

What's in a Title?

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CFD Research Group Meeting

<http://www.math.sfu.ca/~stockie/research/cfdgroup.html>

October 6, 2014

Outline

- 1 Titles
- 2 What makes a good title?
- 3 Examples
- 4 Exercises

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Titles

You will have to choose titles for many types of academic work:

- Course projects or presentations
- Theses
- Posters
- Conference presentations
- Colloquium talks
- Articles in journals, conference proceedings, newsletters
- Technical or industry reports
- Grant or scholarship applications
- Blog entries

Why are titles important?

- The title is the first part of your work that most people will read ... and maybe the last. Indeed, on average **99.8%*** of people only read the title (and maybe the author names).
- A good title can capture people's attention and encourage them to read further.
- A bad title can drive people away and reflect badly on you.
- In the case of journal articles:
 - No readers means no citations!! (citations aren't everything but ...)
 - Some referees use the title to decide whether they will review your paper.
 - Article indexing services (e.g., Google scholar) rely largely on title keywords.

*This figure has supposedly been backed up by rigorous (?) scientific studies.

Why are titles important?

Doesn't this just boil down to ...

marketing ?

(more on this later)

Outside academia, titles are important too!

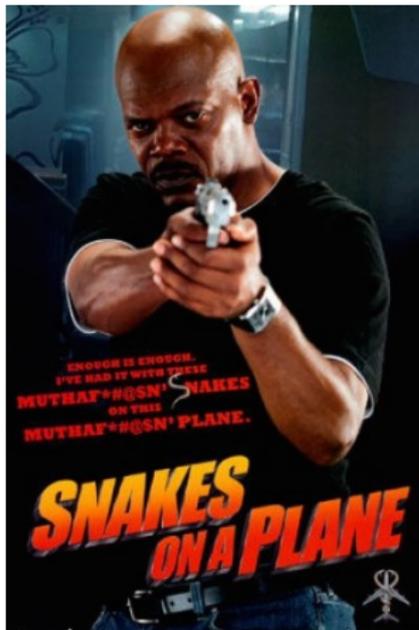
Publishers of Agatha Christie books chose different titles for linguistic, cultural or political reasons:

In USA	In UK
Remembered Death	Sparkling Cyanide
The Patriotic Murders	One, Two, Buckle My Shoe
Poirot Loses a Client	Dumb Witness
Thirteen At Dinner	Lord Edgware Dies
And Then There Were None	Ten Little Niggers ⇒ Ten Little Indians

And then there's the movies . . .

When director David R. Ellis considered changing the title of **“Snakes on a Plane”** to **“Pacific Air Flight 121”**, star Samuel L. Jackson threatened to leave the film.

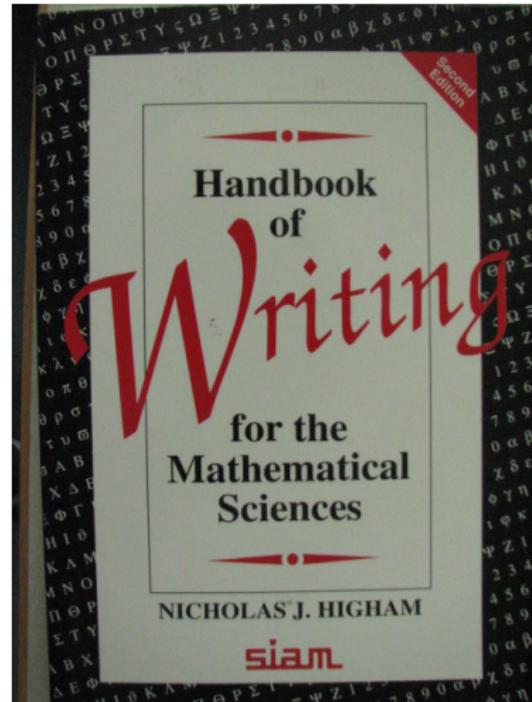
“Snakes on a Plane, man!”
Jackson said in his August, 2005 Collider interview,
“That’s the only reason I took the job: I read the title.”



Required reading

Nick Higham's SIAM book is an invaluable source of information on academic writing, with tons of examples.

Cost is only US\$26.10 for SIAM student members!!



Other references

Paul R. Halmos, “How to write mathematics” (1970)

Other references

Check out the publications list for L. Mahadevan (Harvard).

He clearly puts a lot of thought into his choice of title.

Intermittent locomotion as an optimal control strategy.

The branch with the furthest reach.

How things get stuck: kinetics, elasto-hydrodynamics, and soft adhesion.

Watching paint dry.

How wet paper curls.

Surface sulci in squeezed soft solids.

Villification: how the gut gets its villi.

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- 3 Examples
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What makes a good title?

- Be informative and specific
- Keep it short (?)
- Be economical with “helper” words
- Avoid jargon or acronyms
- (Iserles) Be as “big picture” as possible without overstating
- Pay attention to line breaks
- Use mathematical notation sparingly

What makes a bad title?

- Incorrect grammar or spelling is a disaster!
- A “cute” title can be irritating.

Some stylistic devices

Description (most common type):

Computing the eigenvalues and eigenvectors of
symmetric arrowhead matrices.

(D.P. O'Leary and G.W. Stewart)

Question:

How near is a stable matrix to an unstable matrix?

(C.F. Van Loan)

Can one hear the shape of a drum?

(M. Kac)

Complete sentence:

Every weak L^p space has the Radon-Nikodym property.

(?)

Some stylistic devices (cont'd)

Title + subtitle:

How to not get stuck – Negative feedback due to crowding
maintains flexibility in ant foraging

(T.J. Czaczkes)

Conducting and permeable states of cell membrane
submitted to high voltage pulses: Mathematical and
numerical studies validated by the experiments

(M. Leguèbe, A. Silve, L.M. Mir and C. Poignard)

Some stylistic devices (cont'd)

Humourous, surprising or “punchy” titles that encourage you to at least read the abstract and find out what the paper is really about:

Algorithms that satisfy a stopping criterion, probably.

(U. Ascher and F. Roosta-Khorasani)

The shallow turn of a worm.

(L. Mahadevan)

Nineteen dubious ways to compute the exponential of a matrix.

(C.B. Moler and C.F. Van Loan)

Stochastic evolution of staying together.

(W. Ghang and M.A. Nowak)

Are short titles really a good thing?



Conclusion: *“Longer titles seem to be associated with higher citation rates. This association is more pronounced for journals with high impact factors. Editors who insist on brief and concise titles should perhaps update the guidelines for authors of their journals and have more flexibility regarding the length of the title.”*

Will asking a question get your paper cited more?

The screenshot shows the top portion of a news article on the Guardian website. At the top left is the Guardian logo. To the right is a search bar with the text 'Google™ Custom Search' and a 'Search' button. The main headline is 'Will asking a question get your science paper cited more?' in a large, bold, black serif font. Below the headline is a sub-headline in a smaller, grey sans-serif font: 'Lots of stuff other than content can influence why scientific papers are cited by academics'. A horizontal line separates the sub-headline from the author information. On the left is a small square portrait of Ben Goldacre. To the right of the portrait, the author's name 'Ben Goldacre' is written in bold, followed by the publication details 'The Guardian, Friday 14 October 2011 17.45 BST'.

Reported on results in another paper from *Scientometrics* that found articles titles ...

- ending in **question marks** tend to be downloaded more but cited less,
- with **colons** had fewer downloads and fewer citations,

... among other things.

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Be informative and specific

On the origin of species

Selective survival of fitter genetic variants leads to gradual changes in populations

Source: Arieh Iserles

Approximation by cubic splines

Monotone piecewise cubic interpolation

A comparative study of linear and modified cubic spline interpolation for image reconstruction

A new parallel implementation of cubic spline approximation

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Keep it short

Stochastic population switch may explain the latent reservoir stability and intermittent viral blips in HIV patients on suppressive therapy

The effect of stochastic population switch(es) in HIV suppressive therapy

Bifurcation analysis of an existing mathematical model reveals novel treatment strategies and suggests potential cure for type 1 diabetes

Bifurcation analysis for a mathematical model of type 1 diabetes

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Bifurcation analysis for a mathematical model of type 1 diabetes

Be economical with “helper” words

On the geometry of the
envelope of a matrix

(On) the geometry of matrix
envelopes

Note: Leaving out “on” suggests a much more broad-reaching result (like a review paper).

Avoid jargon or acronyms

A new FEM algorithm for
MHD

A new finite element
algorithm for
magneto-hydrodynamics

Dunkl analogue of Szasz
operators

Linear positive operators
generated by the Dunkl
generalization of exponential
functions

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Line breaks

Computing the eigenvalues and eigenvectors of symmetric
arrowhead matrices

versus

Computing the eigenvalues and eigenvectors of
symmetric arrowhead matrices

Punchiness or humour

Probabilistic relaxation of the stopping tolerance in numerical algorithms

Algorithms that satisfy a stopping criterion, probably

Use mathematical notation sparingly

In the latest issue of *Forum of Mathematics Sigma* my “alerts” email shows the following titles:

Counting \mathbb{F}_q -fields with a power saving error term

Counting S_5 -fields with a power saving error term

Sur les composantes connexes d'une famille d'espaces analytiques \mathbb{F}_q -adiques

Sur les composantes connexes d'une famille d'espaces analytiques P -adiques

Raising the level for

Raising the level for GL_n

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Exercise 1

The Fourier Transform of the quartic Gaussian $\exp(-Ax^4)$:
Hypergeometric functions, power series, steepest descent
asymptotics and hyperasymptotics and extensions to $\exp(-Ax^{2n})$
(from *Appl. Math. Comput.*)

Exercise 2

Sextic B-spline collocation method for solving Euler-Bernoulli
Beam Models

(from *Appl. Math. Comput.*)

Exercise 3

An inexact smoothing method for SOCCPs based on a one-parametric class of smoothing function

(from *Appl. Math. Comput.*)

Exercise 4

Repeated derivatives of composite functions and generalizations of the Leibniz rule

(from *Appl. Math. Comput.*)

Exercise 5

Global threshold dynamics in a five-dimensional virus model with cell-mediated humoral immune responses and distributed delays

(from *Appl. Math. Comput.*)

Interlude

When browsing journals, try to recognize that overall quality of titles is often a very good indicator of:

- quality of a journal's editorial process
- overall quality and impact of papers

Exercise 6

Mechanosensitive channel activation by diffusio-osmotic force

(from *Phys. Rev. Lett.*)

Exercise 7

Effect of introducing a competitor on cyclic dominance of sockeye salmon

(from *J. Theor. Biol.*)

Exercise 8

Reproduction cost reduces demographic stochasticity and enhances inter-individual compatibility

(from *J. Theor. Biol.*)

Exercise 9

Predator-prey systems depend on a prey refuge

(from *J. Theor. Biol.*)

Exercise 10

Compact difference schemes for the modified anomalous fractional sub-diffusion equation and the fractional diffusion-wave equation

(from *J. Comput. Phys.*)

Exercise 11

Cyclic pursuit problems in the two-dimensional sphere

(from *Appl. Math. Comput.*)

Exercise 12

Discontinuous Galerkin finite element scheme for a conserved higher-order traffic flow model by exploring Riemann solvers

(from *Appl. Math. Comput.*)

Exercise 13

Special equitorsion almost geodesic mappings of the third type of non-symmetric affine connection spaces

(from *Appl. Math. Comput.*)



References I



N. J. Higham.

Handbook of Writing for the Mathematical Sciences.
SIAM, Philadelphia, PA, 1993.