

Manuscript Writing

Thomas Pucadyil

Indian Institute of Science Education and Research, Pune

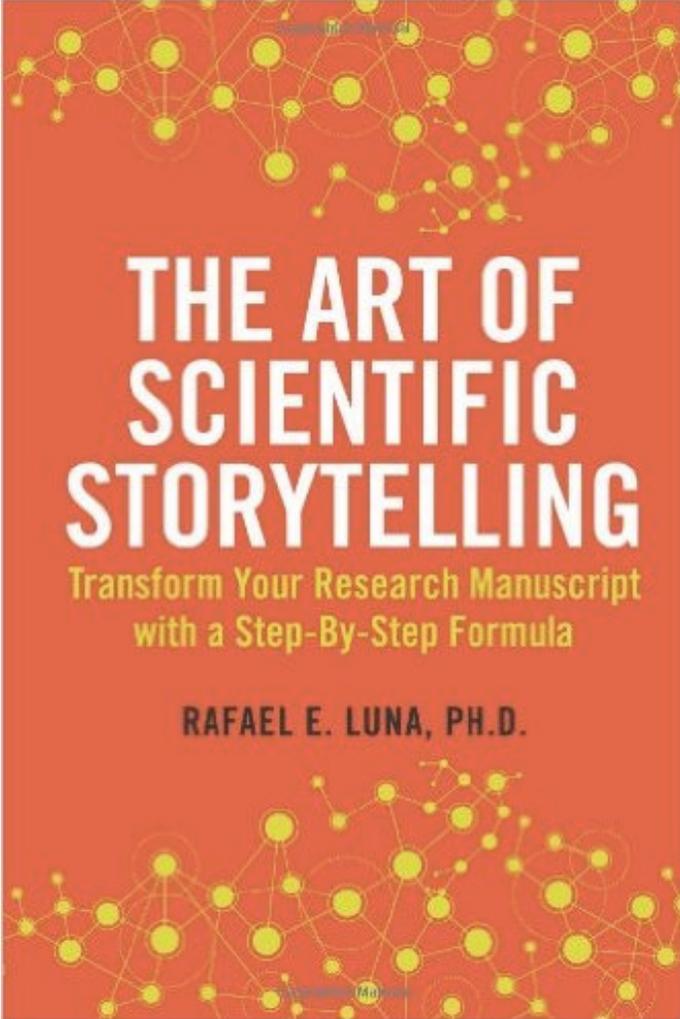
13th SciComm Workshop, Hyderabad

Why do you want to write a manuscript?

Should have an 'aching' desire to...

- 'Tell a story' or be 'heard' (peer appreciation)
- Want to make a 'ripple' in the community (fetching citations)
- Contribute to the pool of original thought (fetching citations and requests for collaborations)
- To know how you fare or match up to the giants in the field (if they can do it, why can't I)

Disclaimer: I have never attended a workshop on manuscript writing before...so I am using a template to aid me conduct this workshop

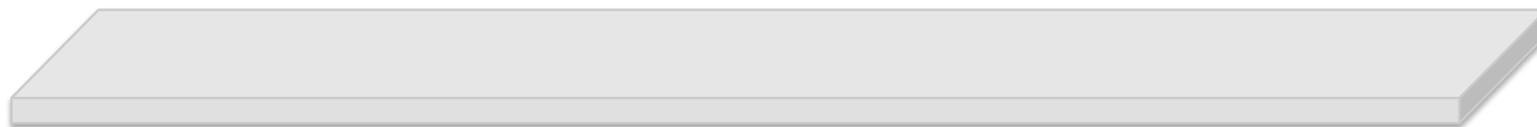


THE ART OF SCIENTIFIC STORYTELLING

Transform Your Research Manuscript
with a Step-By-Step Formula

RAFAEL E. LUNA, PH.D.

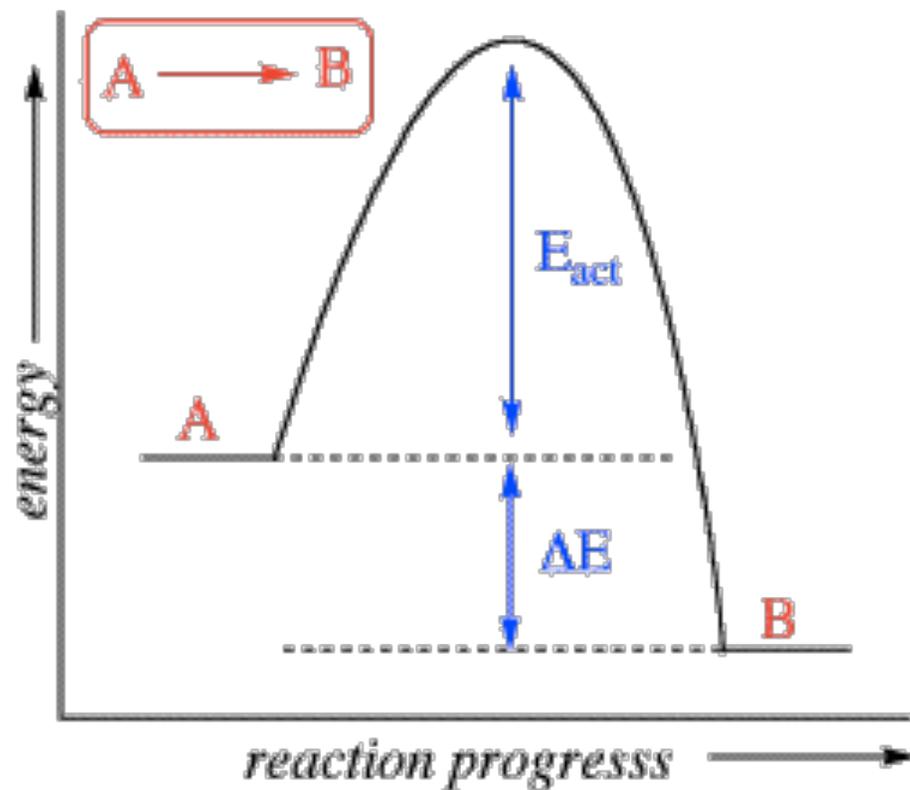
Perhaps, a beginners perspective of a manuscript



It's only 'information, facts and data' so why not lay it out smooth like a featureless slab of stone.

The only scientific written material that conforms to this type are crystallographic repositories or organic synthesis reports

A more interesting (and successful) perspective of a manuscript



About manuscript writing..

- Essentially the art of scientific story telling
- A story put craftily and has all the logical elements of creative writing but does not compromise on the scientific ethic...
- Not a one time but a continuous effort - don't treat a manuscript as 'the story', which otherwise puts too much pressure, but 'a story' which gives you room to make mistakes and get better

Why compare manuscript writing to creative writing ?

Parallels between narrative writers and scientists

“

- Difficult job market
- Low wages during the training period (graduate student and postdocs)
- The need to publish something that has never been done before
- Nervousness and anxiety about future career prospects
- Family members (especially parents) telling them that they should have gone to medicine or law or engineering schools

Parallels between the day-to-day operations of work as a writer or a scientist

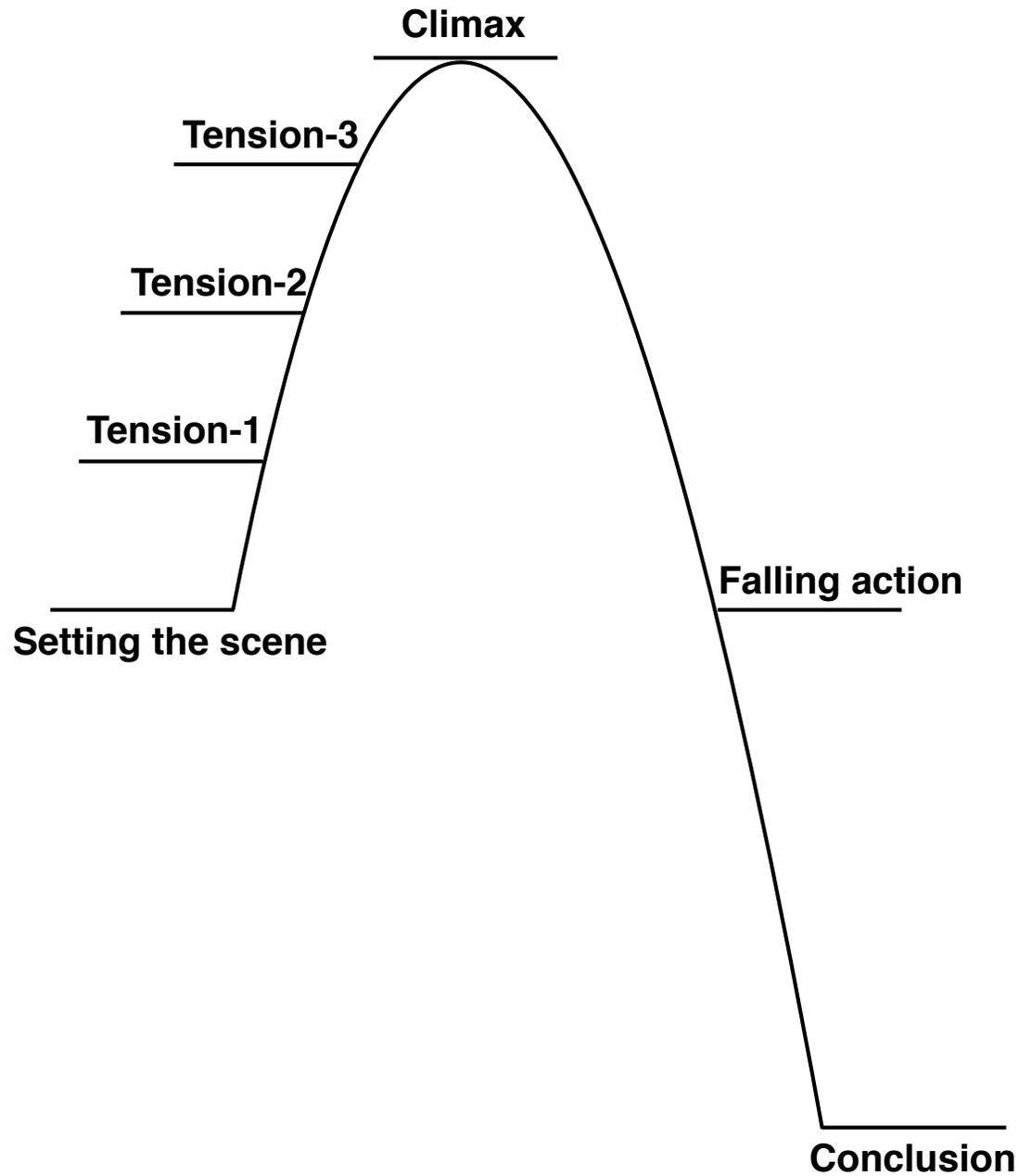
- Publish your manuscript
- Deal with rejection from editors
- Difficulty in preparing the first draft
- The months and years before you start writing your manuscript
- Overcoming writer's block
- Dealing with negative feedback from critical peers “

‘The art of scientific storytelling’ by Rafael E. Luna

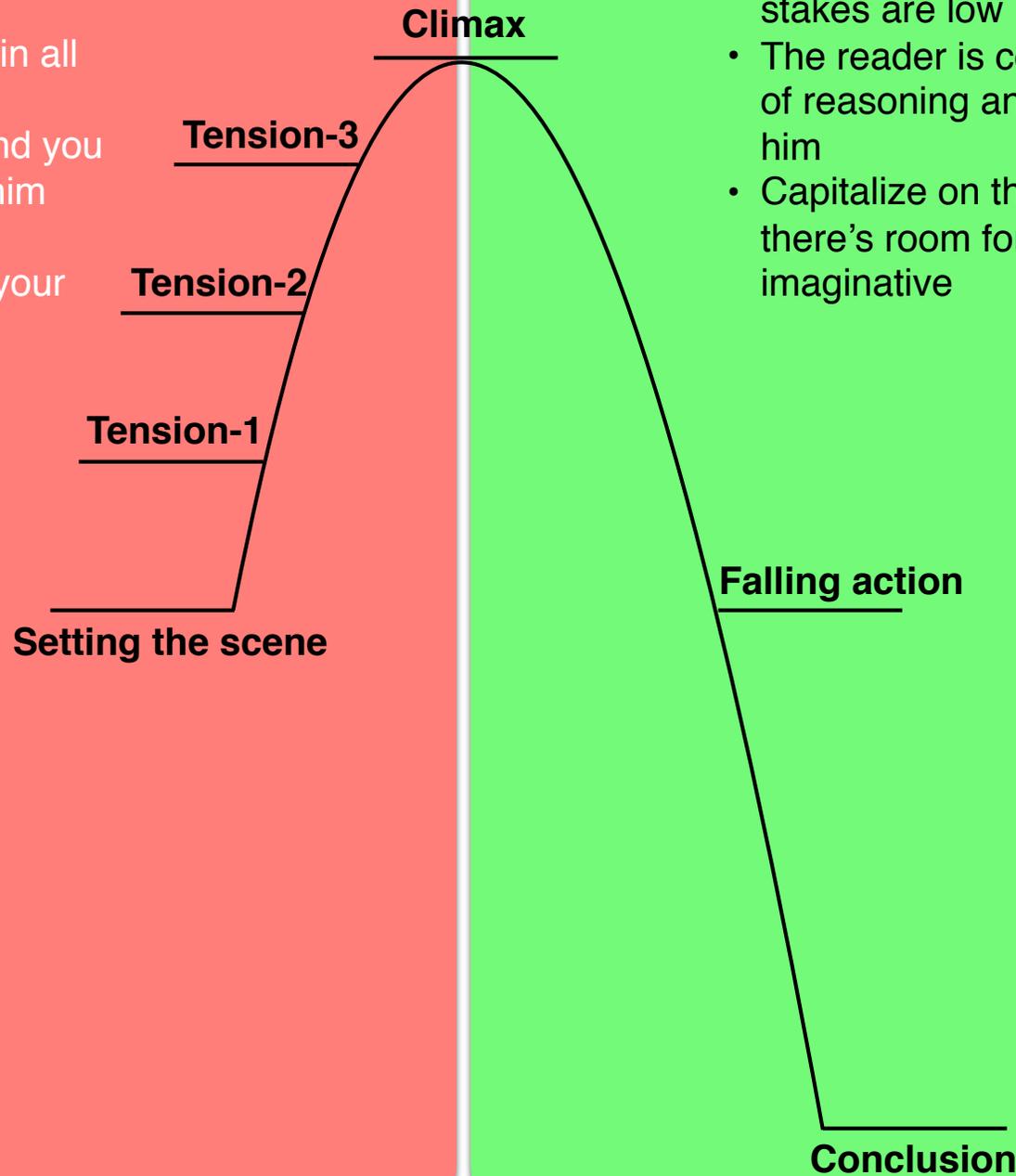
Parallels between a story and a manuscript

- Details or the context within which a story (or manuscript) is written changes, but the power of the theme (story) or deductive reasoning (manuscript) remains timeless

The dramatic arc



- It's uphill
- Odds not in your favor and the stakes are high
- But you are willing to put in all you have
- The reader is skeptical and you should try and meet her/him more than half-way
- Emphasize and build up your 'protagonist'

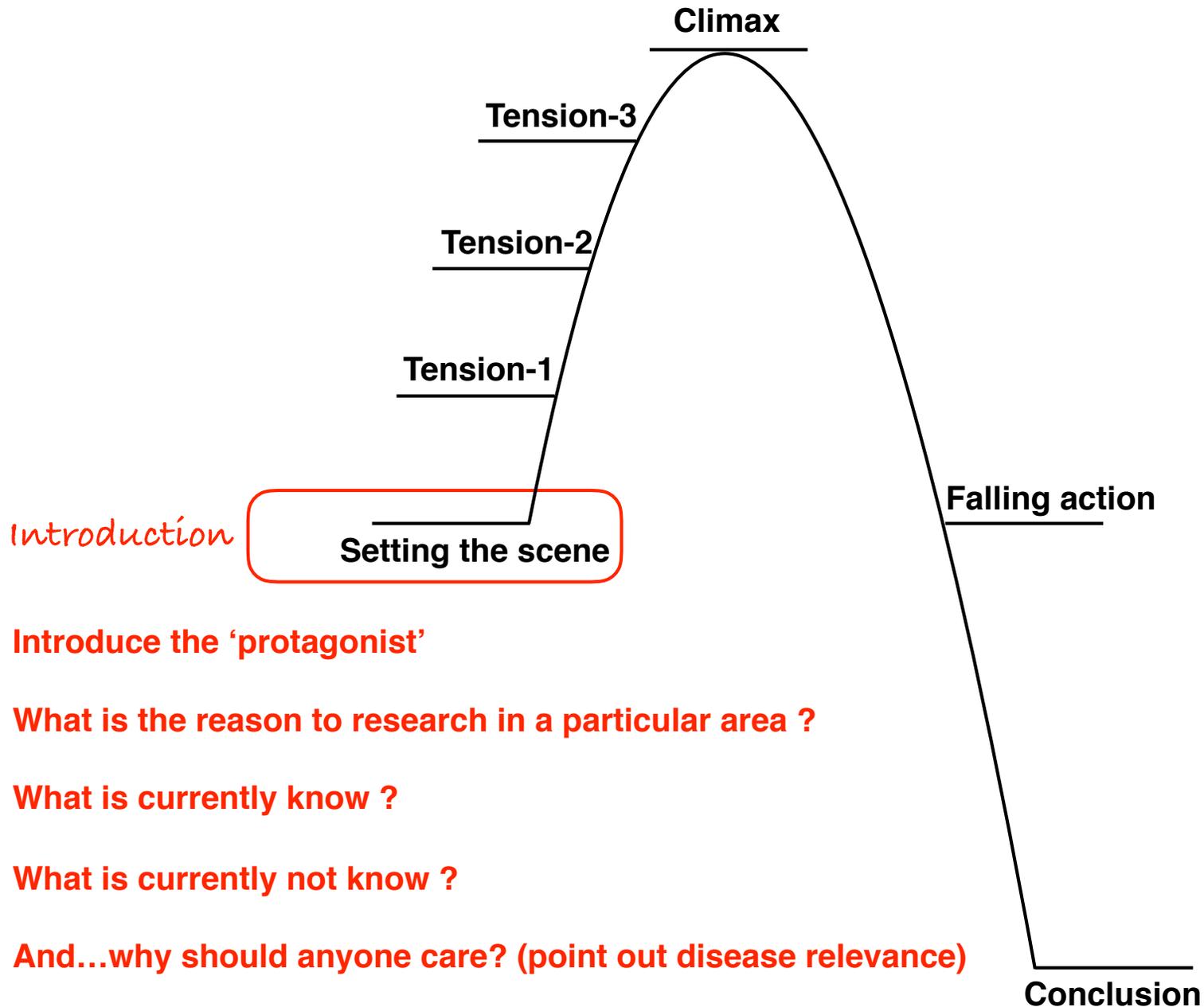


- It's downhill
- Odds are now in your favor and the stakes are low
- The reader is convinced of your line of reasoning and you can lead her/him
- Capitalize on this to seal the deal; there's room for speculation for the imaginative

The most basic thing to keep in mind

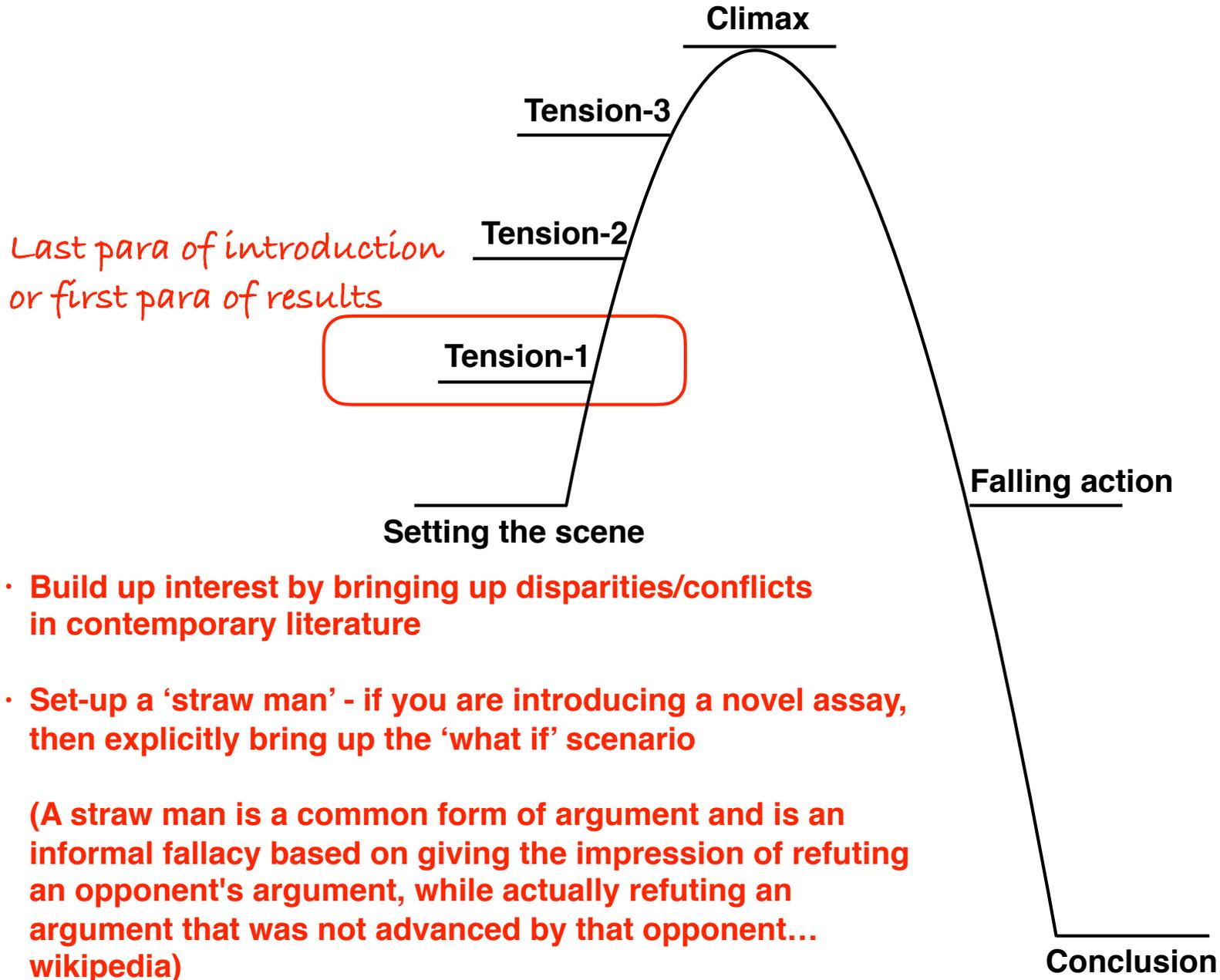
1. Define the protagonist. Define the focus of your manuscript. It's a story about.....
 - a molecule
 - an assay
 - a pathway
 - a model organism
 - a theoretical concept
2. Stick with the protagonist. Do not introduce multiple elements. If you have these, then consider splitting the story
3. Remember, the purpose of the manuscript is to convince the reader about novel facets/aspects about the protagonist

How to lay out your manuscript



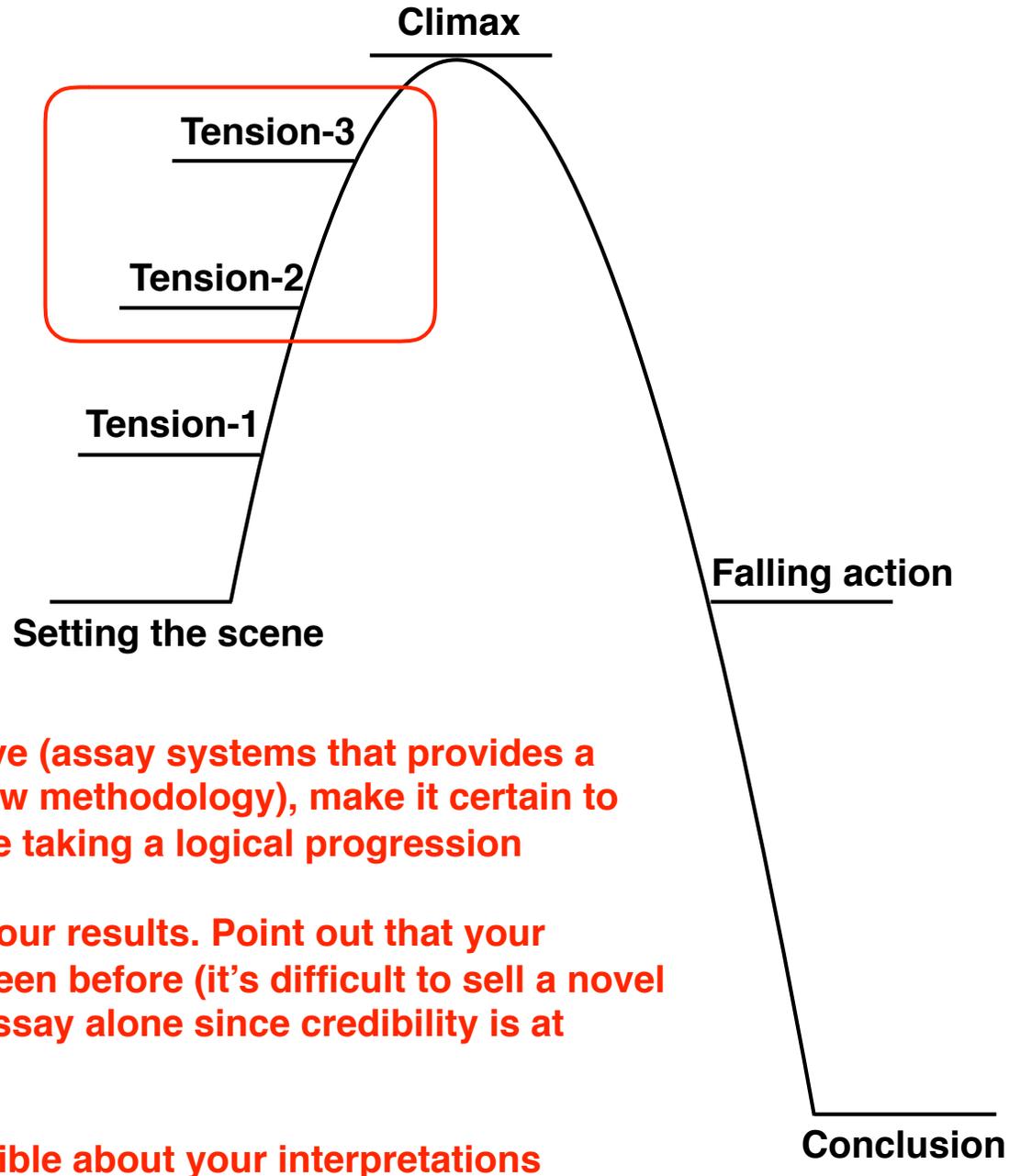
- **Introduce the 'protagonist'**
- **What is the reason to research in a particular area ?**
- **What is currently know ?**
- **What is currently not know ?**
- **And...why should anyone care? (point out disease relevance)**

How to lay out your manuscript



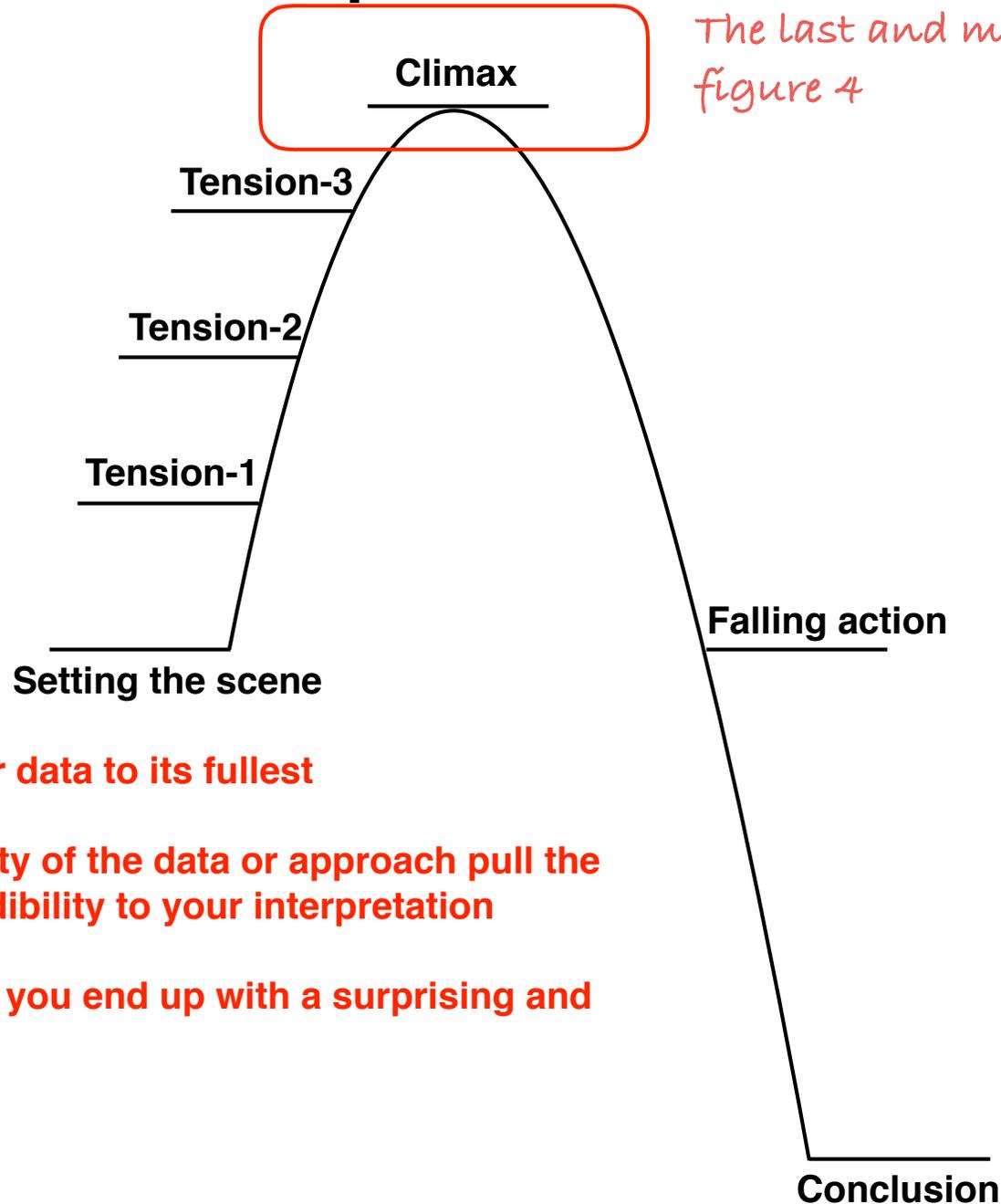
How to lay out your manuscript

Results
(typically first
1,2,3 figures)



- With the tools you have (assay systems that provides a novel read-out or a new methodology), make it certain to the reader that you are taking a logical progression
- Extensively validate your results. Point out that your results match those seen before (it's difficult to sell a novel result using a novel assay alone since credibility is at stake)
- Be as explicit as possible about your interpretations

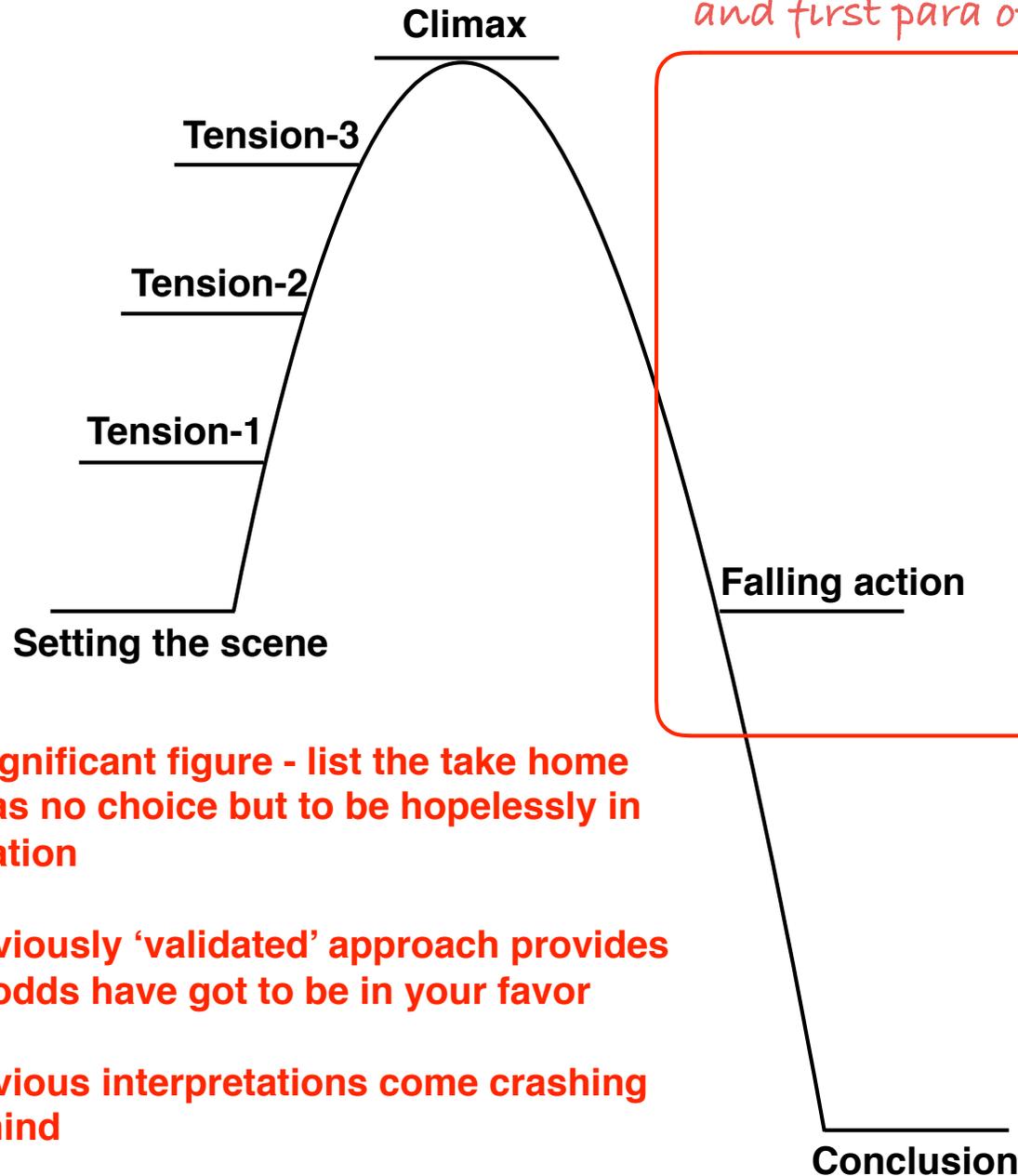
How to lay out your manuscript



The last and most important figure 4

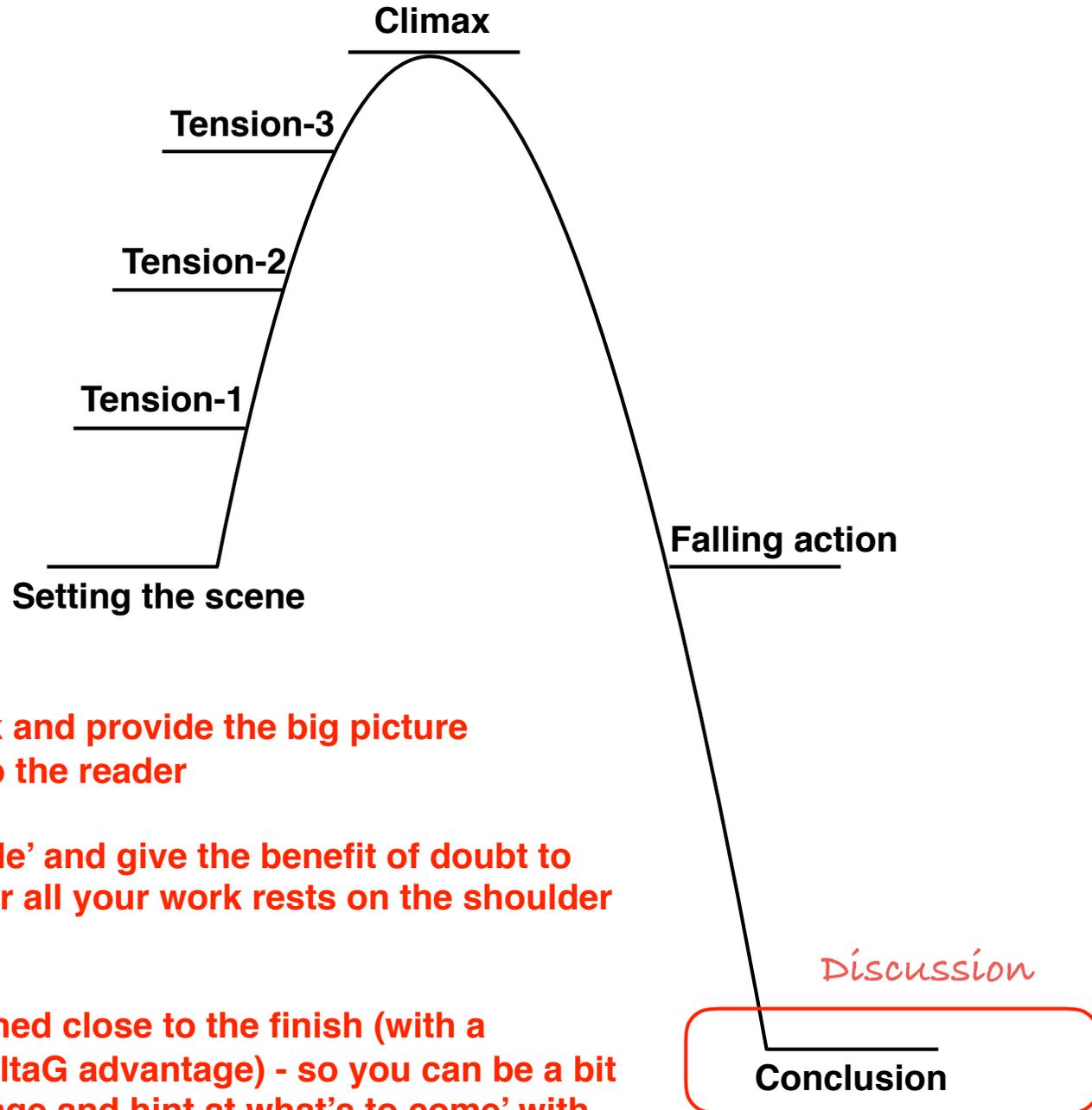
- **Use this to flaunt your data to its fullest**
- **Let the intrinsic novelty of the data or approach pull the weight of lending credibility to your interpretation**
- **Highlight the fact that you end up with a surprising and novel conclusion**

How to lay out your manuscript



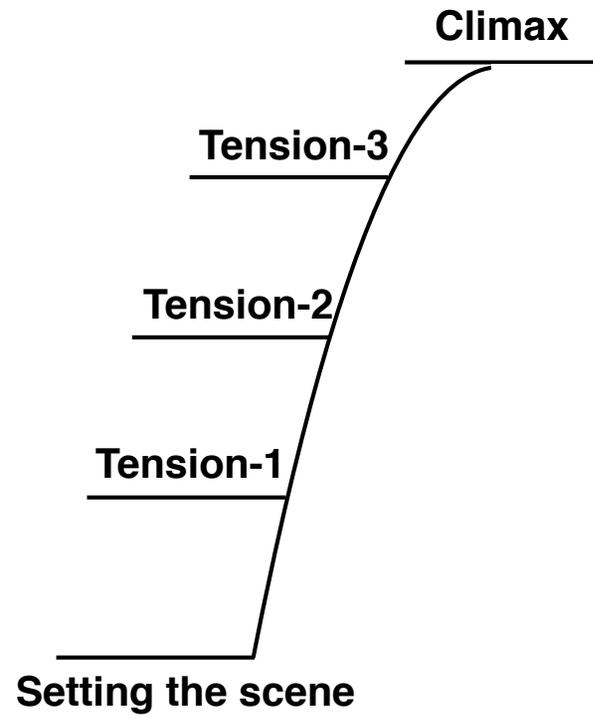
- From your last most significant figure - list the take home such that the reader has no choice but to be hopelessly in favor of your interpretation
- Remember, if your previously 'validated' approach provides a new result, then the odds have got to be in your favor
- Use this part to let previous interpretations come crashing down in the reader's mind
- Let the reader come to the interminable realization of the significance of your conclusion

How to lay out your manuscript



- Take a slight step back and provide the big picture (context) once again to the reader
- It's alright to be 'humble' and give the benefit of doubt to previous authors - after all your work rests on the shoulder of previous work
- You have already reached close to the finish (with a significant negative deltaG advantage) - so you can be a bit adventurous at this stage and hint at what's to come' with hope and enthusiasm

How to lay out your abstract



think of a movie trailer...

Practicalities - how to begin

1. Work on a draft of your figures first

- Where your story is conceived (broad brush strokes are laid out)
- Take a lot of effort in getting the reader to appreciate your data for what it is (be detail oriented)
- Incorporate pointers, cartoons, schematics if necessary in order for the reader to grasp what the figure is conveying
- Make your figures aesthetically pleasing (remember, you are not doing the reader a favor but largely it's the other way around)
- Ask yourself this question, can I understand the story by just going over the figures
- Get it to a point where the reader should not have to look at the figure legend
- Keep in mind that you are always working on a draft - it keeps getting better by moving data sets around in order to fit the dramatic arc

2. Then start by writing results - discussion - introduction - abstract (in that order)

3. Hand over the draft to peers/colleagues/associates for their comments

4. If you can, then take a break and read again

Other resources

Excellent resource that address specific questions on manuscript writing

Writing a Manuscript

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