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How I rose from the dead in my spare time and so can you

A. J. Specktowsky[1], Philip K. Dick[2] and Rolf Turner[3]*

School of Hard Knocks, Sirius Cybernetics Corporation and the University of Orcland

Summary

This document serves to illustrate some of the main features of the LaTeX document class "`anzsauth`" which authors are strongly encouraged to use when preparing papers for submission to the *Australian and New Zealand Journal of Statistics*. The importance of clarity of exposition as well as a number of issues that frequently arise in respect of the Journal's standards and conventions are emphasised. The Journal has precise requirements for the format of bibliographic references and citations. It is much easier for authors to conform to these requirements if they use the resources provided by BibTeX and the `anzsj` bibliography style. Authors are very strongly encouraged to avail themselves of these resources. The use of BibTeX syntax is illustrated. This document emphasises a few of the notational conventions that form an important part of the Journal's stylistic requirements. A great deal more material about these requirements may be found in the document "*ANZJS Style Guide for Authors*" in the file `styleGuide.pdf`. That file is included in the zip archive of material from which you obtained the document that you are currently reading, i.e. `protoType.pdf`.

Key words: anzsauth; bibliographic references; bibtex; citations; document class; notational conventions; style guide

1. Introduction

The tone of this prototype and the examples used are flippant (and meant to be humorous; I guess it all depends on your sense of humour). However the intent is quite serious: to show clearly how to use the `anzsauth` document class so as to be able to produce an article conforming to the Journal's requirements with a minimum of effort. Spend

*Author to whom correspondence should be addressed.
[1] Department of Redundancy Department, School of Hard Knocks, Great Falls, MT 54321, USA
[2] Complaints Division, 30102 East Rhode Island School of Design Terrace, Small Planet, Near Betelgeuse
[3] Department of Statistics, University of Auckland, Private Bag 92019, Auckland 1142, New Zealand
Email: `r.turner@auckland.ac.nz`

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Prepared using anzsauth.cls *[Version: 2016/19/05 v1.02]*

a little while studying the examples. *Look carefully* at the source file `protoType.tex`, for the document `protoType.pdf` that you are currently reading. In particular, read the *comments*. The files `protoType.tex` and `protoType.pdf` are included in the zip archive `anzsauth.zip`. See below for the URL from which this zip archive may be obtained. You will find that if you make use of the resources provided, you will save yourself an immense amount of time and an immense number of key strokes.

A primary requirement that the Journal imposes is that papers must be written lucidly and in clear and grammatically correct English. Consequently Section 2 is devoted to issues that arise in respect of good exposition. Other requirements include proper formatting of the title page. This is done *far* more easily if you make use of the resources provided by the `anzsauth` document class than if you attempt to do the formatting "by hand". (See Section 3).

The Journal insists that citations should be formed correctly and in accordance with its conventions. Likewise the list of references must have the correct structure. Again these requirements are *greatly* facilitated if you make use of the resources provided (by means of BibTeX and the `anzsj` bibliography style). These matters are discussed in Section 4.

Although this is *not* handled in an automatic manner, it is important to adhere to the Journal's notation conventions. Most of the discussion of notational conventions has been placed in "*ANZJS* Style Guide for Authors" to be found in the file `styleGuide.pdf` which is included in the zip archive `anzsauth.zip` referred to above. That zip archive may be obtained from

`http://onlinelibrary.wiley.com/journal/10.1111/%28ISSN%291467-842X`

by clicking on "Author Guidelines", scrolling down to "Latex Template" and then clicking on the appropriate link. It is also possible to obtain this zip archive by visiting your ScholarOne "Author Centre" ("Start New Submission") and noting the bullet point:

> • Before submitting or revising your manuscript, please download the zip archive anzsauth.zip by clicking here.

Clicking on "here" duly produces the desired zip archive. (You may — in fact probably!!! — have already done this to obtain the document that you are currently reading.)

Some of the more salient points about notation are dealt with in Section 5 in the current document (thus overlapping a bit with the style guide). Displayed equations and their numbering are dealt with in Section 6. In this section some cogent advice is given about handling arrays of equations. Issues that arise in respect of the inclusion of figures and tables in a paper are discussed in Section 7. Section 8 provides a little bit of advice about preparing and processing the "source files" that underlie the use of LaTeX. Various exhortations are reiterated, and some advice about how to make use of `protoType.tex`

is given in Section 9. In this last Section you are additionally exhorted to create a *tidy* LaTeX source file.

In addition to saving you time and effort on the initial creation of the document, using the tools provided by the `anzsauth` document class in particular and by LaTeX in general facilitates revising the document. Appropriate adjustments to numbering, cross-referencing, and the like are handled automatically. There are many resources available to help beginning (and not-so-beginning) users of LaTeX. For instance you will find useful information and guidance in the books by Kopka & Daly (2003); Lamport (1994) and Mittelbach & Goossens (2004). (Of course Lamport (1994) is the definitive source of information since Lamport is the author of LaTeX.) The web is also replete with resources; just do a Google™ search on "`latex`". (Amazingly one gets the relevant web sites on the first few hits; only later on do sites aimed at rubber-fetishists start to show up.)

A facility provided by LaTeX that tends to be underused in submissions to the Journal is automated cross-referencing as provided by the `\label{...}` and `\ref{...}` commands. It is highly recommended that you learn to make use of these. They make it much easier to keep cross-references correct when you revise a paper. It seems to me to be a good idea to give a label to each section and subsection, as you are composing it, even if you are not sure you will be referring to it in other sections. (There is no *harm* in inserting a label.)

Likewise it is a good idea to give each figure and table (see Section 7) a label so as to be able to refer to it via the `\ref{...}` command. Thus one can easily invite the reader to "see Section 7", as I just did! Only displayed equations that are *actually referred to* should be numbered (see Section 6). If the equation *is* referred to, then of course you should give it a label so that you *can* refer to it easily.

My personal practice is to label sections and subsections with labels of the form `sec:string`, e.g. "`\label{sec:intro}`". Similarly I form such labels for figures and tables as `fig:string` or `tab:string` (e.g. `\label{fig:ltdb}` or `\label{tab:ltdb}`) and labels for equations as `eq:string` (e.g. `\label{eq:GNZ}`). I find this practice convenient, but you are of course under no obligation to follow it.

A practice that I have often seen and that I think should *not* be indulged in, is to use labels such as "`Figure1`". There is *not necessarily* any harm in this, but to a large extent such a practice defeats the purpose of using `\label{...}` and `\ref{...}`. If you decide to change the order in which figures appear in your paper, then the label "`Figure1`" will probably no longer be appropriate. At best you will confuse yourself, and you run a serious risk of getting labels wrong. Use labels that refer to *content* (in a terse manner, of course)

and let LaTeX handle the assignment of numbers! If you insist on using labels like unto "`Figure1`", then take great care to make sure that the result is correct.

Authors are requested to *double space* their documents (particularly for the convenience of referees and technical editors). This is easily accomplished by invoking the `anzsauth` document class via (e.g.): `\documentclass[times, doublespace]{anzsauth}`. The document that you are currently reading is double spaced in this way. Authors are likewise requested to *number* the lines of their document so as to make it easier for referees and technical editors to specify where corrections are required. The document you are currently reading exemplifies such line numbering. The desired effect is achieved by placing `\usepackage{lineno}` and `\linenumbers` in the preamble. See `protoType.tex`.

Readers might be interested to know about some of the "literary" allusions found in this document. The title of this paper is actually that of a (fictitious, of course) book that is referred to in the (real) book *A Maze of Death* by Philip K. Dick (1971). The aforesaid title exemplifies a particularly egregious error in English usage that can be described as "faulty parallelism". It is an example of the sort of thing that one *shouldn't do*! Philip K. Dick is perhaps best known as the author of *Do Androids Dream of Electric Sheep?* (Dick 1968) upon which the movie *Blade Runner* (starring Harrison Ford) was based. The fictitious book referred to above was putatively written by one A. J. Specktowsky who is given the honour of being first author of the current paper. Philip K. Dick himself has been made the second author. The third author, my very good self, is the real author. (The repeated use of the word "real" in the foregoing paragraph invites the question "What is reality?" But let's not go there!)

The "Department of Redundancy Department" is an allusion to the comedy recording *Don't Crush that Dwarf, Hand Me the Pliers* by the group *Firesign Theatre* (The Firesign Theatre 1970). "Sirius Cybernetics Corporation" is an allusion to *The Hitch Hiker's Guide to the Galaxy* (Adams 1979). The address of the Complaints Division of the Sirius Cybernetics Corporation refers back, for no particularly good reason, to The Firesign Theatre (1970).

2. Clarity of exposition

Obviously the fundamental consideration in respect of assessing a paper's quality is its actual content: its correctness and its value in terms of the advancement of statistical science. Second only to content is the quality of the exposition of the ideas developed in the paper. There is little merit in having high quality content if the paper is written in such a manner that its audience finds it burdensome or even impossible to read.

The Journal has very exacting standards for the quality of English expression in the papers it publishes. Authors are expected to think carefully about the way in which they present material. Ideas should flow in a logical manner. The connections between successive

segments of the material should be obvious and easy to follow. Succinct and well-organised examples, kept as uncomplicated as possible, should be provided to clarify intricate concepts. It is *not* acceptable to throw down a jumble of ideas in random order and expect the reader to sort them out. Sufficient explanation should be provided so that any reasonably well-educated statistician who is willing to expend a reasonable amount of effort will be able to understand the paper. It is *not* acceptable for the paper to be comprehensible only to experts in the relevant field of study (or, worse, only to the authors!).

Diligent attention must be paid to grammar. For instance *articles*, definite ("the") and indefinite ("a" or "an") must be used appropriately. It is not acceptable to omit articles where they are required, to insert an article where none is required, or to use a definite article where an indefinite one is required or vice versa. In a similar vein, agreement in "number" between subject and verb must be carefully maintained. Authors must guard vigilantly against the use of dangling or misplaced modifiers (an unfortunately common type of error).

A typical example of a dangling modifier is "The SE of the correlation increased in size when changing from 4 to 5 quadrature points. This sounds as if the SE changed from 4 to 5 quadrature points! A grammatically correct phrasing might be something like "The SE of the correlation increased in size when the number of quadrature points was changed from 4 to 5." A typical example of a misplaced modifier is "A plot of the residuals from Specktowsky's model shown in Figure 42 indicates the lack of an adequate fit." (The *model* is not shown in Figure 42!) Better would be "A plot, shown in Figure 42, of the residuals from Specktowsky's model indicates the lack of an adequate fit."

Some might argue that grammatical issues like these "don't really matter" and that "the meaning is clear". The meaning is *sometimes* clear, and sometimes becomes possible to discern only after readers have expended considerable effort that has been unnecessarily imposed upon them. Grammatical errors are distracting and confusing. Reading a paper containing grammatical errors is an unpleasant experience, and readers will be discouraged from giving a paper containing such errors the attention that it may otherwise well deserve. Such errors are an unnecessary encumbrance to a paper and can be avoided with a modicum of care and diligence. The Journal insists that such diligence be exercised.

In addition to being written with logical clarity and being free of grammatical errors, manuscripts should be concise and expressed in a direct style. Sentences should be kept short; long sentences are hard to follow and should always be judiciously broken into a number of shorter sentences. Distracting use of unnecessary technical terms should be avoided. Do not abbreviate terms unless they are used repeatedly and the abbreviation is helpful to the reader. Initially use the word in full, and follow it by the abbreviation in parentheses. Thereafter use the abbreviation only. Do not abbreviate author names; for example "Hall and Heyde (HH)" must *not* be used.

Care must be taken with the tense of verbs. Use the past tense when describing something that was done in the past! In particular simulations should be described in the past tense. For example say "We generated 1000 data sets from our parametric model ..." and not "We generate 1000 data sets ...". Use the past tense when referring to results from existing literature. For example, use "Smith & Jones (2007) showed that two plus two equals four", not "Smith & Jones (2007) show that two plus two equals four". Use the present tense in referring to the content of the paper that you are writing: "In this paper we show that the convergence rate is $o_P(n^{-2/3})$." (Not "we showed that".)

It is the responsibility of the authors to ensure that the use of English language in the manuscript is of a quality suitable for the Journal. If you are not absolutely confident that this requirement is fully satisfied, then have your manuscript checked and *thoroughly* edited by a suitably qualified person. Such a person (whose first language should preferably be English) must have superior English language skills and also be qualified in statistics so as to be able to assess and correct the expression of statistical ideas.

Failure to ensure an adequate standard of English expression may result in the paper's being rejected at the Technical Editing stage *even though* it has previously been assessed by referees and and an associate editor as being acceptable for the Journal. Referees are experts in the particular field addressed by a given paper and they assess that paper for correctness and value of statistical and scientific content. They rarely read the paper carefully in respect of style and exposition, assuming that this is not their responsibility. This is why the Journal explicitly leaves final acceptance to the Technical Editor. The Journal also reserves the right to modify an accepted paper so as to reduce inadequacies of exposition. Any such modifications will be discussed with authors, where feasible.

The Journal's publisher, Wiley, provides a service that can assist authors with English-language editing. To find out about this service you may visit:

`http://authorservices.wiley.com/bauthor/english_language.asp`

Authors must be aware that there is a *cost* associated with this service, and this cost must be borne by the author(s) of the paper in question.

3. Formatting the title page

Do not try to create the list of authors, their affiliations and their addresses by hand. This is difficult, kludgy and usually leads to results that are not in keeping with the Journal's requirements (which eventually makes more work for the typesetters). Take a moment to learn to use the macros that the `anzsauth` document class provides. Look into the *source* file (`protoType.tex`) that was used to produce this document. Given that you are looking at this document (file `protoType.pdf`) you presumably downloaded and unzipped the

zip archive `anzsauth.zip` from the Journal's web page. The source file is to be found among the files obtained from that zip archive, alongside the `*.pdf` file that you are currently reading. By looking at the structure of this source file, you should be able to quickly discern the way in which these macros should be used.

These macros include:

- `\runningheads{...}`
- `\author{...}`
- `\affiliation{...}`
- `\address{...}`
- `\addressnum{...}`
- `\keywords{...}`
- `\ack{...}`

Note also that using the "abstract" environment, delimited by "`\begin{abstract}`" and "`\end{abstract}`", produces the correct heading "**Summary**" as required by the Journal.

By learning to use these resources you will in the long run save a *great* deal of time and dramatically reduce the effort that you expend.

4. Bibliographic References

4.1. The Journal's citation rules

The Journal (for the sake of consistency; see Section 5) imposes a number of strict rules or conventions on the way that citations are formed. Authors *must* follow these conventions. Just as you are advised not to format the title page "by hand", you are strongly encouraged not to produce your citations and your list of references in an ad hoc one-by-one manner. Instead use the (very well designed) tools that are available for the purpose. That is, make use of BibTeX and the `anzsj` bibliography style (see Section 4.2). If you do so, then (most of) the Journal's required conventions will be followed automatically, thereby saving you a great deal of work and a great many headaches.

If you insist on "doing things your own way", then you must *read carefully* the relevant section of "*ANZJS* Style Guide for Authors" (to be found in the file `styleGuide.pdf` which is included in the zip archive in which you found the document that you are currently reading) and carefully follow the specifications given.

A rule that BibTeX and the `anzsj` bibliography style will *not* automatically handle for you is that the names of journals appearing in the reference list must be *not be* abbreviated. This is a

CHANGE or REVERSAL

of Journal policy from what it has been in the past. (One might be inclined to say that it is an "about face" or retreat, or climb-down.) If you have struggled to dutifully make your references accord with the previous policy that demanded that journal names be abbreviated in accordance with "standard abbreviations" and have arduously combed the web to find out just what these standard abbreviations are … well, I can only apologise. You are however owed some explanation:

The Editorial Board were unanimously of the opinion that the policy of demanding abbreviated Journal names was probably adopted in the dim distant past to save time for typesetters, and has little function in today's circumstance. The only actual benefit of this policy is that there is a tiny space saving, and this tiny benefit comes at the cost of unnecessarily adding tedious work to authors' responsibilities. It also has the disadvantage of making our papers less accessible to readers, especially non-statisticians/mathematicians. Some readers may know that *Stat. Neerl.* is *Statistica Neerlandica*, but many will not. The change in policy is one small step toward making statistics research more user-friendly.

Consequently *please* do not abbreviate journal names. At all. Ever. Please *consistently* give journals their full title. Again I apologise (on behalf of the Editorial Board) if this causes you inconvenience and results in your having wasted (substantial) time and effort.

Another rule that cannot be automatically handled is that reference may not be made to a paper "submitted for publication" or to a "personal communication". The essential criterion for inclusion in the reference list is that any such reference must be obtainable by a reader: thus a Technical Report is OK and a paper accepted for publication is OK. You may, if you wish, put into the text a kind of acknowledgement of the form "It was pointed out to me by Fred Nurk (*pers. comm.*) that Bayesian statistics is a load of dingos' kidneys." However such references must *not* be listed in your bibliography.

Likewise references to unpublished data may be cited in the text (e.g. "I. Poobah, unpublished data, 2000)" but must not appear in the list of references. Otherwise all citations mentioned in the text, tables or figures must be listed in the reference list. A work must *not* appear in the reference list *unless* it is cited in the text.

4.2. Using BibTeX

Authors are ***STRONGLY*** encouraged to make use of the resources provided by BibTeX in preparing their lists of references and in citing these references in their documents. This is easy to do and helps to make sure that the reference list and citation conventions conform to the Journal's requirements. The Journal has its own "bibliographic style" ("`anzsj`") which is based upon the `natbib` package.

To use BibTeX you need to do the following:

1. Prepare a "bibliographic information" (`*.bib`) file containing appropriately structured information about all of the references that you will cite in your document. Note that this file can contain information about references that you *do not cite* in your document. Only those references cited will appear in the list of references. This allows you to prepare a single bibliographic information file that can be used for multiple papers with overlapping but not identical reference lists. Of course when submitting a paper you may wish to upload only a cut-down `*.bib` file that contains only the relevant references (rather than a very large bibliographic information file with a plethora of irrelevant entries).

   The way that the information in your bibliographic information file should be structured is illustrated by the example file `protoRefs.bib` that accompanies the document that you are currently reading. Imitating the entries in this example file should allow you to create just about any references you need to use. More information may be found in Mittelbach & Goossens (2004). There are also many resources to be found on the web by doing a Google™ search on "`bibtex`".
2. At the end of your LaTeX source for your document place the line `\bibliographystyle{anzsj}`.
3. Following this line place the line `\bibliography{xxx}` where "`xxx`" represents the *stem* (without the `.bib` extension) of the name of your bibliographic information file. E.g. in preparing the current document I used the line `\bibliography{protoRefs}`.

4.3. Citing references

Cite references by using `\cite{...}` and variants thereof. Some discussion of the possible variants is to be found in Section 4.4. The `...` ellipsis in `\cite{...}` represents the identifier for the item being cited. If you (sensibly) use BibTeX, the identifier is provided in the first line of the bibliographic information about the item being cited. For example *The* LaTeX *Companion* referred to above was cited in this document via `\cite{MittelbachGoossens2004}`. The relevant item in `protoRefs.bib` begins

```
@book{MittelbachGoossens2004,
```

If you do not use BibTeX, then the identifier is given as the "`cite_key`" for the appropriate item in the list of references following `\begin{thebibliography}{...}` line in your LaTeX document.

The way that the identifier is formed is fairly arbitrary; construct identifiers in your bibliographic information file in whatever way suits your fancy. My personal paradigm is to construct identifiers from the author's name (or authors' names) followed by the year as in

the example given above. If there are more than two authors I just use the first author's name followed by "EtAl" and the year. E.g. for an article by Fred Nurk, Melvin Mingdinkler and Hoo Hee, published in 1984, I use the identifier `NurkEtAl1984`. I emphasise that this is just my personal convention that I have found useful; you are under no obligation to follow it.

4.4. Variants of the basic citation command

In addition to the "usual" citation command "`\cite`" there are a number of alternative citation commands that can be used to create special punctuation structures in particular circumstances. For example you can use `\citeauthor{...}` to obtain just the author's name (without the year) as in:

> The major results that have so far appeared in this area are due to Mingdinkler (1999). In this paper we further explore and elaborate upon the ideas introduced by Mingdinkler ... .

(The final "Mingdinkler" was produced using `\citeauthor{...}`.) Another example of the use of `\citeauthor{...}` is "This problem was addressed in the book by Thecowsoutside."

Another variant of `\cite{...}` is `\citeyear{...}` which is used to produce only the year of the reference being cited. E.g. "These ideas were also discussed in a number of papers by Coyote which appeared in 2001, 2007 and 2010." A variant of this variant is `\citeyearpar{...}` which causes the cited year to be enclosed in parentheses, e.g. "S. Pussycat (1989), in a discussion of a read paper of the Royal Ornithological Society, pointed out that there remain in the public mind a large number of misconceptions about the behaviour patterns of canaries." Of course the same effect could be achieved by *not* keying in the text "S. Pussycat" and simply using `\cite{Pussycat1989}` so it's a bit hard to see when you would actually need to use `\citeyearpar`.

Yet another variant of `\cite{...}` is `\citep{...}` which encloses the whole citation, rather than just the year, in parentheses. E.g. "Some authors prefer the hack (Cook 1966), others the hew (Moore 1967), and still others opt for a combination (Cook & Moore 1968)."

A couple of somewhat subtle variants are `\citealt{...}` and `\citet{...}`. In the second of these the "t" stands for "text" and produces a citation that is suitable for appearing in a line of text. Well, I hear you cry, doesn't just plain `\cite{...}` do that? Yes it does, *mostly*. In "simple" usage `\citet{...}` and `\cite{...}` produce exactly the same result. However, if one supplies the optional first argument to these commands

(see Section 4.5) the results produced are different in an important way. We defer giving an example to Section 4.5.

The `\citealt{...}` variant basically has the effect of removing the parentheses from around the year (or from around the year and "optional first argument"). Compare `\cite{Coyote2010}` which produces "Coyote (2010)" with `\citealt{Coyote2010}` which produces "Coyote 2010". An example of the use of `\citealt` which involves its "optional first argument" is given in Section 4.5.

4.5. Locating references precisely

Finally a desideratum, or a plea, rather than a rule as such: Where you have referred to a book, or even a long paper, *please* give some indication (for example a page number or a section number) to help your readers locate the precise reference. This is part of the general exhortation "Have some consideration for your readers!"

References to specific locations (pages, sections, theorems etc.) should take the form "(Mittelbach & Goossens 2004, Section 2.4)". That is, the citation should take the foregoing form rather than "Section 2.4 of Mittelbach & Goossens (2004)". This is handled for you automatically by the `\cite{...}` command if you make use of the optional first argument of this command. E.g. use `\cite[Section 2.4]{MittelbachGoossens2004}` to get the appropriate form of the citation referred to above.

This example produces (as you can see) a result entirely enclosed in parentheses. Suppose you want to say "See for instance Mittelbach & Goossens (2004, Section 2.4) for additional commentary." As foreshadowed in Section 4.4, to achieve this effect you can invoke the command `\citet[Section 2.4]{MittelbachGoossens2004}`. Another possibility, which gets rid of parentheses completely, is to use `\citealt[Section 2.4]{MittelbachGoossens2004}`. (This is the example of the use of `\citealt` with an optional first argument, as promised in Section 4.4.) Use of this command would serve to produce "See for instance Mittelbach & Goossens 2004, Section 2.4 for additional commentary."

For page references you may use either the form "p. 42" as in `\cite[p. 42]{Dick1971}`, or "page 42" as in `\cite[page 42]{Dick1971}`. Likewise for multiple pages you may use either `\cite[pp. 42--76]{Dick1971}` or `\cite[pages 42--76]{Dick1971}`. However you must be consistent and stick with one form or the other throughout the paper. Note there must be a *space* between the full stop or period and the following page number.

Finally I would like to comment briefly on the convention with regard to citing papers with multiple authors. This convention is followed automatically if you use BibTeX and the

anzsj bibliography style, but if you don't, then you will need to take explicit cognizance of this convention:

- For papers with three or fewer authors, all authors' names must be given in a citation. E.g. a paper with authors Fred Nurk, Melvin Mingdinkler and Hoo Hee, cited via `\cite{NurkEtAl1984}`, would yield "Nurk, Mingdinkler & Hee (1984)".
- For papers with four or more authors, only the first author's name, followed by "et al." should be given in a citation. E.g. a paper with authors D. Trump, M. Rubio, T. Cruz, J. Bush, J. Kasich and B. Carson, cited via `\cite{TrumpEtAl2021}` would yield "Trump et al. (2021)".

This is a **change of policy** from what was previously stated in the Author Guidelines provided on the Journal's web page. Both the guidelines (which, by the way, were inconsistent with what was actually implemented by the anzsj bibliography style!) *and* the `anzsj.bst` bibliography style file have been adjusted. The convention formerly stated in the guidelines was intricate, slightly tricky to adhere to and rarely enforced. The adjustment provides a simpler and "cleaner" protocol, achieves an admirable consistency between guidelines and actual practice and makes life a lot simpler for everyone.

5. Notational Conventions

It may seem dogmatic, but the Journal has some strict rules about notational conventions that must be followed. The reason for these rules is simply *consistency*. One and only one convention must be followed, otherwise the result is a visually unpleasant hodge-podge. Which convention is chosen does not usually matter very much, but a single one must be chosen and used consistently. The choice is made by the Journal; authors must follow it.

A few of the more important examples of these conventions are listed below. Many others are given in the document "*ANZJS* Style Guide for Authors" as mentioned in Section 1.

1. The transpose operator: This must be represented as a sans-serif T, which is most easily rendered in LaTeX by `\top`.
2. The symbols "$\forall$" and $\exists$: Do *not* use them! Use *words* — "for each" or "for all" and "there exist(s)".
3. Random and non-random quantities: (Scalar) random variables should generally be denoted by upper case letters such as X or Y. Non-random quantities should be denoted by lower case letters. An observed value of Y would be denoted by y.
4. Vectors and matrices: Vectors quantities should be indicated by bold face font, e.g. $\boldsymbol{y}$. Vectors of observations should be presented as (boldface) lower case letters (such as the $\boldsymbol{y}$ example just given) whereas vectors of random variables should be presented as

bold face upper case letters: $\boldsymbol{Y}$. Matrices should also be presented as bold face upper case letters: $\boldsymbol{M}$.

5. Expectation: Use "E" (ordinary Roman font) for the expectation operator, and enclose the argument of this operator in *parentheses* as in $\mathrm{E}(X)$.
6. Variance, covariance and correlation: Likewise use "var", "cov" and "cor" (ordinary Roman font, all lower case) for the variance, covariance and correlation operators. operators, as in $\mathrm{var}(X)$, $\mathrm{cov}(X, Y)$ and $\mathrm{cor}(X, Y)$.
7. Probability: Use "Pr" for the probability function, and enclose the argument of this function in *parentheses* as in $\Pr(A)$. The probability function is best rendered in LaTeX by using `\Pr`.
8. Do not begin sentences with symbols (mathematical or otherwise). A sentence *must* begin with a *word* that can be capitalised. For example, instead of "$\Phi(x)$ is a cumulative distribution function ...", use "The function $\Phi(x)$ is a cumulative distribution function ...".

Note that following the foregoing (and other) conventions can be facilitated by defining the appropriate mathematical "commands" using the `\newcommand{}` facility provide by LaTeX. Examples of this use of `\newcommand{}` are provided in the LaTeX source file previously referred to. In particular the expectation operator and the variance, covariance and correlation operators (items 5 and 6 above) are defined in the preamble of this source file. By imitating these, and the other examples in the preamble, you can construct a convenient "shorthand" that will allow you to produce notation conforming to the Journal's convention using a minimal number of keystrokes.

6. Equation numbering

An equation should be given a number ***ONLY IF*** if it is referred to elsewhere in the paper. Use `\[ ... \]` to display an equation *without* a number. You can use `\begin{eqnarray*} ... \end{eqnarray*}` (as I always used to do until the error of my ways was recently pointed out to me) to display an array of equations without numbers, but it is better (see Madsen (2006)) to use `\begin{align*} ... \end{align*}`. You will need to have the package `amsmath` loaded in order to have access to the `align*` (and the `align` and `split` — see below) environments. Examples:

$$\Pr(K = k) = \binom{n}{k} p^k (1-p)^{n-k}$$

and

$$
\begin{aligned}
P_0(x) &= 1 \\
P_1(x) &= x \\
P_2(x) &= (3x^2 - 1)/2 \\
P_3(x) &= (5x^3 - 3x)/2 \\
&\cdots \\
P_{n+1}(x) &= ((2n+1)xP_n(x) - nP_{n-1}(x))/(n+1)
\end{aligned}
$$

Use `\begin{equation} ... \end{equation}` to display an equation *with* a number. You can use `\begin{eqnarray} ... \end{eqnarray}` to display an array of equations with numbers, but as for un-numbered arrays of equations it is better to use `\begin{align} ... \end{align}`. Very often you will wish to have only one number associated with an array of equations. To suppress equation numbers you can use the `\nonumber` command with `align`, but you get a sexier result if you use `split` inside an equation environment. Examples:

$$
\mathrm{E}\left(\sum_i h(x_i, \boldsymbol{X} \setminus \{x_i\})\right) = \mathrm{E}\left(\int_W h(u, \boldsymbol{X})\lambda(u, \boldsymbol{X})\, du\right) \tag{1}
$$

and

$$
\begin{aligned}
\alpha\beta &= \bar{x} \\
\alpha\beta^2 &= s^2 \quad .
\end{aligned} \tag{2}
$$

Note how the label (i.e. "(2)") is vertically centred with respect to the array of equations. See the LaTeX source for the foregoing example in the file `protoType.tex` for guidance as to how all this is done.

Displayed equations which *are* numbered should be numbered consecutively (1), (2), ..., throughout the paper, including in the appendices if any. (I.e. they should *not* be numbered "within sections".) The required behaviour is the default in LaTeX. As long as you do not take any overt action to mess it up, you will get the appropriate style in your document.

7. Figures and Tables

Figures and tables often cause problems with the processing of papers. Here are a few comments on the preparation and presentation of such displays, with an example of each type. Of course the "content" of these examples is just flippant, frivolous nonsense, as my

examples usually are. (These examples are meant to be humorous; as I indicated previously, whether you find them funny depends on your sense of humour.)

It can be a major annoyance if authors supply each panel of a multi-panel figure as a separate figure file. When this is done, authors usually proceed by arranging the panels, within an array that constitutes a single figure, by juxtaposing the commands used to input the figures in an appropriate manner and inter-leafing appropriate line breaks. Although this is all do-able, and may lead eventually to a visually acceptable figure, it makes extra work both for the author and for the typesetters. It also adds a substantial amount of tedious work to the procedure of uploading the final version of the paper to ScholarOne since each panel then has to be uploaded individually.

It is much better to create a multi-panel figure in a single figure file, using appropriate graphics techniques. In R (the recommended software for creating figures) this basically boils down to making use of the `\par(mfrow=c(n1,n2))` command before issuing the `plot()` commands that produce the graphical displays in each panel. (In the foregoing, `n1` and `n2` represent the dimensions of the array of panels. In the example shown in Figure 1, `n1` and `n2` are both equal to 2.)

Another important issue is making sure that line types and plotting symbols are *distinguishable* in black and white. Figures appear in the print version of the Journal in black and white *only* unless authors specifically request that some or all of the figures appear in colour and are *willing to pay a charge* to cover the extra costs that are incurred in printing colour figures. So unless you wish to pay this charge — roughly speaking $350 USD per figure — you should prepare your figures in black and white, and do this from the very start. (Figures that are prepared in colour and then converted to black and white in the printing process look awful! Consequently the Journal does not countenance this practice.) In particular, lines in different categories should be distinguished by *line type* — solid, dashed, dotted . . . , and not by colour. A modest example is given in Figure 1. Sometimes it is useful, or perhaps even necessary, to distinguish categories by means of line *thickness* but proceeding in this way requires a great deal of care.

Note that colour figures can appear in the online version of the paper for *free*! However care must be taken, since *only one* version of the text of the paper is produced. Consequently the online colour figures, and captions and references to figures in the text, must be structured in such a way as to make sense both to readers of the black-and-white (print) version and the colour (online) version. See `styleGuide.pdf`, Section 5.1, for a bit more detail.

A common error in respect of tables is making them overly elaborate. Remember that the purpose of a table is to convey information! If a table is excessively complex, the reader's eyes will glaze over and he or she will skip the table, resulting in no information at all being conveyed. In particular, if a table is too wide to fit on a page and has to be rotated 90° in

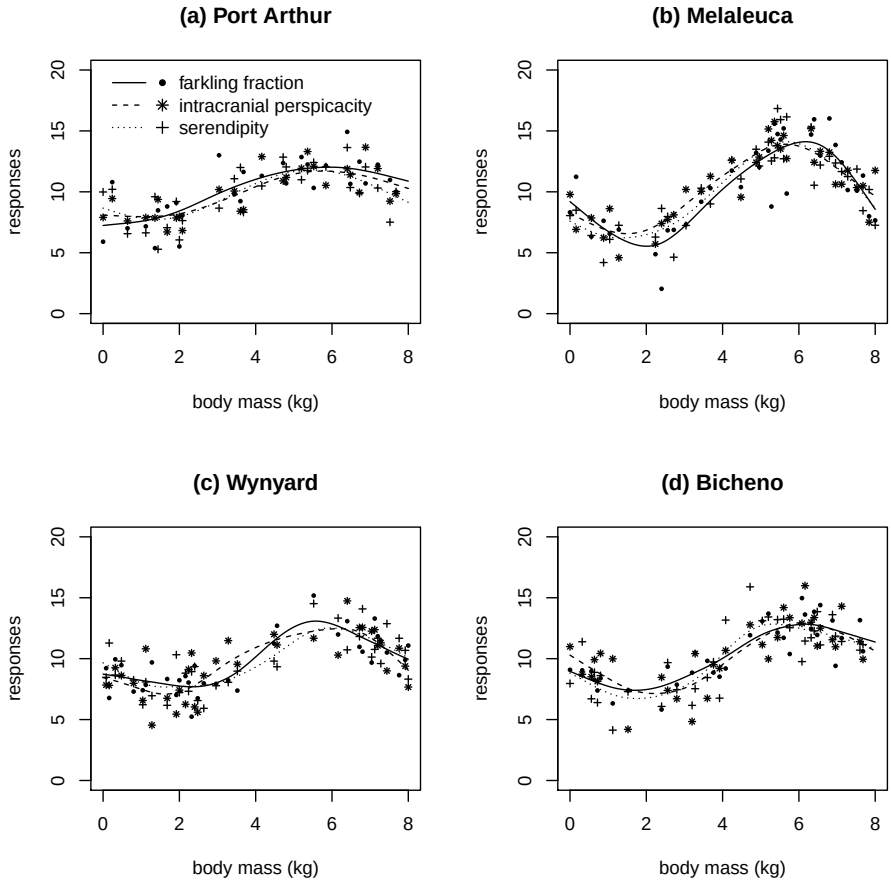

Figure 1. Characteristics of the Lesser Tasmanian Drop Bear (farkling fraction, intracranial perspicacity and serendipity all in furlongs per fortnight) plotted against body mass (kilograms). The observations were made on samples obtained at four locations in Tasmania. Plotted points represent the raw observed values; plotted lines represent non-parametric fits to the raw data.

order to be displayed, then you are trying to put an excessive amount of information into a single table. The Journal will henceforth *insist* that tables fit vertically onto a single page. If your paper contains tables that do not satisfy this condition then you will be required to re-design your table accordingly. Possibilities for effecting the re-design include eliminating some of the "information", splitting the table into two or more smaller tables and putting all or part of the table into the online supplementary material. An example of a reasonably perspicuous table is given in Table 1. As stated in the "*ANZJS* Style Guide for Authors" captions for tables and figures should be left-justified and not centred unless the text of the caption fits on a single line. However one-line captions should be centred. For instance if the caption of Table 1 were simply "Dingos' kidneys", then centring would be preferable. When

Table 1. A load of dingos' kidneys in respect of characteristics of the Lesser Tasmanian Drop Bear. Standard deviations are given in parentheses after the mean values.

Location	Body mass (kg.)	Farkling fraction	Intracranial perspicacity	Serendipity
Port Arthur	3.95 (2.40)	10.14 (2.43)	9.91 (1.99)	9.81 (2.24)
Melaleuca	4.55 (2.41)	10.48 (3.51)	10.83 (2.94)	10.54 (3.30)
Wynyard	3.87 (2.70)	9.51 (2.20)	9.40 (2.44)	9.50 (2.23)
Bicheno	4.16 (2.41)	10.46 (2.44)	10.44 (2.64)	10.20 (2.86)

the `anzsauth` document class is used, captions are automatically centred if the caption fits on a single line. (Note that the document class file `anzsauth.cls` has recently — as of 06/11/2016 — been adjusted to make table captions more similar in appearance to figure captions. Because of this adjustment, the centring of one-line table captions is now automatic whereas, previously, overt measures were required.)

A table or figure that appears in the paper *must* be referred to in the text, even if only very briefly. That is, there must at the very least be something like "see Figure 17". If there is no such reference, then the corresponding table or figure must not be included in the paper.

8. Preparing LaTeX and BibTeX documents

8.1. Editing LaTeX source files

There are a number of approaches to preparing your `*.tex` and `*.bib` files. A primary consideration is that you should use either a general **text editor**, or a specialised LaTeX editor for this task. Do *not* use a word-processing program as an editor. Using a word-processor introduces a plethora of spurious non-printing characters which will completely mess things up and in all likelihood cause the universe to come to an end.

Good text editors include `vi` or `vim`, `emacs`, `gedit`, `pico`, `Crimson`, `Notepad++`, ... Good editors will have support for editing of LaTeX such as syntax highlighting and code completion. The Windows™ editors `Notepad` and `Wordpad` are distinctly inferior in this respect.

Among a number of possible specialised LaTeX editors, one that has been highly recommended to me by several reliable sources is `TeXstudio`. This is an open-source, multi-platform, fully-featured editor for LaTeX. It allows for easy processing of documents, has support for inclusion of a vast range of characters, provides auto-completion of LaTeX commands, has a built-in pdf viewer and a number of other helpful facilities. Other similar programs are `Texmaker` and (Windows™ only) `WinEdt`.

Users of Windows™ will almost surely make use of LaTeX via MiKTeX. This is free open source software, and is readily available and easy to install.

The integrated development environment (IDE) `proTeXt` is described as being "an easy-to-install TeX distribution for Windows™, based on `MiKTeX`", "which adds the `TeXstudio` front end to MiKTeX". Some authors may find it helpful.

8.2. Processing source files

One advantage of using specialised LaTeX editors is the ease of processing ("compiling") source files, particularly in respect of handling BibTeX files. Such processing can be accomplished with a single mouse click when `TeXstudio`, for example, is used.

If you use a "general" text editor and process the source of your document by means of command line instructions, the procedure requires more steps. To compile a document which uses the BibTeX protocols described in Section 4.2, you need to run LaTeX on the document, then run BibTeX, then run LaTeX again (possibly several times) until it stops complaining that labels may have changed. Something like:

```
latex magnumOpus
bibtex magnumOpus
latex magnumOpus
latex magnumOpus
    .
    .
    .
```

(In the foregoing "`magnumOpus`" represents the *stem* of the name of the file "`magnumOpus.tex`" containing the source of your paper. You may wish to use `pdflatex` rather than `latex` as your "compilation" command.)

Whether you are using a general or a specialised editor, if you get errors or warnings from the `bibtex` command you must edit the `*.bib` file and fix whatever was causing the errors (things like commas being left out). After fixing the problem, process the file again (if you are using a specialised editor) or run `bibtex` again (otherwise). After the initial learning period, the processing procedure all goes very smoothly. Try it. It really does make life a lot easier and saves a lot of time and errors. Once you get used to it you'll never look back.

9. Concluding comments

This document contains guidance on how to prepare a paper for submission to *ANZJS* by making use of the `anzsauth` document class for LaTeX. You will find that by making use

of this document class and following the advice that is provided in the foregoing material, you will be able to produce a paper that meets the Journal's requirements and that requires much less revision and adjustment than it otherwise might, thus speeding up the publication process considerably.

This document also emphasises the importance of good exposition and correct use of the English language. The Journal has very high, and strictly enforced, standards in this regard. Please pay close attention to this requirement and give careful thought to the way in which you express yourself. Doing so will, again, speed up the publication process for you.

The accompanying file `protoType.tex` forms a template for LaTeX source files for papers that are to be submitted to the Journal. When preparing your own LaTeX source file, you should imitate the structure of the template closely. You may find that an effective way to proceed is to edit the template, *mutatis mutandis*, replacing authors' names, the title of the paper, the abstract (summary) and the actual content as is appropriate.

Although it is not necessary to prepare the initial submission using the `anzsauth` document class, it is very important that the final version that you submit (after provisional acceptance of your paper) should conform to the Journal's requirements. This is much more likely to be the case if you use the `anzsauth` document class. It is likely to be less work for you if you make use of this document class and of the template from the outset, if this is at all possible. Note that it *is* necessary for the initial submission to be double spaced and to be line-numbered. These requirements are greatly facilitated by using the required document class. See page 4.

It is often the case that the Technical Editor will wish to make some minor adjustments to the LaTeX source file that you provide, before putting the paper into production. This saves having to send the paper back to authors, yet one more time, to get these adjustments made. The process of making these adjustments is a *whole lot* easier if the source file is constructed in a tidy and comprehensible manner. Use appropriate line breaks (keeping lines to a length of, e.g., at most 80 characters) and ensure that there is appropriate *spacing* between mathematical constructions. Do not embed LaTeX commands to produce displayed equations in on-running lines of text. All of this will have of course absolutely no impact on the *output* file produced by compiling the LaTeX source, but it simplifies the process of modifying and adjusting this source by orders of magnitude.

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