

1. Topic and key sentence; paragraph shapes

THE TOPIC SENTENCE (first sentence)

The first sentence introduces the subject of the paragraph: the topic. The paragraph answers a question about the topic.

Our data do not allow us to identify the actual causal mechanisms of the spread of happiness, but various mechanisms are possible. Happy people might share their good fortune (for example, by being pragmatically helpful or financially generous to others), or change their behaviour towards others (for example, by being nicer or less hostile), or merely exude an emotion that is genuinely contagious (albeit over a longer time frame than previous psychological work has indicated). Psychoneuroimmunological mechanisms are also conceivable, whereby being surrounded by happy individuals has beneficial biological effects.

Topic: Various mechanisms as causes of the spread of happiness.

Question: What are possible mechanisms?

THE KEY SENTENCE (the point); PYRAMID, FUNNEL, BOOKCASE

The key sentence expresses the main message of the paragraph (if there is one). Some paragraphs just display information and have no main message: they are shaped like a bookcase. If the key sentence is the topic sentence, the paragraph is shaped like a pyramid. If the key sentence is the last (concluding) sentence of the paragraph, the paragraph is a funnel.

Pyramid



It is too easy to conclude that successful replication means that the theoretical understanding of the original finding is correct. Direct replication mainly provides evidence for the reliability of a result. If there are alternative explanations for the original finding, those alternatives could likewise account for the replication. Understanding is achieved through multiple, diverse investigations that provide converging support for a theoretical interpretation and rule out alternative explanations.

Topic: The meaning of successful replication.

Question: What does successful replication mean? and Why is it not so that... ?

Funnel



Direct replication mainly provides evidence for the reliability of a result. If there are alternative explanations for the original finding, those alternatives could likewise account for the replication. Understanding is achieved through multiple, diverse investigations that provide converging support for a theoretical interpretation and rule out alternative explanations. It follows that it is too easy to conclude that successful replication means that the theoretical understanding of the original finding is correct.

Topic: The meaning of direct replication.

Question: What does successful replication mean? and Why is it not so that?

Bookcase



There are three different theories put forward for the very slow relaxation of catch muscles of molluscs. One theory holds that catch is due to some unusual property of myosin in these muscles that produces a small rate of detachment. In this theory, paramyosin would have no special role beyond that of providing the long scaffolding on which the myosin is positioned as well as the mechanical strength for the large tensions developed. The second theory holds that tension is developed by actin-myosin interaction but maintained by paramyosin interactions. Because the thick filaments are of limited length, interaction would have to occur through fusion of thick filaments. A third theory, to which I subscribe, pictures a structural change in the

Topic: Three different theories for the very slow relaxation of catch muscles of molluscs.

Question: What are they?

2. FAQs: Pyramid, funnel, or bookcase?

1. *I think that pyramid and funnel are somehow easily interchangeable, is this true?*

In a way, yes, the pyramid and the funnel are interchangeable, if you only focus on the content part. The pyramid opens with the key sentence, and the funnel wraps the paragraph up with the key message. Yet the funnel needs a careful opening that invites the reader into the paragraph, and the pyramid needs a final sentence that rephrases the point, or prepares the reader for a new step. You can not just flip a pyramid into a funnel. The Pinker Exercise aimed to make you feel these different perspectives of a funnel and a pyramid.

2. *Apart from writing the first paragraph of an introduction, what would be an argument for using the funnel instead of a pyramid?*

The best argument for a funnel is when the key message of the paragraph may only be understood if some information is given beforehand. In your paper, this may be the case when you address the gap of knowledge. In such a paragraph, you often start with describing what we already know. The state of the art, so to say. You summarize interesting findings, but also limitations of these studies. This then brings you to the conclusion that certain knowledge is relevant & missing -> the Gap. Or, in the Discussion, if you first want to comment on a result (explain, compare) and end up with a conclusion or final statement about the relevance or value of this finding, the funnel is an appropriate shape.

Two examples:

Gap paragraph

Spin is an enduring topic in research [3]; however, there has been recent interest in spin in the reporting and interpretation of results in published biomedical research. Boutron et al. [2] defined spin as 'specific reporting strategies, whatever their motive, to highlight that the experimental treatment is beneficial, despite a statistically non-significant difference of the primary outcome, or to distract the reader from statistically non-significant results.' This definition has served as a basis for other researchers investigating spin in published studies in particular clinical fields [4–8]. However, to date, there has been no systematic review or meta-analysis of the nature or prevalence of spin in biomedical literature in general or across study designs. Thus, neither the extent of spin nor its implications are well understood.

Discussion paragraphs

In the WECARE study, the location scheme was dictated by the way CBC location was described in the medical records. Since there is a steep dose gradient in the medial to lateral direction, finer location divisions along this direction would have been desirable, particularly given that about 50% of CBCs were in the lateral portion of the breast. On the other hand, there was little variation in dose from lower to upper part of the breast so collapsing over these locations results in little loss of information (Langholz et al., 2007). Thus, if practical, we recommend using a “fine grid” location scheme for data collection.

While the CL analysis of the WECARE study had much lower efficiency than the CCML or CCAL, the CL analysis requires only cases, a third the number of subjects compared to the case-control CCML and CCAL methods. Thus, the difference in “cost efficiency” is not nearly as great as the difference in “absolute efficiency.” In situations where a large pool of cases is available and a control pool is not, a caseonly study with the CL analysis provides a potentially cost effective option.

3. Somewhere in the course materials it was stated that the reader should be provided with all the relevant information as soon as possible. I do not think this is what the funnel does. It was, however, also said that I should proceed from the general towards the specific (the pyramid does not do that). Perhaps this was meant with regards to different paragraphs in relation to each other, and not with regards to information contained in a single paragraph?

Proceeding from the general towards the specific goes for sentences (the 'new' and more specific information is located in the end position) and for funnel paragraphs. So, if the reader indeed needs this general information to grasp the more specific (new) message, the funnel is the right way. If, however, if it helps the reader to see the point before it is explained, you may start with this specific info and, probably also leave out the general run-up, but instead work out the details of the main message. (Also see question 4: the Diamond).

4. Is there one which is generally preferable over the other? THE DIAMOND

Yes, I would say that whenever possible you should try to create pyramids, although there may be good reasons to use the funnel. A nice hybrid structure may be the diamond. You start with the general idea of the paragraph, and then work towards the more detailed articulated key message. The line general -> specific is present here. Often, paragraphs that describe limitations are shaped like this.

A limitation of our trial was that it was not possible to mask the treatments from patients or clinicians because of differences in treatment delivery. However, results that relate to multiple secondary endpoints support the primary analysis and the size of the observed effect is unlikely to be due entirely to assessment or reporting bias. After our trial was designed, several small nonrandomised studies^{29–35} and one case-control study³⁶ of parotid-sparing IMRT have been published with a range of endpoints including saliva flow rate, patient-reported symptoms, and QoL. These studies reported apparent improvements for IMRT over conventional radiotherapy. Two small single-institution randomised phase 3 trials of IMRT in nasopharyngeal cancer have also reported benefits of IMRT over conventional radiotherapy. Pow and colleagues³⁷ reported an increase in stimulated whole saliva flow rate in patients receiving IMRT in a randomised trial of 51 patients with early-stage nasopharynx cancer. QoL was assessed with EORTC QLQC30, HN35, and the SF36 health survey and although QoL scores for some domains were better for IMRT patients, no improvements in patient-reported dry mouth symptoms on the HN35 questionnaire were noted. Kam and colleagues³⁸ reported a reduction in observer-rated severe xerostomia (RTOG grade 2 or worse) with IMRT (39% vs 82%; $p=0.001$) in 60 patients with early-stage nasopharyngeal cancer. The results of the PARSPORT trial are thus likely to be generalisable to all head and neck tumours for which conventional radiotherapy is used.