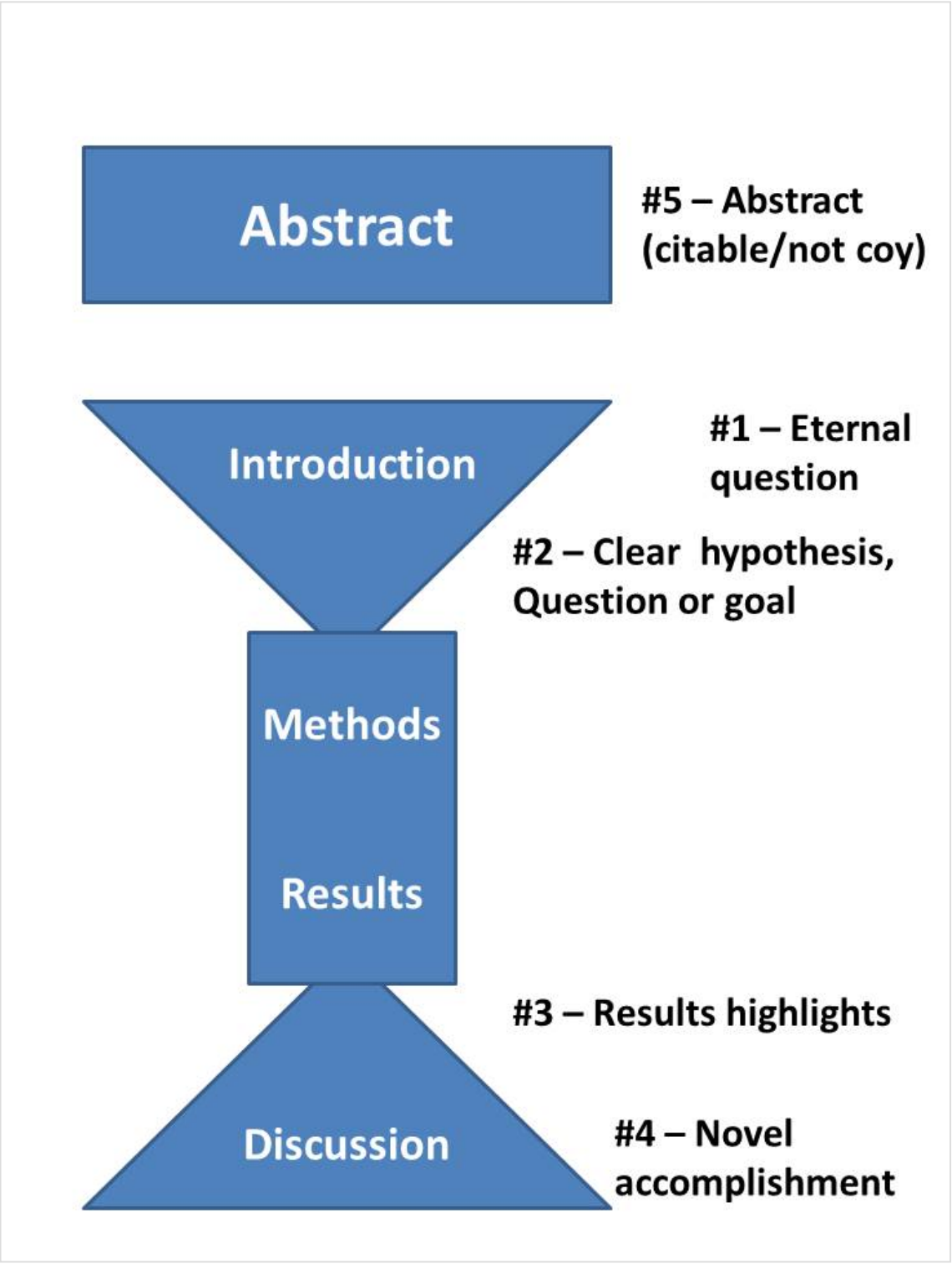
The 5 pivotal paragraphs in a paper

Posted on **February 24, 2016** by **Brian McGill**

I have argued before that writing a paper for submission to a journal is about a lot more than having done some work that you can describe in methods and results sections. It is certainly about the nuts-and-bolts mechanics of good writing at the sentence level. But more than anything, it is about having a story tell to tell and taking readers on a journey along the arc of that story.

I've gotten a lot of insight into how to communicate this story arc working as an Editor in Chief for Global Ecology and Biogeography. I have to make quick decisions on whether to send out to review over 600 papers a year. This means I've gotten very good at skimming papers and learning what captures their core essence and how importance and excitement are communicated. Cover letters are certainly important (that's a post for another day). And figures and figure legends are also important. And you better have sound methods (although an associate editor is more likely to screen that carefully). But I have increasingly also realized that there are five really pivotal paragraphs in any paper. If you get those five paragraphs right, you are likely to have and communicate the story arc in a way that grabs attention.



The figure above shows the classic paper organization with 5 sections: abstract, intro, methods, results, discussion (AIMRD). Notice the use of triangles. These suggest that the introduction should start out very broadly and then narrow down. While the discussion should start narrowly and broaden back out (with the methods and results being quite specific in the middle). This organization applies to grants as well as papers and I've heard it called variously the "Martini glass" model or the "hourglass" model of writing. This is paper writing 101 and I suspect you've heard it before. It is also worth noting that there may be other good ways to organize a paper, but this AIMRD convention is so strong these days that you violate this convention at your own risk. A

key technique of good writing is make life easy for the reader by using conventions to make it easy for them to find things; don't surprise them.

What is less obvious, and what I want to focus on is that this model really identifies 4 paragraphs (plus the abstract) as the pivotal paragraphs in the paper. Namely the first and last paragraphs of the introduction and discussion (numbered #1-#4 in the figure). In my view, these paragraphs are pivotal to you as a writer. Put due thought into getting these right and the whole paper will write itself. And they are pivotal to the reader – by convention these paragraphs steer the whole paper and give the story and the arc that a good paper needs. The other paragraphs, on a certain level, is just filler.

So here are my thoughts on the secret recipe for each of the 5 pivotal paragraphs

1. **First paragraph of the introduction** – you should use this paragraph to embed and contextualize your work in the context of a large classic, timeless, eternal question. What drives species richness. Or controls abundance or distribution. Or gives the best management outcome. Or explains why species are invasive. Or controls carbon flux. You of course are not going to fully answer this question. Indeed no one person, and probably even no generation of scientists will fully answer this question, but ask a really big question. You can then use this big question setup to spend the rest of the introduction summarizing past attempts to answer this question, and show how they have all failed to address the key issue you are about to address.
2. **Last paragraph of the introduction** – This is probably the 2nd most important paragraph after the abstract. It MUST give a clear concise statement of what your core hypothesis, question or goal is. So while #1 is very general and you won't/can't answer it, #2 is totally specific to your paper and it should be answered before the paper is done (at least in your system). Depending on the field and your work, this may be phrased as a hypothesis, a question or a goal. But it should be crystal clear what your paper is about. Aside from readers getting really cranky if you haven't clearly stated your question by the time they get to the end of the introduction, this is a great set up to start telling them how you answered it in the next section (methods). But do not start introducing (even in a summary fashion) the methods – here. This is a very common mistake I see. State the question independent of methods. Then describe the methods in the next section.
3. **First paragraph of the discussion** – You have just taken the reader through the weeds of every analysis you have done, every comparison to a null model, every check on alternative models and buried them in p-values or AIC values (or preferably effect sizes, r2 and RMSE numbers). You now must pull up out of the weeds and tell them what the IMPORTANT results are, the ones you want them to remember. You probably told them 6 or 7 things, but some of those were necessary side shows. Take them back to the main attractions. (And if you want them to remember 5 different things you either haven't thought it through enough or you need to split up your paper). This is also where you start shedding the statistical rigor you needed in the results section and pulling back to emphasizing the biological interpretation. This paragraph often looks as simple as one sentence each for: recap of biological result #1, recap biological result #2, recap biological result #3, and together these suggest X. Boom! the reader is now back in the big picture and you have set up the whole rest of the discussion where you can acknowledge limitations on why #1-#3 aren't perfect for

proving X but can argue that they're pretty good, and you can put X back into the context of the literature again.

4. **Last paragraph of the discussion** – This paragraph is the most variable (the other 4 paragraphs really should be used for only exactly the one purpose I mentioned). But in my experience this paragraph ties your main claim (from #3) which responds to your goal/question (from #2) back to your eternal question (#1) and makes a novelty statement about how you have made progress towards improving our knowledge of the eternal question. In this way it serves as a nice summary of the whole paper.
5. **Abstract** – There are two schools of thought on the abstract: write it first to outline your paper, or write it last to summarize what you wrote. I fall in the latter camp, but it doesn't matter for the purposes here. What should be in the abstract is the same regardless of when you write it. The most common mistake I see in abstracts is to devote 2/3 of the abstract to setting up the question and then lamely ends on a sentence or two of methods and some mealy-mouthed phrase about "various results are shown". Its almost like people start writing until they fill up 200 words (or whatever the limit is) and then they stop. But my best guess is that half the people who open your paper will only look at the abstract. So you have to say the most important things in there. Overall an abstract should exactly parallel the paper (the whole paper). One or two sentences on the question (e.g. one that is general matching paragraph #1 and one that is specific matching #2). Probably just one or two sentences summarizing methods and giving key facts (anybody who reads your abstract should know what types of organisms, where studied, for how long studied and how big the sample size). The main results MUST be in the abstract. Don't bury your results. As I said this is probably the most common mistake – if you don't have exciting results in your abstract, only a handful of devotees are going to read further! And abstracts should be about biological results and conclusions, not statistical. And your punchy conclusion and novelty statement should be the last sentence. In short getting paragraphs #2, #3, and #4 into your abstract are the most important goals, but generally writing a 5-8 sentence version of your whole paper is a good approach. Just make sure it is clear what you accomplished. Think about somebody who is only going to read your abstract; you want them to walk away knowing what your main conclusion is, so don't be coy and tease your results and conclusion – punch them hard in your abstract.

Thus I would argue that writing a good paper consists of:

1. Spending enough time thinking about what your main point and storyline are that you are ready to write these 4 paragraphs (or 5 if you start with the abstract). This small little step of thinking about your main point and storyline is all too often skipped!
2. Writing the 4 key paragraphs
3. Filling in the introduction and discussion between the four key paragraphs
4. Methods and results can be written anywhere in this sequence that you want.

What do you think? Have I over simplified? Do you have a different secret formula?

This entry was posted in **Advice** by **Brian McGill**. Bookmark the **permalink [https://dynamicecology.wordpress.com/2016/02/24/the-5-pivotal-paragraphs-in-a-paper/]** .

About Brian McGill

I am a macroecologist at the University of Maine. I study how human-caused global change (especially global warming and land cover change) affect communities, biodiversity and our global ecology.

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53 THOUGHTS ON “THE 5 PIVOTAL PARAGRAPHS IN A PAPER”

Pingback: Como escrever um artigo científico | Sobrevivendo na Ciência

Marco
on **February 24, 2016 at 9:38 am** said:

Couldn’t agree more. Very nice strategy! I use exactly the same metaphor of triangles and boxes when I teach scientific writing. Do you know this paper on how to write backwards: http://www.jstor.org/stable/20168029?

pheidole
on **February 24, 2016 at 10:43 am** said:

This is pretty much dead on.

One thing my Community Ecology class noted last Fall is that Dave Tilman often begins abstracts with a single sentence summary of the entire paper. Kind of an abstract to the abstract. It’s rather genius, I think, as it acknowledges that when you are skimming through articles, you are constantly deciding whether to go on with this paper, or move onto the next. Tilman assures that the reader, in reading the *first two sentences*, gets the gist of the entire paper (and most of the time will be drawn in to read more).

The Abstract seem to be one part of the journal experience that is undergoing a fair bit of experimentation. As more and more of us find reading abstracts to be one effective way of

keeping up, I find this refreshing.

Jeremy Fox
on **February 24, 2016 at 11:45 am** said:

I have to say I find some of those experiments odd and unhelpful. Does anyone find “graphical abstracts” useful?

Simone Vincenzi
on **February 24, 2016 at 2:36 pm** said:

Painful to produce, rarely read/viewed

Brian McGill
on **February 24, 2016 at 4:52 pm** said:

But conversely, I don’t understand why all journals haven’t embraced the bullet pointed – 5 subsection with heading abstracts. They’re so much quicker to read and ensure that the relevant information is in the abstract.

Jeremy Fox
on **February 24, 2016 at 5:40 pm** said:

@Brian:

I see what you mean, but personally I don’t really like that format. Maybe just b/c I’m not used to it.

Amy
on **March 1, 2016 at 10:42 am** said:

I agree this is an excellent resource, and well aligned with what I teach. I’ve started using two strategies along these lines from different journals that I require my students/postdocs to address in their manuscripts, regardless of if we are targeting

the journal that requires it. The first is from JRG-Biogesciences, which requires 3 short “take home” messages appear along with the abstract (not unlike the “in a nutshell” from FEE). This gets writers to focus on the novelty of their manuscript. The second is a 100 word summary, which is a requirement of the cover letter step for submitting to Nature. This gets them to hone the message into a brief synopsis, which is largely the basis of the abstract. If they think hard about both of these, and put them on the cover page of the manuscript, it acts as a centering point to concentrate their focus. I tell them to think about each paragraph as they write (especially in intro and discussion), and make sure it connects back to these key messages – if it doesn’t, it’s likely superfluous and I’ll end up cutting it. Nailing these messages takes time, but after that, it really helps to focus their writing.

Brian McGill
on **March 1, 2016 at 10:47 am** said:

I like these wo approaches. Definitely focuses the mind.

jeffollerton
on **February 24, 2016 at 11:50 am** said:

Not much to disagree with here, Brian, although it would be interesting to think how it maps onto a Science or Nature type short-format paper which is not strictly AIMRD: Abstract is typically the first section of the Introduction, and Results & Discussion merge, with Methods an after-thought. The key paragraphs would be the same but their positioning could be different.

Vincenzo Ellis
on **February 24, 2016 at 12:44 pm** said:

Nice post! I’d like to know your opinion about whether to include a main result in the last sentence of the introduction. Some people are really opposed to it. When there is one big result, I tend to enjoy seeing it at the end of the intro. I feel like it often helps guide me through the methods and results sections, which are often quite dense.

Brian McGill
on **February 25, 2016 at 3:42 pm** said:

I very strongly believe the main result should go in the abstract, but I'm personally not a fan of putting results before the results section (sometimes in the discussion section is OK). The honest truth is most readers will skip the methods section and even the results section and just look at figures and read the discussion (if they make it past the abstract).

Because so many readers jump around and read only the parts they want, following the conventions is all the more important so a reader can know where to find what they want.

Cesar Nufio
on **February 24, 2016 at 4:10 pm** said:

This is nicely put together. I find one of the biggest barriers is that we do not really provide this basic outline for the role of each paragraph and so the students are trying to organize their ideas and experiments based on the typical abstract, methods, results and discussion framework. In this context, students then meander as they do not really know how to order within these sections. The other issue tends to be the difference between the way we read papers and then write them. That is, students can look at the framework you described and agree with it and even judge the papers they read by this frame work, but then leave this frame work when writing their own papers. So after their first draft we meet and simply using the martini framework to talk about the organization of their paper and this helps a great deal.

The only things I typically add are:
1. First intro paragraph. Keep in mind who your audience is and what discussion you want to be a part of (who are you citing and how do they frame their questions and what language do they use). If it is a broad audience in the journal Ecology than your study on bees could be framed in the context of global processes and ecological principles but if the audience is a conservation oriented journal the context of a fragmented landscape could be the big picture. I typically encourage the final sentence in this summary paragraph to be the transitional sentence that introduces your particular question (or you should at least be sure to do so by this last sentence).
2. Final paragph of intro, I typically encourage and practice the habit of writing this paragraph first in the introduction . As you state this is critical for the reader to understand the purpose of the paper and its clarity is essential. I have the students state the system,

question, the hypothesis (-es) and predications that would be consistent with/ would support the hypothesis (-es).Then I work backward and create a simple out-line that states the big picture (paragraph 1) and what the 3 following pargraphs need to be be in order to i. provide the proper context for the study and ii. make it seem like the question and the system I am introducing is a logical next step.

This final paragraph I also use to develop the frame work for how the Methods and results will be organized.

Thank you for putting this together.

> 
> Brian McGill
> on **February 24, 2016 at 4:51 pm** said:
>
> All good advice – definitely keeping the target reader in mind is key.

Neva Knott
on **February 24, 2016 at 8:40 pm** said:

Brian, I'm an English teacher and I think this rocks. Thanks, Neva

Christopher Reyer
on **February 25, 2016 at 4:10 am** said:

Dear Brian,

thank for for this thoughtful piece. I basically agree with all your points besides this one "… do not start introducing (even a summary fashion) the methods – here [i.e. in the last paragraph of the introduction]."
I think it is really useful if the last part of the introduction starts with "The objective/key questions/hypothesis of the paper is…" and then "We address this question by designing a model experiment that disentangles the drivers of … by keeping xy constant.. and varying xz… and combining date from xxx sources" and then "this allows for testing if the effect of xy is actually comparable to xz…"

I think such a glimpse at the “methods” is really important to show which way the paper is going, My point is that both the main question addressed in the first paragraph and the nitty-gritty questions/objective/hypothesis in the last one could be approached from very different (methodological) angles and the glimpse helps to set this straight.

Would be nice to know if we actually mean the same with “summary of methods” and if yes, why you think this is such a big mistake.

All the best

Christopher

Brian McGill
on **February 25, 2016 at 5:19 am** said:

Hi Christopher. Thanks for your comment. I’ve seen well done “question” paragraphs that are stuctured as you describe. But in my experience it is rare to have such concise clear writing, so it is safer as a general recommendation to keep them separate. Also, I am a big fan of an introductory paragraph of methods that overviews the approach before diving into details. At that point our only difference is whether that sentence you describe is located before or after the method heading.

Meghan Duffy
on **March 10, 2016 at 12:26 pm** said:

To follow up on this, I am most likely to put methods in the last sentence of an intro when I’ve decided to use an approach other than AIMRD. Sometimes, it makes more sense to have empirical methods, empirical results, theory methods, theory results, for example. If we’re going to do that, we set the reader up to expect that in the last paragraph of the intro. “First, we use approach X to show result Y. Then, we use mathematical models to …”.

Tom Wenseleers
on **February 25, 2016 at 8:06 am** said:

Very good advice and spot on! In terms of which sections to write first, I always think of a nice title and story first, then do the abstract and then do the main key figures and figure legends to go with it. After that, I feel that the rest of the paper kind of writes itself. I noticed that a lot of students start writing the material and methods and results section first, but this I believe is a bad order to do things, as it doesn't focus them on what story they want to tell…

> 
> Brian McGill
> on **February 25, 2016 at 8:18 am** said:
>
> I agree. I haven't emphasized figures here, but they are a very central part of how I develop my story.
>
> I personally don't think there is anything terrible about writing the methods and results first as it gives a sense of progress. But one shouldn't have the illusion that just because half the words are written the paper is half done. The hard part is still remaining. And of course in a perfect world, you know the story when writing methods and results because otherwise you have to go back and tweak the methods and results to align with the story.


Marco
on **February 26, 2016 at 1:31 pm** said:

I think the diversity of formats observed in contemporary scientific writing is quite exciting. Although papers were always different from one another in terms of content, they used to be very similar in terms of format, except for a few exceptions. Why cannot technical papers be also reader-friendly?Experiments related to the sequence of sections, types of abstract, and even the sections themselves are positive in my opinion. In the near future, scientific writing might become more colorful.


Lila
on **February 26, 2016 at 3:23 pm** said:

Useful! this tells me where to focus while writing a paper. What fraction of an abstract would you suggest for setting the context? one fourth?

Brian McGill
on **February 26, 2016 at 4:01 pm** said:

It depends on how many words you are allowed. If you have 400 or more I think you can safely set the context well (with about 1/4). If you have a shorter abstract, then I think the context setting is the thing to cut more than the rest in the abstract. Remember if you sell them to read past your abstract, likely the next thing they will read is your introduction.

Tim
on **February 26, 2016 at 3:55 pm** said:

Great information Brian, thanks for posting!

Does your formula change at all if the journal requires a conclusion? For example, would paragraph 4 stay in the discussion or would it become part of the conclusion?

Brian McGill
on **February 26, 2016 at 4:00 pm** said:

The formula for the 1st 3 paragraphs and the abstract don't change. But as you note the formula for the 4th is a bit different – which is why I hedged my bets for that paragraph a bit. In the end though I think if you think of a conclusion as something close to half way between the paragraph 4 I described and an abstract, you are probably pretty close.

Andy Gonzalez
on **February 27, 2016 at 1:48 pm** said:

Nice post, Brian. I think these guidelines do lead to a good paper that is easy to navigate and evaluate.

To what extent do you think the steep increase in rate of publication has optimized the paper writing process? I am left feeling that the monumental task of editors to make fast decisions on so many papers may have 'tuned' the way papers are written (structure and style).

We are conforming to an approach that makes it easier for busy editors to make a decision, but maybe diminishes the creativity or at least the variety of approaches to writing a paper. I am casting my mind back to papers you could find in Am Nat in the 60s and 70s. There was a much greater variety of styles of writing papers then (not all Martini glass papers!). I enjoy reading those too.

If the publication process continues in the current way I wonder what papers will look like in another 40 years…

Jeremy Fox
on **February 27, 2016 at 2:40 pm** said:

Good question. Though on the other hand, a fair bit of the increase in publication rate is coming from unselective journals, where there's not the pressure to grab the editor's attention/interest sufficiently to avoid desk rejection.

I guess I'd say that I haven't noticed much increase in the uniformity of paper style/structure at leading journals over, say, the past 10-20 years. I do think you're right that style and structure are much more uniform now than in the 60s. But I think most of the increase in uniformity had already happened by the 90s, if not earlier.

Subjective impressions obviously, take them for what they're worth, which may not be much. It would be interesting (but a lot of work) to try to look at this systematically.

Brian McGill
on **February 27, 2016 at 3:12 pm** said:

I do think speed of reading has pushed for uniformity of style. But I don't think its editors (remembering I'm just describing triage – anything with half a chance gets read usually in full by an associate editor and usually two reviewers).

I think its readers who skim papers way more than they used to do so.

I also think it is authors who spend way less time on a paper than they used to.

That said, I think my formula is useless for an opinion piece, and I think at least some of those classic 60s and 70s papers that we're probably both thinking of were opinion. Janzen's tropical mountain and tropical predation hypotheses are good examples.

But undeniably even in results papers there was more freedom. MacArthur's broken stick paper jumps to mind (even if the science proved wrong it was a nicely written paper). And many other papers (again I guess I'm thinking of MacArthur) had a spareness more reminiscent of a physics paper than the modern full-blown martini glass.

In another 40 years it will probably just be an abstract with hyperlinks. Just a guess.

Very interesting question. Will have to mull on it more.

Jeremy Fox
on **February 27, 2016 at 9:53 pm** said:

Re: MacArthur's spareness: I've long wondered if that's part of why empirical work on "limiting similarity" went off the rails–MacArthur not explaining himself sufficiently. Would ecological history have been different if MacArthur had written like, say, Steve Ellner?

MacArthur (1955) is another case of overdoing it on spareness. Is there a "classic" paper in ecology or evolution that's harder to make heads or tails of?* And I say that as someone who as a grad student tried to figure out what the heck that paper was saying so that I could do an experiment testing it (Fox and Olsen 2000 Oikos). I think the resulting paper was fine, but in retrospect it was a rather silly approach to hypothesis development.

None of this is intended as a blanket indictment of MacArthur's writing. I actually haven't read all that much of it, and some of what I've read is fine.

Which raises the question of who writes especially well-written papers in ecology and evolution? Old post on this, focusing on currently-active researchers: https://dynamicecology.wordpress.com/2012/11/11/who-writes-the-most-stylish-scientific-papers/

*Actually, I'm sure there is. Fisher for instance was infamous for not spelling out his reasoning. It was only decades later that Price and others figured out what the heck he was on about with the Fundamental Theorem of Natural Selection.

Bob O'H
on **February 28, 2016 at 4:16 am** said:

Great advice – and antithetical to the philosophy behind 'write the methods & results first' school.

I've not tried writing the last para of the intro early, but it makes sense as the rest of the intro is easier to plan out – just take the reader from A to B without turning it into a submission to the Annual Reviews series.

Brian McGill
on **February 28, 2016 at 6:19 am** said:

"without turning it into a submission to the Annual Reviews series." For all that most graduate students can't conceive of how they'll ever string 20 pages together, you are quite right that the real challenge is always to keep things short and to the point. Most graduate dissertations (mine included) have way too much text and need trimming before publication. Good science writing is as much about knowing what doesn't need to be said as what should be said.

ecotone84
on **February 28, 2016 at 5:13 pm** said:

Very grateful for this post and discussion. Speaking from an empirical ecologists point of view, I am wondering what you think of combined results and discussion sections when trying to tie theory directly to field observations? Also, what are your opinions on combining theoretical ideas into empirical figures?

Jeremy Fox
on **February 28, 2016 at 9:45 pm** said:

Re: combined results and discussion, I've done it, but rarely. Basically, I do it when I think the results would be difficult for most readers to understand at all unless I folded the discussion in. When I'm writing those papers, I think of myself as a "tour guide".

Re: combining theoretical ideas into empirical figures, not sure what you mean? Do you mean, having a panel with the theoretical predictions, and then a second panel with the data, plotted in such a way that the match (or mismatch) to the theory jumps out visually? I'm all in favor of that!

> 
> **jeffollerton**
> on **February 29, 2016 at 2:56 am** said:
>
> Likewise, I think there are advantages to a combined Results and Discussion section, particualrly for long, complex papers. Some journals allow it and for others it's the norm.


Brian McGill
on **February 29, 2016 at 9:06 am** said:

Personally, I'm more of a fan of short results sections (sometimes as little as two paragraphs) and then the linkages in the discussion section. It goes to conventions. It is also important to separate factual results from interpretation/speculation (even informed speculation)which is only appropriate in the discussion.


Elliot Rosen
on **February 29, 2016 at 7:03 am** said:

Excellent post, Brian! When I have mentored undergraduates, I've always suggested they pick up an instrument and learn how to play music. Why? Because you learn the arts of phraseology, crescendo, diminuendo, forte, pianissimo, movements, composition and so on.

Turns out these are the finer elements of grammatical composition. My experience teaches me musicians are always the best writers. Perhaps we ought emphasize this in college

curricula.

Meghan Duffy
on **March 10, 2016 at 12:29 pm** said:

In your reading of papers as EIC, does it seem like one of these 5 paragraphs tends to be harder for people to write than the others? For me, it's the paragraph at the end of the discussion.

Brian McGill
on **March 15, 2016 at 11:51 pm** said:

Yes – I think the paragraph at the end of the discussion is the hardest (notice I couldn't even define it exactly compared to the others). But I think if you've got a reader to go that far you're golden. Its the least important of my 5 to get right.

It's an interesting question whether I see #1, #2 or #3 messed up more often. Probably #2 or #3, but its surprising to me how often they're all messed up given how straight forward they are.

Pingback: Link LOVE | Grumpy Rumblings (of the formerly untenured)

gasstationwithoutpumps
on **March 19, 2016 at 12:39 pm** said:

I disagree about the intro. The first paragraph should be the specific research question of the paper, and the rest of the intro should contextualize. I'm very tired of having to read a full page of BS before the author gets around to what they are actually talking about. In journalism this is known as "burying the lede".

Mark
on **February 26, 2017 at 10:39 pm** said:

> Yes I very much agree with this. don't bury the lead

Pingback: Introduction of a technical paper | Gas station without pumps

David Stern (@sterndavidi)
on **March 19, 2016 at 8:32 pm** said:

I think, preferably the research question should be in the first paragraph and the main result somewhere in the Introduction.

> 
> Brian McGill
> on **March 19, 2016 at 9:22 pm** said:
>
> I wonder if that is an economics vs ecology thing?

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Stanley Keith Sessions
on **February 26, 2017 at 8:26 am** said:

I love it! Very useful as a way to conceptualize/visualize the organization of a scientific paper (or even a lab report). The only thing I would add is to put the glass on a table, the flat supporting surface representing acknowledgment section, and the legs representing literature cited, which holds the whole thing up.

Eric Snider
on **February 26, 2017 at 9:47 am** said:

Great piece, full of good advice!

Mark
on **February 26, 2017 at 10:38 pm** said:

I really do think this is a good advice and I'm sending it along to my graduate students. My only quibble is that in the first or second paragraph, I want to know exactly what the paper is about. I don't want to wait until the last paragraph of the introduction. By paragraph 2, I want the narrative established. The point about the paper being a narrative is absolutely crucial and I think the skeleton of the narrative should be understandable to a 6th grader.

> 
>
> **Jeremy Fox**
> on **February 27, 2017 at 1:33 am** said:
>
> This tends to vary among authors and fields. As I get more experienced, I too find myself wishing that ecology papers got to the point more quickly, and shortening my own introductions.
>
> > 
> >
> > Brian McGill
> > on **February 27, 2017 at 6:59 am** said:
> >
> > I also find myself writing shorter introductions. Where I used to do 10 paragraphs might only need 3 or4 now. But I still want a logical flow.

Pingback: Friday links: what is the (dissertation) matrix, bidding for preprints, and more | Dynamic Ecology