

A general theory of titles!

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How would you respond if you were to receive a paper entitled “The homeless cell”? Or a title that reads, “The mirror instead of a looking glass as an aid to understanding...”; or “What does microalbuminuria stand for in patients with previous MI?”; or “The bell tolls for thee”? This diversity in the titles of scientific papers is rather surprising; I guess we are used to elegant and fanciful titles in the arts but somehow, in the dry plains of fact where we function, they sound jarring. Titles of books are agonized over by authors and editors, for they have to be dramatic enough to induce the casual browser to pick up the book and open it; but in its own way, the title of a scientific article must do the same thing. But are we to suffer as much as Tolstoy and García Márquez did when they chose their memorable titles? Yes, I say; I do not intend to put us on a par with these masters, but then if you don't attempt to fly with eagles you may be condemned to walk with turkeys. Starting with these high-flying ideas, I am going to clip the wings of some submitted titles — distill each down to its essence.

The word ‘title’ derives from the Latin *titulus*, which means placard; hence we start from the notion that a title must advertise the contents. But advertising is an industry as wide ranging as the materials it hocks and contains some of the most creative writers anywhere. So my first approach to arriving at a General Theory of Titles is to define the ideal title and then attempt a classification of types. Here is a definition: a great title is so *informative* that it makes reading the paper unnecessary; but so *interesting* that it makes you want to read it immediately, and so short and pithy that it is *memorable*. Below are a few dos and don'ts.

For immediate impact, nothing beats ‘titles’ seen on the front pages of tabloids, and from a brief look through a few issues of the *New York Post* and the *National Enquirer* an important principle emerges. “Defiant” was a recent headline plastered on a face of dubious celebrity; I suspect most readers of the *Post* knew that this referred to the reaction of the “Halloween sex attack suspect” who was arrested with “a bandage over his self-inflicted stab wound,” as the *Post* helpfully noted inside. Similarly, another dramatic headline said,

“She pulled the trigger”; the readers knew that this was the determination of the jury in a sensational trial for a crime of passion. So the assumption here is that the readers know much of the background information, and the headline simply tells the latest episode in a long series of events. I call these titles *allusive*, because by themselves they are obscure but they allude to a shared memory. We can expand this category to include not only allusion to a shared event but also allusion to a phrase (or abbreviation) that the writer thinks is sufficiently common to be part of the shared bank of memories of the reader. So before you allude to anything, whether it is wnt or ESRD, make sure that everybody in your intended audience shares your allusions (but hopefully not your illusions). When in doubt, don't!

What are we to make of the title “The homeless cell”? This is obviously a metaphor that the writer hopes will enhance our understanding of some process that the article describes. Such figures of speech are devices that transfer one characteristic of something into another, thereby enriching a description; but they often stop the narrative and tempt the obsessive reader to question the aptness of the phrase. Homelessness of a cell apparently relates to cell death when an epithelial cell is removed from its matrix. So one could ask, is being at home really the right description for a cell sitting on type IV collagen? Reversing the metaphor, do we die when we leave our homes? Also, we generally don't stay at home all the time. So what happens when we go to the supermarket or to work? Clearly the metaphor here is specious. On the other hand, ‘homing’ of lymphocytes or stem cells is clearly an appropriate metaphor; the cells are at home in the bone marrow, but they often leave and are found in the general circulation, where they can get lost but have a way of finding their way back home with the help of ‘homing receptors’. *Metaphoric* titles can be wonderful especially in a review or commentary but rarely in the title of an original research paper. Regardless of where they are used, they must always be appropriate; a good test is to extend or even reverse the metaphor and see if it is still apt. When you want to see how a great metaphor works, think of Shakespeare's

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extended metaphor that begins, “All the world’s a stage.” He continues, “and all the men and women merely players: they have their exits and their entrances,” and so on and on in one suitable metaphor following another for 28 lines without one false use. The message here is that unless your literary abilities are manifest, this kind of title is best avoided.

One of the more popular types of titles submitted to *Kidney International* is the title *in the form of a question*; I assume this is because scientific papers are based on hypotheses, which can be framed as questions. So a question would seem to be an appropriate if somewhat coy choice. But I mentioned above that titles are a form of advertising; it follows that there is a truth-in-advertising clause attached to the social contract between writer and reader. If the paper does not actually answer the question posed in the title, I feel cheated and I probably would not have read the paper if I had known that the question would be left dangling. When the idea of a question comes to you, see if your paper has answered it. If it has, then there is no question anymore; so put the conclusion in the title. If it has not, my advice is to wait and do more work until the question is answered.

What are we to do with *whimsical*, *cute*, or *enigmatic* titles? “The mirror instead of a looking glass as an aid to understanding...” is one title I received; even when you read the full manuscript you do not get the subtle distinction between a mirror and a looking glass unless you are a Lewis Carroll fan. So here is an important dictum: any time you get the urge to quote something from *Alice’s Adventures in Wonderland*, I strongly advise staying in bed and not getting up until the feeling goes away.

Similarly, be careful of what I shall call here *translative* titles: ones that bring in words from other disciplines — terms that often are poorly understood even within those disciplines. ‘Deconstructing,’ borrowed from literary theory, is a popular example. There are more than 200 papers in PubMed with ‘deconstructing’ in their titles. What exactly this means remains obscure even after detailed scrutiny. Therefore, regardless of how learned you are in literary theory, astrophysics, or hermeneutics, remember, we already have too much jargon in our own field without adding that of another field.

Another pet peeve of mine is the *archaic* title — for instance, “Some observations on the mode of action of...” Luckily these have decreased in use, but they continue to appear every now and then when writers want to impress with their erudition.

The most common titles we use are descriptive titles; obviously necessary, they convey information. Often the description is dry (“Micro-array analysis of renal cortex and medulla”) or boringly long such that by the time you reach the end of the title you have forgotten the first few words (“A randomized controlled clinical trial of the cost-effectiveness of controlled release of silver-bulletin and low-dose cure-all in patients with essential hypertension: the Silver Bullet–Cure-All combination trial” — I did not make this up; only changed the names of the drugs). Some titles, such as “Ten-year follow-up of...,” sound informative but actually only tell the reader about the cases you have seen without telling us why we should be interested

in learning about what you found. But such titles are a good beginning, provided you revise and revise again using this general rule: Write it as a declarative sentence, one with a verb, such as “X causes renal failure by inducing Y which causes glomerulosclerosis.” This might solve the problem then and there; if it doesn’t sound good or is not appropriate, follow the prescriptions listed below, which will make your titles brief, more informative, and more interesting. I rewrote actual titles, taken mostly from *Kidney International* since I had access to the papers and their conclusions. My revisions are in italics.

Titles should say what you found, not what you did.

Three- to five-year longitudinal study of pediatric patients after acute renal failure

Acute renal failure is often followed by residual disease in children

Use positive statements, even when you want to say something negative.

Efficacy of local dipyridamole therapy in a porcine model of A-V graft stenosis

Local dipyridamole is ineffective in preventing A-V graft stenosis in pigs

Put the important result at the end of the title.

Randomized comparison of ultrasound surveillance and clinical monitoring on arteriovenous graft outcomes

Ultrasound surveillance of grafts increases preemptive angioplasty without improving outcomes

Always be specific and concrete.

Urinary cysteine excretion and capacity in patients with cystinuria

A new assay for urinary cysteine supersaturation in cystinuria

Omit needless words. Length does not correlate with information.

RSV causes changes in urinary protein and foot process in rats: a new exploration of pathogenesis of minimal-change nephrotic syndrome (21 words)

RSV causes proteinuria and foot process fusion (7 words)

Do not hide a negative result in a question.

Can omega-3 polyunsaturated fatty acids influence the cardiovascular risk in patients on long-term hemodialysis?

Omega-3 unsaturated fatty acids fail to change cardiovascular risk in patients on long-term hemodialysis

The best advice I can give you is to read the classic little book *The Elements of Style*, by Strunk and White (W Strunk, EB White, M Kalman, Penguin: New York, 2005, 153 pp). When you follow their advice, not only will you be able to say clearly what you found, but it is likely that the struggle to put it clearly will increase your own understanding of what you discovered.