

Subject headings: galaxies: clusters: general — galaxies: distances and redshifts — galaxies: evolution — galaxies: photometry

1. INTRODUCTION

The change with redshift observed in the proportion of star-forming galaxies in the cores of rich clusters was uncovered over 20 years ago, by Butcher & Oemler (1978, 1984), but it remains one of the clearest and most striking examples of galaxy evolution. Considerable effort has gone into acquiring photometric information that would elucidate the physical processes active in distant clusters and their effects on the evolution of both the star-forming (Lavery & Henry 1994; Lubin 1996; Rakos & Schombert 1995; Rakos, Odell, & Schombert 1997) and passive galaxies (Aragón-Salamanca et al. 1993; Stanford, Eisenhardt, & Dickinson 1995, 1998; Smail et al. 1998). Further impetus has been provided by observations of the recent transformation of the S0 population of clusters (Dressler et al. 1997), which may allow a closer connection to be drawn between the galaxy populations of distant clusters and the evolutionary signatures found in their local universe counterparts (Caldwell & Rose 1997; Bothun & Gregg 1990).

However, it was the advent of spectroscopic surveys of the distant cluster populations (e.g., Dressler & Gunn 1983, 1992, hereafter DG92; Couch & Sharples 1987, hereafter

CS87; Barger et al. 1996; Abraham et al. 1996; Fisher et al. 1998) that uncovered the real breadth of the changes in galaxies in these environments, including several spectral signatures of evolutionary change, such as evidence for a strong decline in the star formation rates of many cluster galaxies in the recent past. The advent of high-spatial resolution imaging with the *Hubble Space Telescope* (HST) provided a further breakthrough, giving morphological information on the galaxies in these distant clusters. This could be used to link the evolution of stellar populations in the galaxies with the evolution of their *structure* in order to understand how the various galaxy types we see in the local universe came to be. Pre- and postrefurbishment HST observations by two groups (Couch et al. 1994, 1998; Dressler et al. 1994; Oemler, Dressler, & Butcher 1997) were used in early attempts to correlate spectral evolution with morphological/structural data and to provide some insight into the mechanisms that might be driving the strong evolution in the cluster galaxy population. These two programs were extended from cycle 4 into the “MORPHS” project, which accumulated postrefurbishment WFPC2 images for 11 fields in 10 clusters at $z = 0.37\text{--}0.56$, viewed at a time some $2\text{--}4 h^{-1}$ billion yr before the present day.⁹ The photometric and morphological galaxy catalogs from these images were presented in Smail et al. (1997a, hereafter S97), while the data have also been used to study the evolution of the early-type galaxies within the clusters, using both color (Ellis et al. 1997) and structural information (Barger et al. 1998), the evolution of the morphology-density relation of

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⁹ We use $q_0 = 0.5$ and $h = H_0/100 \text{ km s}^{-1} \text{ Mpc}^{-1}$. For this geometry $1''$ is equivalent to $3.09 h^{-1} \text{ kpc}$ for our lowest redshift cluster and $3.76 h^{-1} \text{ kpc}$ for the most distant.

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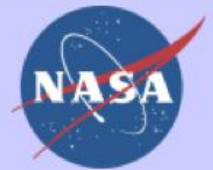
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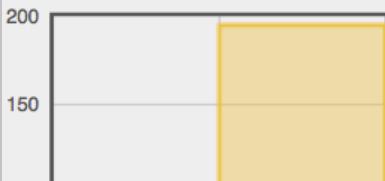
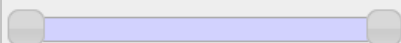
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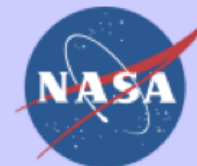
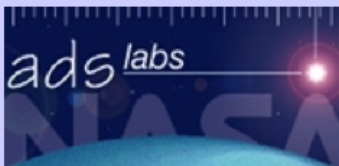
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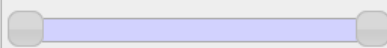
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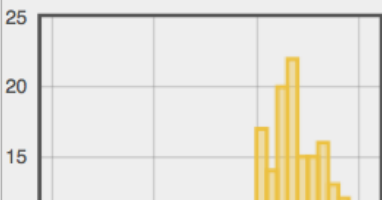
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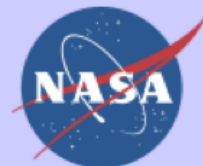
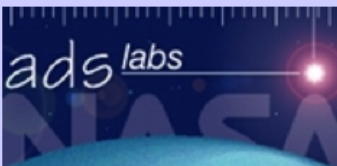
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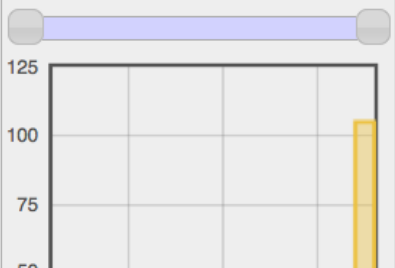
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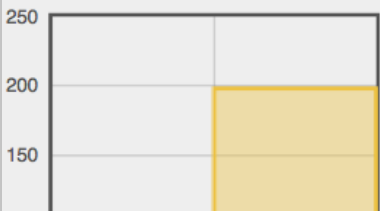
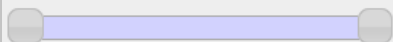
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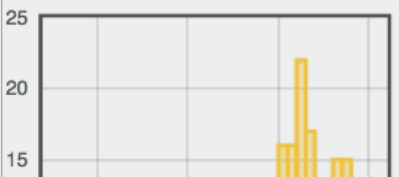
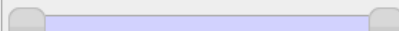
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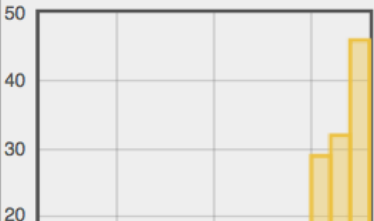
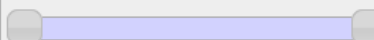
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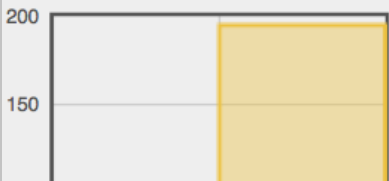
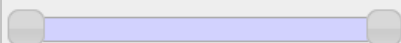
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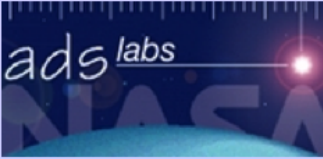
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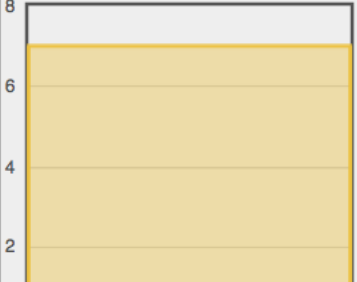
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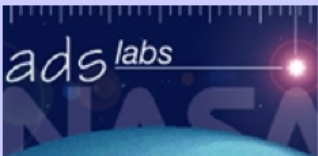
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Published in Sep 2012

DOI: [10.1088/0004-637X/757/1/22](https://doi.org/10.1088/0004-637X/757/1/22)

We precisely constrain the inner mass profile of A2261 ( $z = 0.225$ ) for the first time and determine that this cluster is not "overconcentrated" as found previously, implying a formation time in agreement with  $\Lambda$ CDM expectations. These results are based on multiple strong-lensing analyses of new 16-band Hubble Space Telescope imaging obtained as part of the Cluster Lensing and Supernova survey with Hubble. Combining this with revised weak-lensing analyses of Subaru wide-field imaging with five-band Subaru + KPNO photometry, we place tight new constraints on the halo virial mass  $M_{\text{vir}} = (2.2 \pm 0.2) \times 10^{15} M_{\odot}$ ;  $h^{-1} 70$  (within  $r_{\text{vir}} \approx 3 \text{ Mpc } h^{-1} 70$ ) and concentration  $c_{\text{vir}} = 6.2 \pm 0.3$  when assuming a spherical halo. This agrees broadly with average  $c(M, z)$  predictions from recent  $\Lambda$ CDM simulations, which span  $5 \lesssim \text{langcrang} \lesssim 8$ . Our most significant systematic uncertainty is halo elongation along the line of sight (LOS). To estimate this, we also derive a mass profile based on archival Chandra X-ray observations and find it to be  $\sim 35\%$  lower than our lensing-derived profile at  $r 2500 \sim 600 \text{ kpc}$ . Agreement can be achieved by a halo elongated with a  $\sim 2:1$  axis ratio along our LOS. For this elongated halo model, we find  $M_{\text{vir}} = (1.7 \pm 0.2) \times 10^{15} M_{\odot}$ ;  $h^{-1} 70$  and  $c_{\text{vir}} = 4.6 \pm 0.2$ , placing rough lower limits on these values. The need for halo elongation can be partially obviated by non-thermal pressure support and, perhaps entirely, by systematic errors in the X-ray mass measurements. We estimate the effect of background structures based on MMT/Hectospec spectroscopic redshifts and find that these tend to lower  $M_{\text{vir}}$  further by  $\sim 7\%$  and

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Der Begriff des kollektiven Unbewußten  
Über den Archetypus mit besonderer  
Berücksichtigung des Animabegriffes  
Zur Phänomenologie  
des Geistes im Märchen  
Bewußtes, Unbewußtes  
und Individuation  
Über Mandalasymbolik

Walter-Verlag

We are creating  
the Lizard Brain of  
the new organism



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Critik  
der  
reinen Vernunft

von  
Immanuel Kant,  
Professor in Königsberg,  
der Königl. Academie der Wissenschaften in Berlin  
Mitglied.



Neueste Auflage.

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Frankfurt und Leipzig

1794.

Conceive  
Perceive

The system of radiation which embraces the whole planet, and includes the million million brains of the race, becomes the physical basis of a racial self. . .

But chiefly the racial mind transcends the minds of groups and individuals in philosophical insight into the true nature of space and time, mind and its objects, cosmical striving and cosmical perfection....

For all the daily business of life, then, each of us is mentally a distinct individual, though his ordinary means of communication with others is “telepathic.” But frequently he wakes up to be a group-mind. . .

Of this obviously, I can tell you nothing, save that it differs from the lowlier state more radically than the infant mind differs from the mind of the individual adult, and that it consists of insight into many unsuspected and previously inconceivable features of the familiar world of men and things.