

# Putting Ideas into Words

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Writing about something, even something you know well, usually shows you that you didn't know it as well as you thought. Putting ideas into words is a severe test. The first words you choose are usually wrong; you have to rewrite sentences over and over to get them exactly right. And your ideas won't just be imprecise, but incomplete too. Half the ideas that end up in an essay will be ones you thought of while you were writing it. Indeed, that's why I write them.

Once you publish something, the convention is that whatever you wrote was what you thought before you wrote it. These were your ideas, and now you've expressed them. But you know this isn't true. You know that putting your ideas into words changed them. And not just the ideas you published. Presumably there were others that turned out to be too broken to fix, and those you discarded instead.

It's not just having to commit your ideas to specific words that makes writing so exacting. The real test is reading what you've written. You have to pretend to be a neutral reader who knows nothing of what's in your head, only what you wrote. When he reads what you wrote, does it seem correct? Does it seem complete? If you make an effort, you can read your writing as if you were a complete stranger, and when you do the news is usually bad. It takes me many cycles before I can get an essay past the stranger. But the stranger is rational, so you always can, if you ask him what he needs. If he's not satisfied because you failed to mention x or didn't qualify some sentence sufficiently, then you

mention x or add more qualifications. Happy now? It may cost you some nice sentences, but you have to resign yourself to that. You just have to make them as good as you can and still satisfy the stranger.

This much, I assume, won't be that controversial. I think it will accord with the experience of anyone who has tried to write about anything nontrivial. There may exist people whose thoughts are so perfectly formed that they just flow straight into words. But I've never known anyone who could do this, and if I met someone who said they could, it would seem evidence of their limitations rather than their ability. Indeed, this is a trope in movies: the guy who claims to have a plan for doing some difficult thing, and who when questioned further, taps his head and says "It's all up here." Everyone watching the movie knows what that means. At best the plan is vague and incomplete. Very likely there's some undiscovered flaw that invalidates it completely. At best it's a plan for a plan.

In precisely defined domains it's possible to form complete ideas in your head. People can play chess in their heads, for example. And mathematicians can do some amount of math in their heads, though they don't seem to feel sure of a proof over a certain length till they write it down. But this only seems possible with ideas you can express in a formal language. [1] Arguably what such people are doing is putting ideas into words in their heads. I can to some extent write essays in my head. I'll sometimes think of a paragraph while walking or lying in bed that survives nearly unchanged in the final version. But really I'm writing when I do this. I'm doing the mental part of writing; my fingers just aren't moving as I do it. [2]

You can know a great deal about something without writing about it.

Can you ever know so much that you wouldn't learn more from trying to explain what you know? I don't think so. I've written about at least two subjects I know well — Lisp hacking and startups — and in both cases I learned a lot from writing about them. In both cases there were things I didn't consciously realize till I had to explain them. And I don't think my experience was anomalous. A great deal of knowledge is unconscious, and experts have if anything a higher proportion of unconscious knowledge than beginners.

I'm not saying that writing is the best way to explore all ideas. If you have ideas about architecture, presumably the best way to explore them is to build actual buildings. What I'm saying is that however much you learn from exploring ideas in other ways, you'll still learn new things from writing about them.

Putting ideas into words doesn't have to mean writing, of course. You can also do it the old way, by talking. But in my experience, writing is the stricter test. You have to commit to a single, optimal sequence of words. Less can go unsaid when you don't have tone of voice to carry meaning. And you can focus in a way that would seem excessive in conversation. I'll often spend 2 weeks on an essay and reread drafts 50 times. If you did that in conversation it would seem evidence of some kind of mental disorder. If you're lazy, of course, writing and talking are equally useless. But if you want to push yourself to get things right, writing is the steeper hill. [3]

The reason I've spent so long establishing this rather obvious point is that it leads to another that many people will find shocking. If writing down your ideas always makes them more precise and more complete, then no one who hasn't written about a topic has fully formed ideas

about it. And someone who never writes has no fully formed ideas about anything nontrivial.

It feels to them as if they do, especially if they're not in the habit of critically examining their own thinking. Ideas can feel complete. It's only when you try to put them into words that you discover they're not. So if you never subject your ideas to that test, you'll not only never have fully formed ideas, but also never realize it.

Putting ideas into words is certainly no guarantee that they'll be right. Far from it. But though it's not a sufficient condition, it is a necessary one.

## **Notes**

[1] Machinery and circuits are formal languages.

[2] I thought of this sentence as I was walking down the street in Palo Alto.

[3] There are two senses of talking to someone: a strict sense in which the conversation is verbal, and a more general sense in which it can

take any form, including writing. In the limit case (e.g. Seneca's letters), conversation in the latter sense becomes essay writing.

It can be very useful to talk (in either sense) with other people as you're writing something. But a verbal conversation will never be more exacting than when you're talking about something you're writing.

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