

**Challenges for publishing
Turkish science in English:
observations from two years
of copyediting**

Ian T. Riley

Niğde Ömer Halisdemir University

***Background**

***Purpose**

***Narrative**

***Language**

***Participation**

***Recommendations**



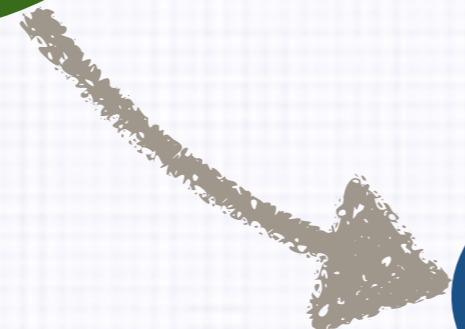
Purpose

Encourage

Copyeditor
(Turkey/China)

Awareness

Dialogue



No "one size fits all"



Issues

Narrative

Common
issues

Language

Participation



- * Narrative** - you are the storyteller, make it compelling
- * Language** - more than just correct sentences
- * Participation** - key outcome, make it an area for continuous professional development

You're the storyteller



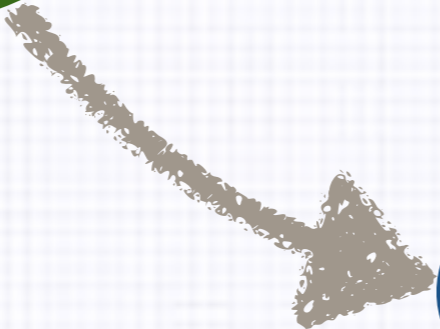
Narrative

Introduction

Narrative
issues

Results

Discussion



Narrative

Veggie is important

Turkey has Veggie

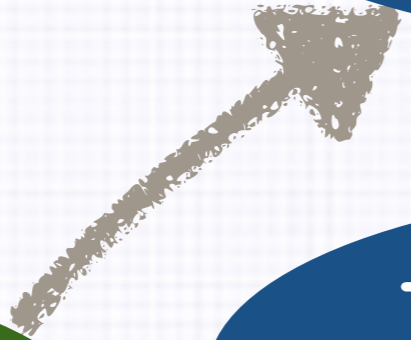
Turkey Nth for
Veggie

Veggie gets
Greeblie

Weak
introductory
narrative

Turkey has
Greeblie

We studied
Greeblie



Narrative

Greeblie impacts
Veggie

Stronger
introductory
narrative

We studied
The Gap to help
manage Greeblie

Greeblie
problematic due to
The Gap

Results
will benefit both
Turkey and the
world

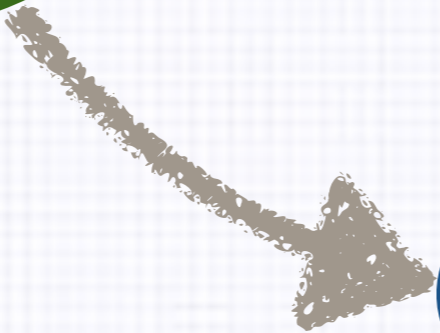
Narrative

Separate

Results

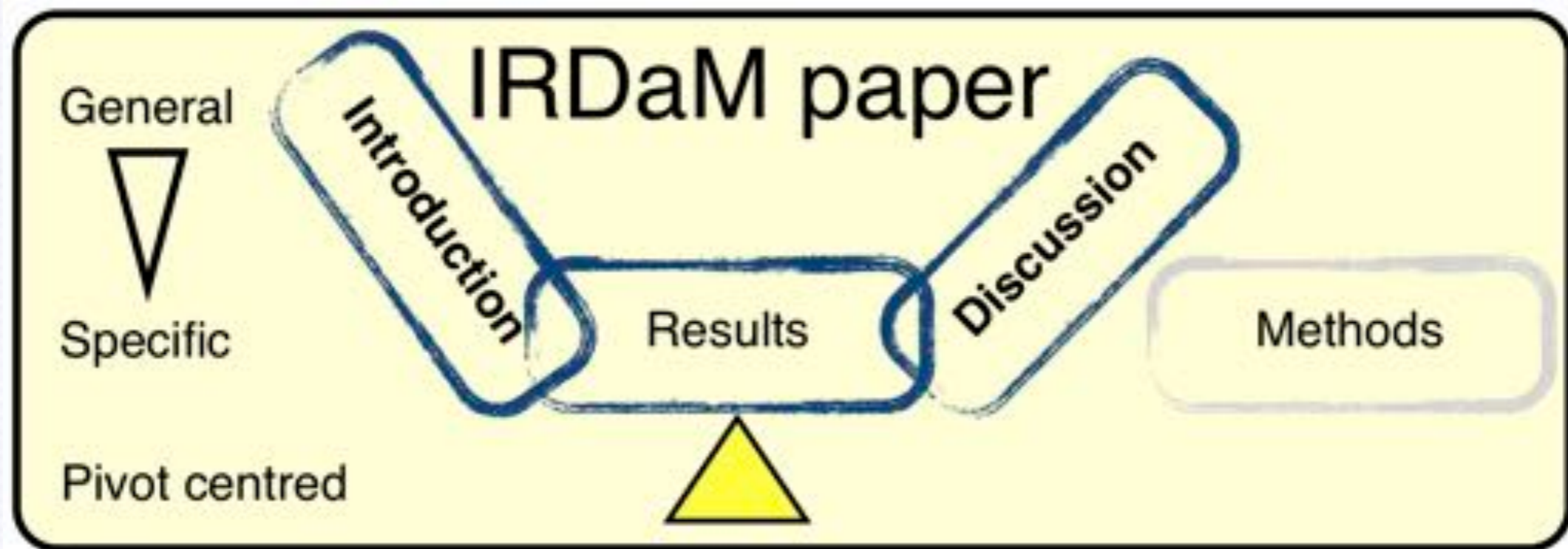
Trusted stats

Beautiful figures



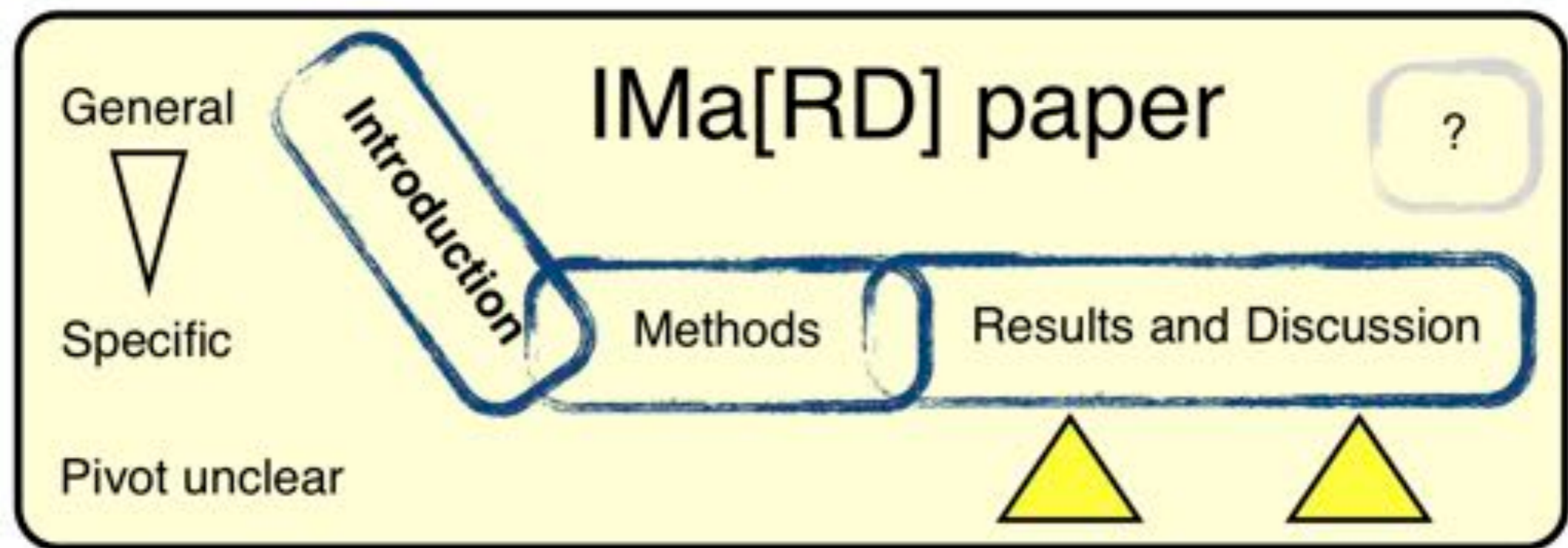
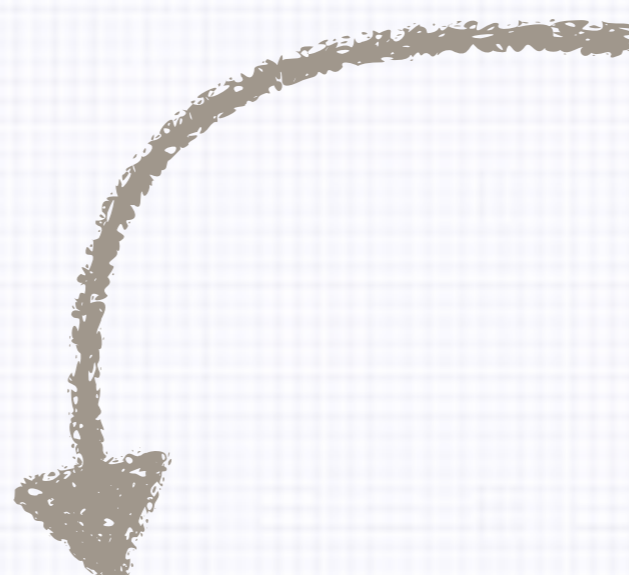
Narrative

Results
(high impact
journals)



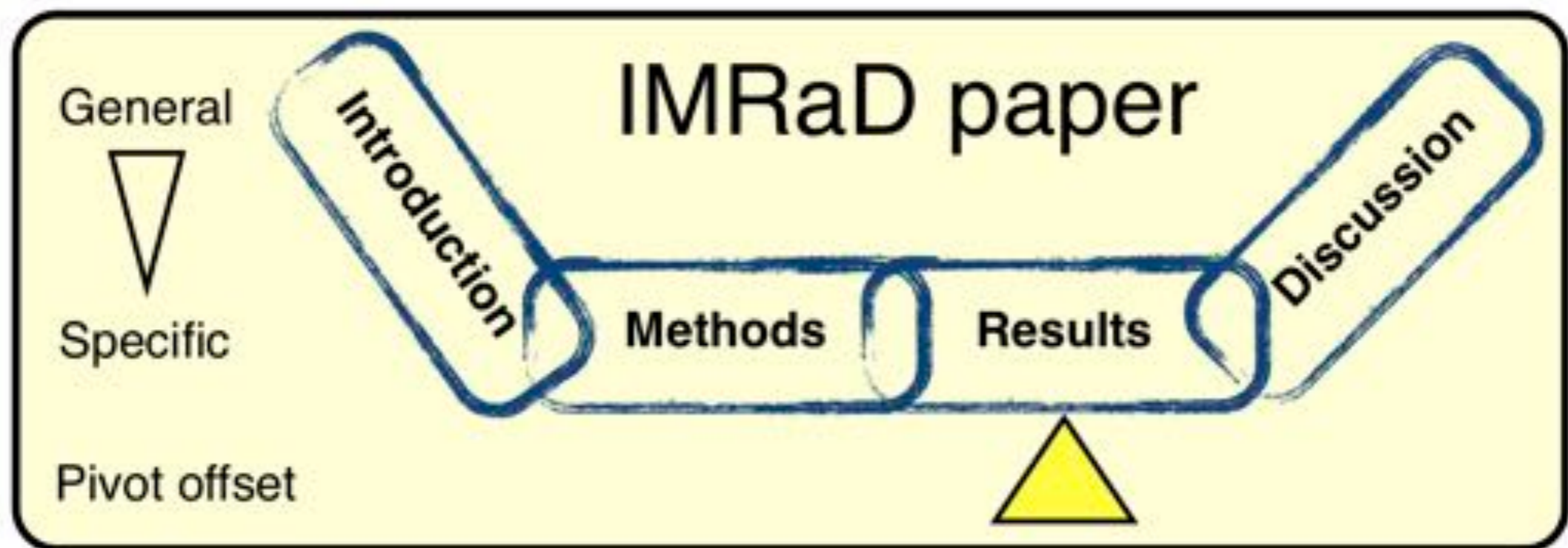
Narrative

Results
(poor)



Narrative

Results
(better)



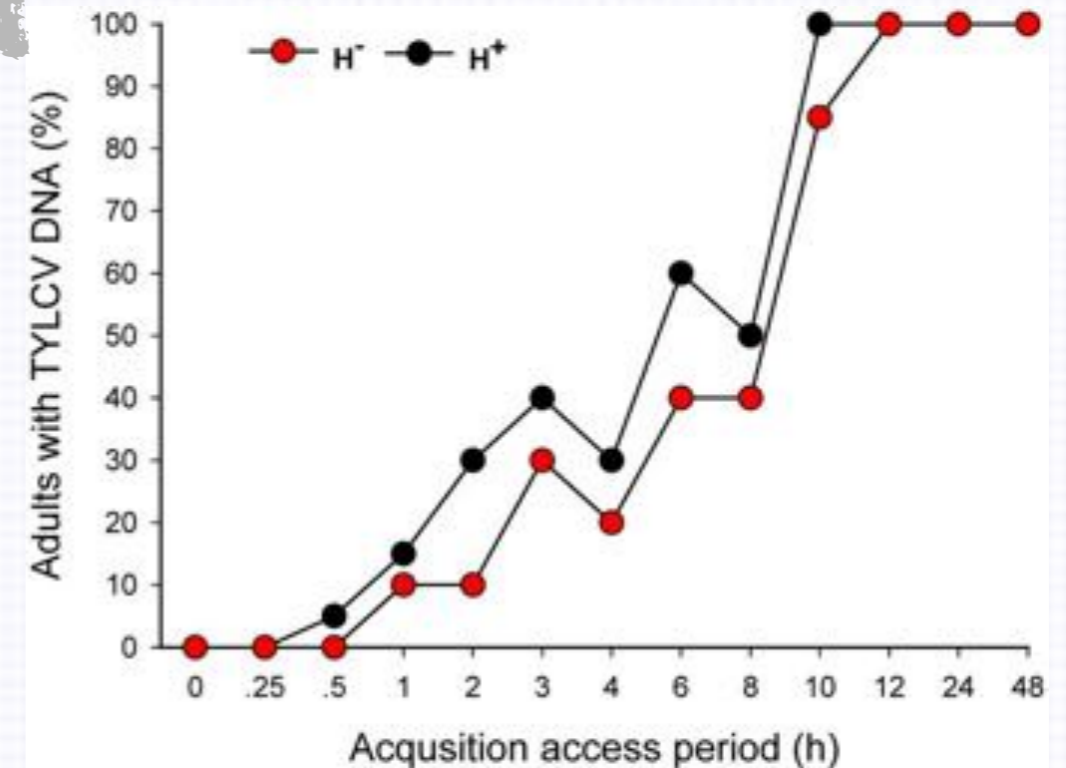
- * Separate results** - your story will flow better with better focus and balance
- * Trust your stats** - no such thing as a non-significant trend
- * Beautiful figures** - learn the aesthetics and drive the tools


Narrative

- * Prioritise graphical presentation
- * Learn the tools
- * Critically examine high quality journals
- * Do not mash-up in MS-Word

Figures

www.nature.com/articles/srep01367



A photograph of a forest with a variety of tree trunks. Some are dark brown, some are light brown, and one prominent one is white with black lenticels. The trees are surrounded by lush green undergrowth, including ferns and other plants. The scene is brightly lit, suggesting a sunny day.

**Trees and forests
(avoid a forest of
numbers)**

Too many digits: the presentation of numerical data

T J Cole

Emperor Joseph II: My dear young man, don't take it too hard. Your work is ingenious. It's quality work. And there are simply too many notes, that's all. Just cut a few and it will be perfect.

Mozart: Which few did you have in mind, Majesty?

Emperor Joseph II: Well, there it is.

Quotation from the film *Amadeus* (1984)

As a statistical reviewer for *Archives* and *BMJ* I am interested in the presentation of numerical data.¹ A concern is that numbers are often reported to excessive precision, because too many digits can swamp the reader, overcomplicate the story and obscure the message.

A number's precision relates to its decimal places or significant figures (or as preferred here, significant *digits*). The number of decimal places is the number

decimal places), some to significant digits (eg, the European Association of Statistical Editors guideline above³) and some to a combination of the two (eg, setting the number of decimal places to ensure two significant digits for the standard deviation (SD)).⁴ However, the message here is that rules of the first type, specifying the number of decimal places and ignoring the number of significant digits, are inherently unsatisfactory, as the following examples show.

Birth weight is usually reported in units of grams, for example, "birth weight ... resulting from blastocyst transfer was significantly greater than ... resulting from Day 3 transfer (3465.31±51.36 g vs 3319.82±10.04 g respectively, p=0.009)".⁸ However it is also reported in kilograms: "The mean birth weight of babies was 3.05±0.57 (95% CI 2.95 to 3.15) kg".⁹ In both articles birth weight is reported to

risk ratios to three significant digits for example leads to the large ratio below 1 being reported as 0.99 and the smallest above 1 as 1.01, with one and two decimal places, respectively. This is clearly unsatisfactory as they differ in precision by a factor of ten. In this instance a combination of significant digits and decimal places, the rule of four,¹¹ works best: round the risk ratio to two significant digits if the leading non-zero digit is four or more, otherwise round to three.

The rule of four gives three decimal places for risk ratios from 0.040 to 0.399, two from 0.40 to 3.99 and one from 4.0 to 39.9.¹¹ Applying it to the example of 22.68 above gives 22.7 (95% CI 7.5 to 74). Alternatively one can apply the rule with one less significant digit, giving 23 with CI 8 to 70.¹¹

Another example is the reporting of test statistics such as t or F. Specifying one decimal place would permit say t=30.1, where 30 is clearly sufficient as it is so highly significant. Conversely specifying two significant digits would permit t=-0.13, where again the extra precision is irrelevant as it is far from significant. A suitable rule specifies up to one decimal place and up to two significant

Narrative

Key findings

Discussion

Connections

Limitations

Applications



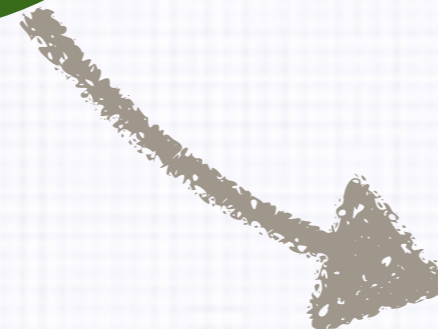
Language

Clarity

Language
issues

Brevity

Precision



Language

- * Grammar, spelling, punctuation, transitions, discourse
- * Genre adoption/conformity - expressions and word choices
- * Internal/external consistency

Catwoman



Cat Lady



Precision is about word choice

Language

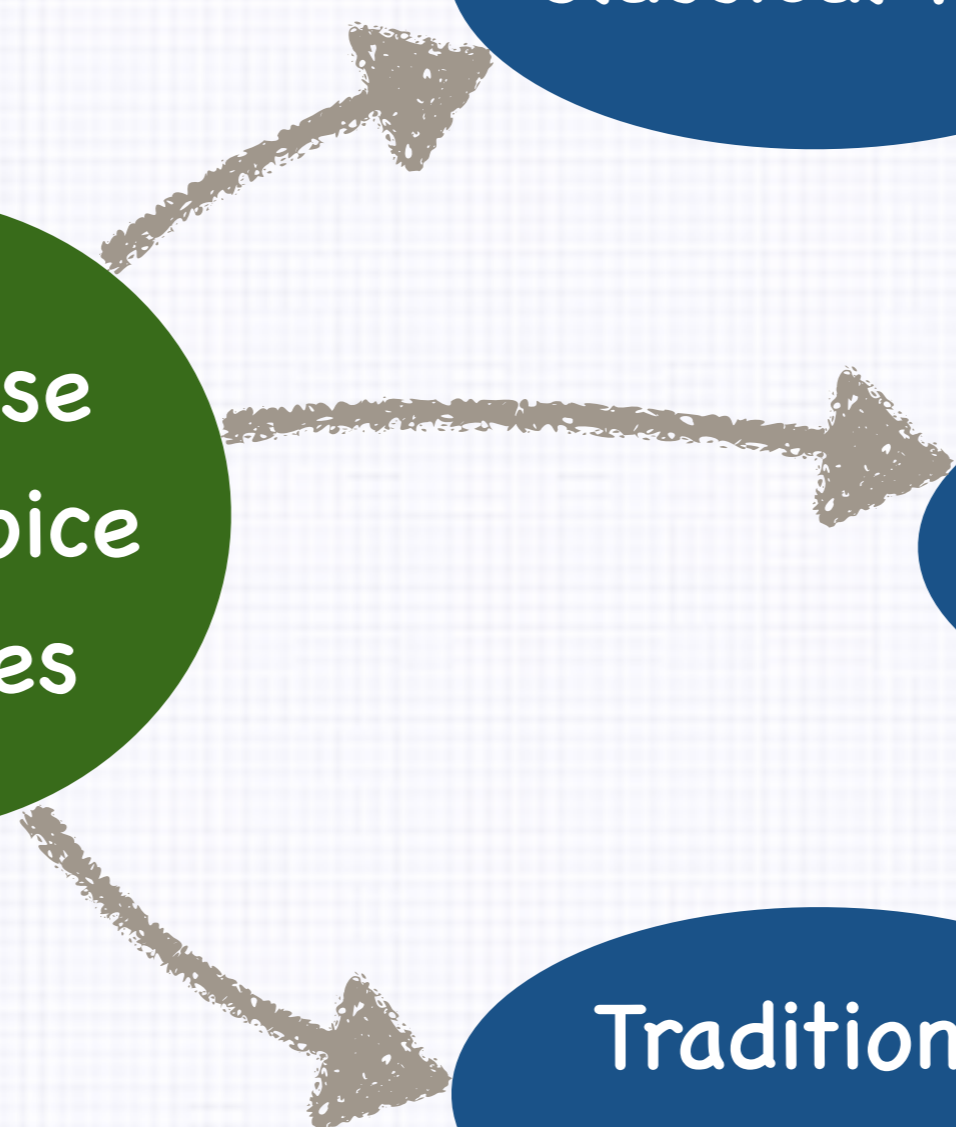
Classical PRC

Imprecise
word choice
examples

Conventional
farming

Traditional
taxonomy

* metaphorical



Language

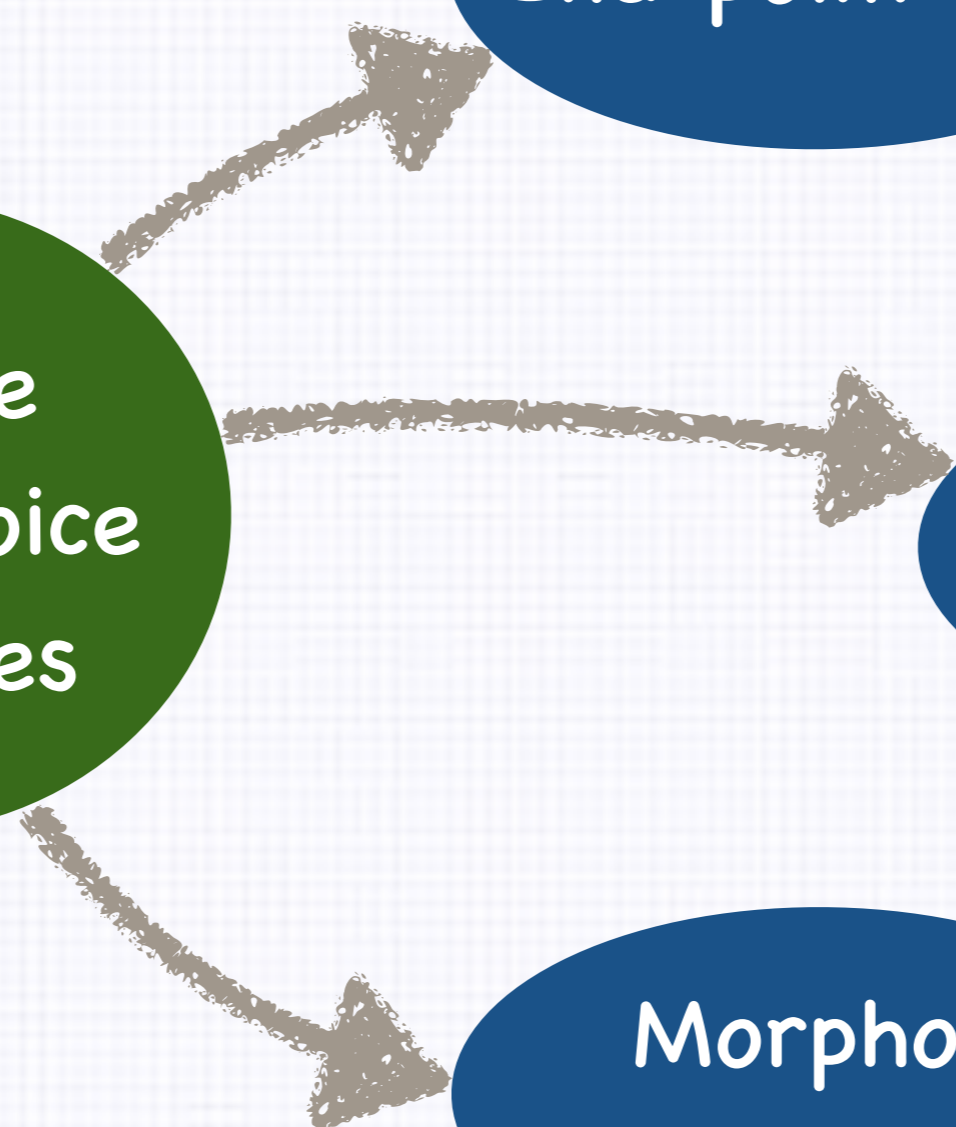
End-point PRC

Precise
word choice
examples

High-
input farming

Morpho-
taxonomy

* descriptive



Participation

Preparation

Manuscript

Revision

Changing world

Learner and adopter



- * MS preparation** – follow the instructions; double and triple check
- * MS revision** – refereeing and copyediting improves your paper; be actively and constructively involved

The world we
once knew has
changed.



Participation

Taxonomy
changes



**Solanum lycopersicum or
Lycopersicon esculentum?**

Participation



David B. Duncan
1916-2006

Statistics
change

John W. Tukey
1915-2000



**To Tukey or not to Tukey,
that is the question.**

Phytopathology	3.0	Duncan's should not be used.
European Journal of Soil	2.6	Do not use Tukey's and Duncan's. Do not use letters to indicate differences.
Annals of Applied Biology	2.0	Multiple comparison adjustment such as Duncan's or Tukey's is not acceptable.
Journal of Medical Entomology	2.0	The paper will be withdrawn if Duncan's is used for papers that do not deal with plant resistance.
Phytopathologia Mediterranea	1.4	Multiple comparison procedures (e.g. Duncan's or Tukey's) should not be used.

Multiple Comparison Procedures—Cutting the Gordian Knot

David J. Saville*

ABSTRACT

Multiple comparison procedures (MCPs), or mean separation tests, have been the subject of great controversy since the 1950s. Essentially, these procedures are an attempt at simultaneously formulating and testing pairwise null hypotheses using data from a single experiment. An unacceptable operating characteristic of most MCPs is their “inconsistency,” an idea that is illustrated in this article. This characteristic led to the development of a “practical solution” to the MCP problem, which is to “cut the Gordian knot” by abandoning any attempt at simultaneous formulation and testing. Instead, I recommend using the simplest multiple comparison procedure, the unrestricted least significant difference procedure, to (i) formulate new hypotheses at a known “false discovery rate” (in the null case) such as 5%, and (ii) independently test interesting new hypotheses in a second experiment. I also discuss the implications for sample size calculations of the choice of MCP.

Multiple comparison procedures are commonly used to test for “significant” differences between treatment means in experiments, even in cases where the set of treatments has clear structure and has been derived with obvious questions in mind. In these cases, the use of an MCP is inappropriate, as has been pointed out in a number of places (e.g., Swallow, 1984; Little, 1979). To quote Swallow (1984), MCPs “were developed for cases where the treatment set lacked structure, that is, where the treatments were just a collection of varieties or perhaps chemicals with no particular inter-relationships. Most treatment designs are not of this type. Usually, the treatment set has a structure, and the statistical analysis should recognize that structure.” This can be achieved by specifying appropri-

Thus, the long-running debate on the relative merits of the many different MCPs is relevant only to the minority of studies in which such a procedure is appropriate.

I first introduce some necessary statistical terminology, then discuss the general topic of MCPs in relation to various types of error rate and in relation to the levels of conservatism of some of the better known MCPs. The idea of inconsistency is then introduced and discussed, with particular attention being paid to Fisher’s restricted least significant difference (LSD) procedure, the MCP most commonly used in *Agronomy Journal*. Next, the implication of the choice of MCP for required sample size (estimated using a power analysis) is discussed. Finally, a practical solution to the problem of best choice of MCP is

Recommendations

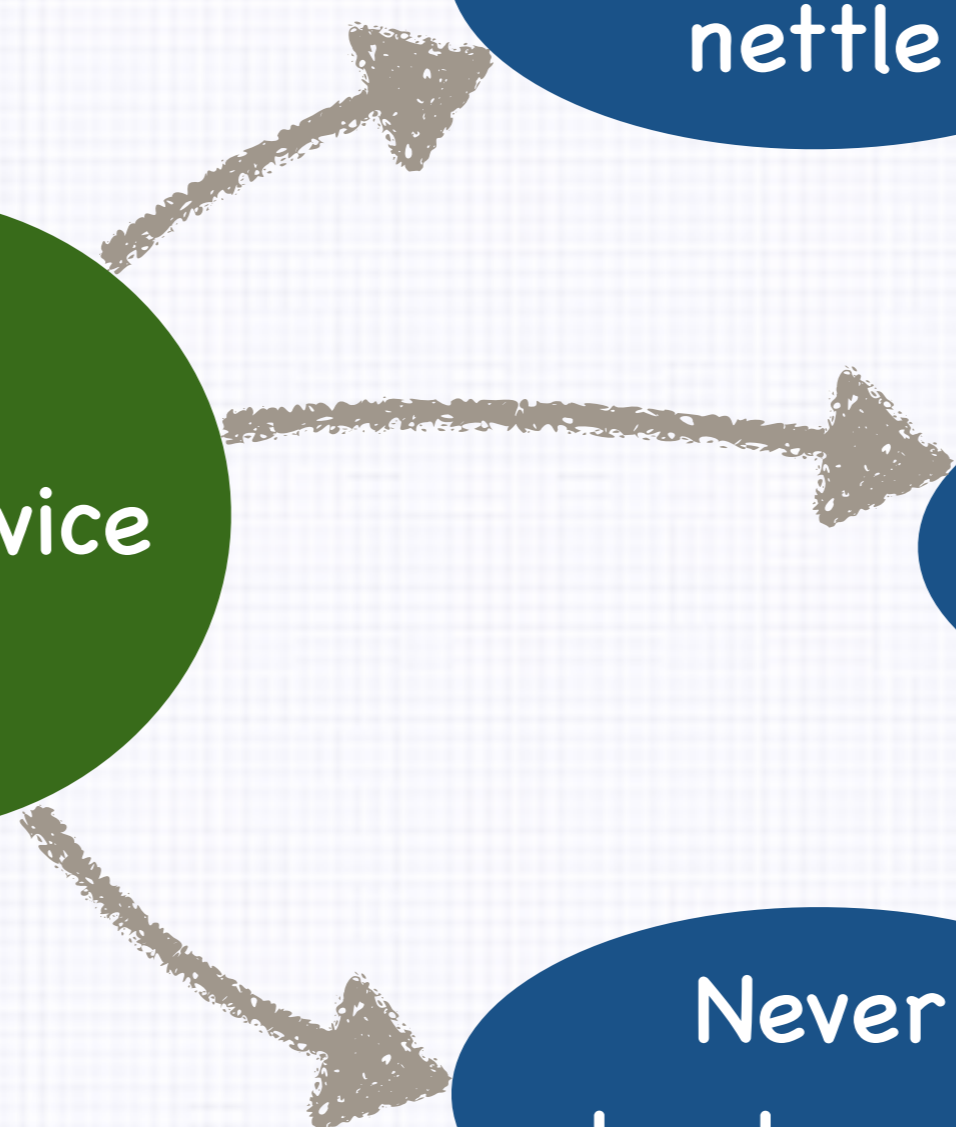
Grasp the nettle

Some advice

Expand horizons

Never stop learning

* idiom city



- * Grasp the nettle** - publishing isn't easy but it brings benefits
- * Expand your horizons** - write to communicate with the world
- * Never stop learning** - see it as must-have skill and a key area for professional development

Narrative Language Participation

ian@riley.asia

References:

Cole TJ, 2015. Too many digits: the presentation of numerical data. *Archives of Disease in Childhood* 100, 608–609.

Saville DJ, 2015. Multiple Comparison Procedures—Cutting the Gordian Knot. *Agronomy Journal* 107, 730–735.



Image credits:

Beaker and quill - www.esocsci.org.nz/wp-content/uploads/2017/09/icon.png

Knife - images.knifecenter.com/knifecenter/wenger/images/WR16999a.jpg

Storyteller - Tourism Australia - www.swaindestinations.com/blog/wp-content/uploads/2013/03/109376-575.jpg

Angophora forest: www.flickr.com/photos/ian_riley/23994945406

Catwoman/Cat lady - img.freecliparty.com/chapters-15-8d2hdtj.jpg

New York Public Library - www.nypl.org

Tomato - www.rotarybotanicalgardens.org/why-plant-names-change/

Duncan DB - cache.legacy.net/legacy/images/Cobrand/montereyherald/Photos/12170878_06212006_Photo_1.jpg

Tukey JW - upload.wikimedia.org/wikipedia/en/thumb/e/e9/John_Tukey.jpg/220px-John_Tukey.jpg

Stacked pebbles - www.flickr.com/photos/ian_riley/4168243521

Grasped nettle - 3.bp.blogspot.com/-jQl6OXlXrME/UWF7v-FPB6I/AAAAAAAAADhw/jjPMIMD-8qo/s400/P1000627.jpg