

From: Chung-chieh Shan
To: Christopher Potts
Subject: Re: Three kinds of paper

----- Forwarded message from Stuart Shieber -----

Some general comments on organizing a paper:

Different people have different styles for overall organization of a technical paper. There is the "continental" style, in which one states the solution with as little introduction or motivation as possible, sometimes not even saying what the problem was. Papers in this style tend to start like this: "Consider a seven-dimensional manifold Q , and define its hyper-diagonal as the" This style is designed to convince the reader that the author is very smart; how else could he or she have come up with the answer out of the blue. Readers will have no clue as to whether you are right or not without incredible efforts in close reading of the paper, but at least they'll think you're a genius.

Of course, the author didn't come up with the solution out of the blue. There was a whole history of false starts, wrong attempts, near misses, redefinitions of the problem. The "historical" style involves recapitulating all of this history in chronological order. "First I tried this. That didn't work because of this, so I tried this other way. That turned out to be stupid. Then I tried this other way..." This is much better, because a careful reader can probably follow the line of reasoning that the author went through, and use this as motivation. But the reader will probably think you are a bit addle-headed. Why would you even think of trying half the stuff you talked about?

The ideal style is the "rational reconstruction" style. In this style, you don't present the actual history that you went through, but rather an idealized history that perfectly motivates each step in the solution. "We consider the problem of XXX. The obvious thing to try is X. But such-and-such a pithy example shows that that fails miserably. Nonetheless, the example points the way naturally to solution Y. This works better, except for such-and-such an obscure case. We patch solution Y to handle this case, forming solution Z. Voila." Of course, the author doesn't tell you that he came up with solution Y before solution X, which only occurred to him after he came up with solution Z, and he skips solutions A, B, and C because, in retrospect, they are nowhere on the natural path to Z, even though at the time he was completely convinced they were on the right track. The goal in pursuing the rational reconstruction style is not to convince the reader that you are brilliant (or addle-headed for that matter) but that **your solution is trivial**. It takes a certain strength of character to take that as one's goal. But the advantage of the reader thinking your solution is trivial or obvious is that it necessarily comes along with the notion that **you are correct**.
