



# Abstract Writing Workshop

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# Abstract



# Abstract

## GEOLOGICAL NOTES

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### A SCRUTINY OF THE ABSTRACT, II<sup>1</sup>

KENNETH K. LANDES<sup>2</sup>

Ann Arbor, Michigan

#### ABSTRACT

A partial biography of the writer is given. The inadequate abstract is discussed. What should be covered by an abstract is considered. The importance of the abstract is described. Dictionary definitions of "abstract" are quoted. At the conclusion a revised abstract is presented.

For many years I have been annoyed by the inadequate abstract. This became acute while I was serving a term as editor of the *Bulletin* of The American Association of Petroleum Geologists. In addition to returning manuscripts to authors for rewriting of abstracts, I also took 30 minutes in which to lower my ire by writing, "A Scrutiny of the Abstract."<sup>1</sup> This little squib has had a fantastic distribution. If only one of my scientific outpourings would do as well! Now the editorial board of the Association has requested a revision. This is it.

listens to your entire paper, from 10 to 500 will read the abstract.

If you are presenting a paper before a learned society, the abstract alone may appear in a pre-convention issue of the society journal as well as in the convention program; it may also be run by trade journals. The abstract which accompanies a published paper will most certainly reappear in abstract journals in various languages, and perhaps in company internal circulars as well. It is much better to please than to antagonize this great audience. Papers written for oral presenta-

# Abstract

- Abstracts appear:
  - At the start of published papers
  - In published conference proceedings (for both presentations and posters)
  - In electronic databases (e.g., JSTOR, PubMed)
  - In invitations to review a manuscript for a journal
  - When writing book proposals, grant proposals, etc.

# Abstract

- Summarizes (often in 1 paragraph, no more than 2) the entire paper
- Usually ~150-300 words
- Typically written in the past tense
- New text (not cut/pasted from the body of the paper)
- Stands alone

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# Abstract

- Avoid being vague
  - E.g., “Several implications will be discussed”
- Typically written (mostly) in the third person
- Includes keywords
- Avoid typos
- Avoid references (unless critical to the study)

# Abstract

## **Abstract**

For over 140 years, lichens have been regarded as a symbiosis between a single fungus, usually an ascomycete, and a photosynthesizing partner. Other fungi have long been known to occur as occasional parasites or endophytes, but the one lichen–one fungus paradigm has seldom been questioned. Here we show that many common lichens are composed of the known ascomycete, the photosynthesizing partner, and, unexpectedly, specific basidiomycete yeasts. These yeasts are embedded in the cortex, and their abundance correlates with previously unexplained variations in phenotype. Basidiomycete lineages maintain close associations with specific lichen species over large geographical distances and have been found on six continents. The structurally important lichen cortex, long treated as a zone of differentiated ascomycete cells, appears to consistently contain two unrelated fungi.



# Abstract

## Secular Changes in Standards of Bodily Attractiveness in American Women: Different Masculine and Feminine Ideals

NIGEL BARBER

*Department of Psychology  
Birmingham-Southern College*



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ABSTRACT. Silverstein, Peterson, and Perdue (1986) studied changes in curvaceousness of the models in *Vogue* magazine over time and found that curvaceousness was inversely correlated with American women's participation in higher education and the professions. In the present study, it was predicted that the male standard for women's bodily attractiveness would differ from the female standard and would change differently over time, based on evolutionary theory. Published data on the bodily curvaceousness of models in *Playboy* and *Vogue* and on Miss America winners were used to test this hypothesis. Although they did not differ on average, the male and female standards changed differently over time. There was less variation in the male standard, represented by *Playboy* and by Miss America winners, than in the female standard, represented by *Vogue*. Results suggest that cultural standards of attractiveness are influenced by an evolved psychology of mate selection that has implications for understanding changes in the standard of attractiveness and its relation to eating disorders.

# Abstract

- Usually written last
- Contains no graphics
- Usually not needed for a presentation or poster (which is itself a type of 'summary'), but there is often an abstract publication that goes with both
- Don't mislead readers

What to Include?

# What to Include?

- *Introduction*: the goal of the study, crucial background
- *Methods*: basic study design
- *Results*: summary of major findings
- *Discussion*: Interpretations, conclusions, broader implications

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# Common Structure Across Disciplines

Experimental Social Sciences (e.g., Applied Economics, Behavioral Medicine):

**Objective:** Using self-refilling soup bowls, this study examined whether visual cues related to portion size can influence intake volume without altering either estimated intake or satiation.

**Research Methods and Procedures:** Fifty-four participants (BMI, 17.3 to 36.0 kg/m<sup>2</sup>; 18 to 46 years of age) were recruited to participate in a study involving soup. The experiment was a between-subject design with two visibility levels: 1) an accurate visual cue of a food portion (normal bowl) vs. 2) a biased visual cue (self-refilling bowl). The soup apparatus was housed in a modified restaurant-style table in which two of four bowls slowly and imperceptibly refilled as their contents were consumed. Outcomes included intake volume, intake estimation, consumption monitoring, and satiety.

**Results:** Participants who were unknowingly eating from self-refilling bowls ate more soup [14.7 +/- 8.4 vs. 8.5 +/- 6.1 oz;  $F(1,52) = 8.99$ ;  $p < 0.01$ ] than those eating from normal soup bowls. However, despite consuming 73% more, they did not believe they had consumed more, nor did they perceive themselves as more sated than those eating from normal bowls. This was unaffected by BMI.

**Discussion:** These findings are consistent with the notion that the amount of food on a plate or bowl increases intake because it influences consumption norms and expectations and it lessens one's reliance on self-monitoring. It seems that people use their eyes to count calories and not their stomachs. The importance of having salient, accurate visual cues can play an important role in the prevention of unintentional overeating.

# Common Structure Across Disciplines



## Experimental Social Sciences (e.g., Psychology):

Despite a long tradition of effectiveness in laboratory tests, **normative messages have had mixed success in changing behavior in field contexts**, with some studies showing boomerang effects. To test a theoretical account of this inconsistency, we conducted a field experiment in which normative messages were used to promote household energy conservation. As predicted, a descriptive normative message detailing average neighborhood usage produced either desirable energy savings or the undesirable boomerang effect, depending on whether households were already consuming at a low or high rate. Also as predicted, adding an injunctive message (conveying social approval or disapproval) eliminated the boomerang effect. The results offer an explanation for the mixed success of persuasive appeals based on social norms and suggest how such appeals should be properly crafted.

# This structure applies more broadly

- Introduction/Objective = Why do we care about the problem?
- “Method” = What did you do to get to your argument?
- “Results” = What is your argument?
- Discussion = What are the larger implications of your findings?



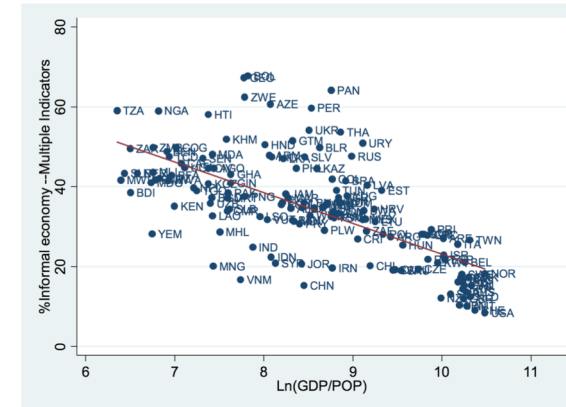
# This structure applies more broadly

- **Introduction/Objective = Why do we care about the problem?**
  - State of knowledge in the field.
  - What gap is your research filling?
- **“Method” = What did you do to get to your argument?**
  - Could involve analyzing literary works, completing a series of paintings, searching archives, comparing documents.
- **“Results” = What is your argument?**
  - A statement of the thesis.
- **Discussion = What are the larger implications of your findings?**

# The structure still applies ...

## Social Sciences (e.g., Economics):

In developing countries, informal firms account for up to about half of all economic activity. Using data from World Bank firm-level surveys, we find that informal firms are small and extremely unproductive compared with even the small formal firms in the sample, and especially relative to the larger formal firms. Formal firms are run by much better educated managers than informal ones and use more capital, have different customers, market their products, and use more external finance. Few formal firms have ever operated informally. This evidence supports the dual economy (“Wal-Mart”) theory of development, in which growth comes about from the creation of highly productive formal firms. Informal firms keep millions of people alive but disappear as the economy develops.



# The structure still applies ...

## Social Sciences (e.g., Anthropology):

The HIV virus is currently destroying all facets of African life. It therefore is imperative that a new holistic form of health education and accessible treatment be implemented in African public health policy that improves dissemination of prevention and treatment programs, while maintaining the cultural infrastructure. Drawing on government and NGO reports, as well as other documentary sources, this paper examines the nature of current efforts and the state of health care practices in Africa. I review access to modern health care and factors that inhibit local utilization of these resources, as well as traditional African beliefs about medicine, disease, and healthcare. This review indicates that a collaboration of western and traditional medical care and philosophy can help slow the spread of HIV in Africa. This paper encourages the acceptance and financial support of traditional health practitioners in this effort owing to their accessibility and affordability and their cultural compatibility with the community.

# The structure still applies ...

## Social Sciences (e.g., History):

Historical scholarship often relies on intermittent adjustments rather than radical innovation. Through a close reading of three different universal histories published between 1690 and 1760, this essay argues that the secularization of world history in the age of Enlightenment was an incomplete and often unintended process. Nonetheless, one of the most significant changes in this period was the centering of universal history in Europe, a process that accompanied the desacralization of the story of man. Once human progress was embraced as a universal process, the story of the development of the arts and sciences gradually eclipsed the non-European cultures that had formerly played a central role in the Christian narrative of human history.

# Same Basic Structure in Humanities

- Introduction/Objective = Background and Why do we care about the problem?
- “Method” = What did you do to get to your argument?
- “Results” = What is your argument?
- Discussion = What are the larger implications of your findings?

## Literature

In late-Victorian literature and psychology, memories were frequently thought to transgress mental boundaries, drifting from one mind to another or assuming a spectral existence. Objects with powerful – and often traumatic – associations acted as an especially potent conduit by which memories could pass between people who were distant in time and space. Examining literary, psychological, and parapsychological writings by Thomas Hardy, Arthur Conan Doyle, George Henry Lewes, Samuel Butler, and F. W. H. Myers, this essay argues that these works provide a distinctive set of narratives about the potential displacement and uncertain ownership of memory. By offering a range of speculations about how emotions, memories, and experiences adhere to the material world, **such narratives dramatize the permeability increasingly attributed to memory, consciousness, and individual identity at the end of the Victorian period.**

# Same Basic Structure in Humanities



## Art

The role of chance in producing a picture by snapping a shutter release before a complex and quickly changing scene weakens the bond between the historic action photograph and the meanings it is routinely asked to bear. To appreciate this problem and to understand the array of popular notions that have been marshaled to finesse or suppress the role of chance in photographic production, I consider the case of Joe Rosenthal's 1945 photograph of American servicemen raising a flag on Iwo Jima. The analysis pushes the production of this famous photograph through a series of zoological analogies: Is it like a fisherman reeling in a trophy catch? Like a cat pouncing on a mouse or a spider setting a trap for a fly? Like a pig pushing its snout through the dirt? Like chimpanzees banging at typewriters? These analogies are playful but also serious. We need new models for understanding the production of the historic action photograph because the predominant modern and postmodern approaches to that production have suppressed the role of chance. Whereas the modern regime tends to understand the historic action photograph as an inspired flash of history, the postmodern regime tends to understand it as a discursive effect. Entertaining the notion that such a photograph is instead a stochastic result leads to a new conception of photography and its relationship to history. Chance emerges as a third kind of photographic madness, alongside the industrial madness decried by Charles Baudelaire and the indexical madness that moved Roland Barthes.

Questions?



When you don't know your results / thesis /  
conclusions...



When you don't know your results / thesis / conclusions...

This actually happens in the real world

# When you don't know your results / thesis conclusions...


This summer, I have rotated among several different projects related to the processing of social information (social cognition) and the ability to infer the thoughts and feelings of others (mentalization). The SCAN Lab uses behavioral methods and functional magnetic resonance imaging (fMRI), a neuroimaging method that monitors changes in metabolic activity among different brain regions, to investigate the neural basis of social cognition.

One project I am working on aims to determine the power of social influence on one's judgment of physical attractiveness. Previous research has shown that we

Technological advances over the past decade have led to the proliferation of consumer review ranging from Yelp.com to movie review websites such as Rotten Tomatoes where consumers can share experiences about product quality. With the click of a button, we can now acquire information from countless other consumers about products ranging from restaurants to movies to physicians. My research this summer investigates the way consumers use this information, how this information varies depending on the type of reviewer, how this affects markets, and the motivations that drive people to leave reviews.

But ... there are better ways to deal with this situation

VIA 9GAG.COM

A person is shown from the waist up, wearing a full Batman costume. The costume is dark grey or black, featuring a cowl with pointed ears, a mask with a yellow mouthpiece, and a chest piece with a bat emblem. The person is standing with their arms at their sides against a black background.

**My boss told me to “Dress for the job  
you WANT, not for the job you HAVE.”  
Now I’m sitting in a disciplinary meeting  
wearing my Batman costume.**

# Acknowledge that you are not done:

Significant knowledge gaps exist in the fate, transport, biodegradation, and toxicity properties of biodiesel when it is leaked into the environment. In order to fill these gaps, a combination of experiments has been developed in a Multimedia Risk Assessment of Biodiesel for the State of California. **Currently, in the Tier II experimental phase of this assessment, I am investigating** underground plume mobility of 20% and 100% additized and unadditized Soy and Animal Fat based biodiesel blends and comparing them to Ultra Low-Sulfur Diesel #2 (ULSD) by filming these fuels as they seep through unsaturated sand, encounter a simulated underground water table, and form a floating lens on top of the water. **Thus far, initial findings** from analyzing the digital images have indicated that all fuels tested have similar travel times. SoyB20 behaves most like ULSD in that they both have a similar lateral dispersion lens on top of the water table. In contrast, Animal Fat B100 appears to be most different from ULSD in that it has a narrower residual plume in the unsaturated sand, as well as a narrower and deeper lens formation on top of the water table.

# Acknowledge that you are not done:

- The **preliminary results** indicate that instances of corruption are more prevalent in the U.S. than in Israel (41% vs. 31%).
- **Thus far**, we have succeeded in . . .
- **Preliminary findings reveal** that women did write in all genres: epic poetry and metaphysics to vaudeville and republican journals.
- The **successful completion of the proposed project** might link a gene implicated in neural progenitors to TNBCs . . .
- **If** our hypothesis is supported, then ...

# Use “Weasel Words”

- Might
- Could
- May
- Seem
- Suggest



# “Weasel words” are useful!

- Bullying and being bullied in childhood were associated with distinct domains of psychosocial risk in adulthood that **may later lead** to poor physical health.
- Citizens’ complaints **might thus be** an operative mechanism that explains the link between education and the quality of government.
- Our ideas for a physical zero-knowledge system **could have applications** beyond the context of nuclear disarmament. The proposed technique **suggests a way** to perform comparisons or computations on personal or confidential data without measuring the data in the first place.

Questions?





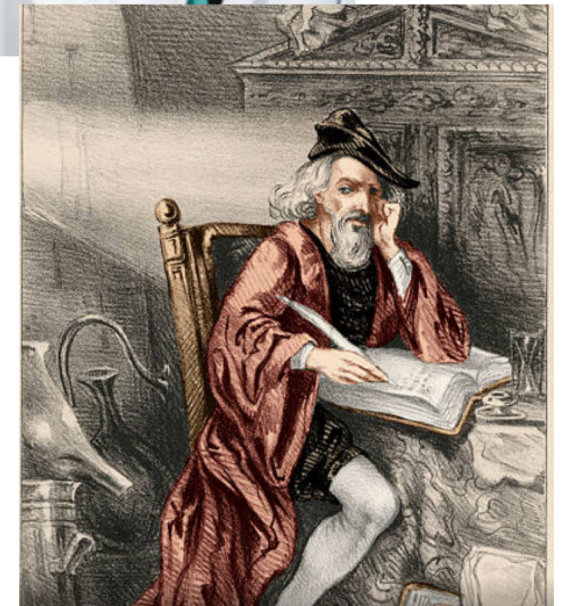
# “Dressing for the job you want” . . . Which words signal “student”?

1. This question [the origin of morality] is the reason why I have personally taken an interest in Professor A’s research.
2. This summer, I have been lucky to work on a multitude of projects related to genomics and politics, under the supervision of Professor B.
3. After a day’s worth of fieldwork research, I return to a quiet space and relive all the interactions yet again so I can construct a detailed narrative that captures all that we’ve seen and learned so far.



# How would you make these sound more like a researcher or scholar wrote them?

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1. What is the origin of morality? To begin to answer this question, we conducted an experiment on one aspect of morality: inequity aversion.
  2. Data from several different surveys were used to assess public opinion about genomics research.
  3. Through participant observation and detailed ethnographic field notes, this research provides a contextualized understanding of the lives of Chinese senior migrants who have immigrated to the US after retirement.

Sounding “scholarly” does NOT mean choosing big words or using specialized language or being verbose.

- Choose words carefully
  - Use simple words (e.g., ‘use’ instead of ‘utilize’; ‘try’ instead of ‘endeavor’)
  - Use words with precise meanings (i.e., avoid words like several, many, etc.)
  - Note: datum (singular) vs. data (plural); medium (singular) vs. media (plural)
- Be concise
  - Avoid unnecessary and redundant words (e.g., ‘estimated roughly at’; ‘first and foremost’)
  - Always shorten (e.g., ‘to’ instead of ‘in order to’; ‘for’ instead of ‘for the purpose of’)
- Know your audience
  - Avoid specialized jargon
  - Be careful of comparisons with studies/authors your audience doesn’t know

And Now Your Abstract

# Your Abstract

In groups of ~3 people:

- Share your abstract draft / bullet points
  - Help identify where more clarity/detail might be helpful
- Work to identify the four components of the abstract in your abstracts
  - What is the question(s)?
  - How did you address this question?
  - What did you (do you expect to) find?
  - Why does it matter?
- We will move between groups to answer questions

# Your Abstract

- What are you finding most challenging in crafting your abstract?
- How do you decide what to include / not include?
- What questions need to be answered in order to write your abstract?



# Moving Forward:

- Solicit feedback from your mentor and/or colleagues
- Expect to revise your abstract more than once

with pAd/math5.

viral solution and flow cytometry was math5 expression was examined by RT-pairs; sense: 5'- CGC AAT GGG GCC

GGG AGG TAG GGG TGA TT -3'

the Shanghai Invitrogen Biotechnology

cells were observed every day for 8

expression and morphological changes

43, and Bm3b was determined by RT-

and the primer sequences are listed in

experiment using cells induced with

combination with EGF and BFGF was

for the Math5-mediated induction

groups were used: A: Untransfected

vector; and C: BMSCs transfected with

media was added to induce the cells

as well as morphological changes of

at 24 h, 48 h, 3 d, 4 d, 5 d, and 7 d.

inverted phase-contrast microscope,

visual fields were randomly selected to

immunofluorescence positive cells in

rate. The results obtained were then

0.0 software (IBM, USA). On day 7,

ried out to determine the expression

ips with  $\beta$ -actin used as a reference

and the data were analyzed using the

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Comment [CB4]: this is mentioned b  
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inverted fluorescence microscope was u  
presentation of green fluorescence and  
changes of transfected cells....On dD...

Comment [CB5]: again, I would reco  
this as it is redundant

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Comment [CB6]: I would recommen  
you mean the gene expression levels?



# Questions?

## Abstract MadLibs!!

This paper presents a \_\_\_\_\_ method for \_\_\_\_\_  
(synonym for *new*) (sciencey verb)  
the \_\_\_\_\_. Using \_\_\_\_\_, the  
(noun few people have heard of) (something you didn't invent)  
\_\_\_\_\_ was measured to be \_\_\_\_\_ +/- \_\_\_\_\_  
(property) (number) (number)  
\_\_\_\_\_. Results show \_\_\_\_\_ agreement with  
(units) (sexy adjective)  
theoretical predictions and significant improvement over  
previous efforts by \_\_\_\_\_, et al. The work presented  
(Loser)  
here has profound implications for future studies of  
\_\_\_\_\_ and may one day help solve the problem of  
(buzzword)  
\_\_\_\_\_  
(supreme sociological concern)

**Keywords:** \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
(buzzword) (buzzword) (buzzword)



# Abstract #1:

- What is working?
- Is anything missing?
- What would you do differently?

Corruption, defined as preferential treatment following a bribe, has been an important policy concern in many countries. Prior research efforts have attempted to emulate and model such behaviors of corruption; however, this has proven to be quite difficult in the confinements of the laboratory because it requires study participants to be primed for “corruption.” This cross-cultural behavioral study allows human subjects in a group of four to engage in an online board game with limited transparency and separation of powers to study how corruption affects individuals and aggregate performance. This study has clear open-ended rules with no hints of priming for corruption. One player is randomly chosen to be the “auctioneer,” representing the government official. The other three players are “bidders,” representing private interests. Each bidder is allotted an amount of online chips, which he or she can use with the help of the auctioneer to reach a goal on the game board for a high monetary prize. In addition, the players are given time to communicate with each other and to send chips to one another. The preliminary results indicate that instances of corruption are more prevalent in the U.S. than in Israel (41% vs. 31%). In addition, in games where corruption plays a role, the auctioneer ends up with a much higher monetary reward in the United States but not in Israel. It was also observed that the auctioneer is much more likely to approach the bidders about possible bribery in the U.S., whereas bidders are more likely to approach auctioneers in Israel.

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# Abstract #2:

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- Is anything missing?
- What would you do differently?

In many human societies, there exists strong social norms prescribing costly cooperative behavior. Empirical evidence demonstrates that third party adults frequently pay costs to punish norm violators, and such third-party punishment is thought to be an important mechanism for promoting cooperation. However, the development of third-party punishment remains poorly understood. The present study seeks to fill this gap by studying costly and non-costly third-party punishment in five and six-year-old children. In this study, children make decisions to accept or reject equal or unequal distributions of candy between two absent peer children: an actor and a recipient. Children are told that the actor proposed the distributions. Thus, selfish unequal distributions constitute a violation of the norm to share resources fairly, and rejection of these distributions is punishment because it imposes a cost on the actor. By illustrating the developmental timeline of costly and non-costly third-party punishment, this study will contribute to our understanding of these behaviors as important pieces of the puzzle of human prosociality.

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