Journal of Cell Science

An occasional column, in which Mole, Caveman and other troglodytes involved in cell science emerge to share their views on various aspects of life-science research. Messages for Caveman and other contributors can be left at **mole@biologists.com**. Any correspondence may be published in forthcoming issues.

Rebuffs and rebuttals I: how rejected is rejected?

Oh what a beautiful, happy day! True, the rain is beating down and a cold wind is moaning at my window. The coffee maker is broken and someone ate the last of the chocolate chip cookies. And the rest of my day will be filled with committee meetings. But right now I want to dance.

You see, I just got news that the paper we submitted a mere six weeks ago has been rejected, but with the kind of rejection that says, "do come back and show us how you've fixed it." Okay, it didn't say that, but I know that's what they meant. And that's all very, very terrific.

Doing science is all about rejection. It's in the fabric of what we do: we formulate our cherished ideas and rigorously test them, only to be rejected by Nature herself (I mean the mother, not the brand name). And then, when we think she has finally accepted us, that we've actually gotten something right, our colleagues reject us – often viciously. We send our papers and our grant proposals, carefully crafted to consider every angle and interpretation of our hard won data, and '*Slap!*' we're squashed like vermin.

Why does all this happen? Once upon a time, research observations were simply published – one only had to be part of the elite scientific community to present one's findings before an elite assembly, and publication would follow in the interest of dissemination. Even now, some societies publish proceedings by their membership without formal review (at least, without harsh rejection) although this, too, is becoming unusual. Review, rejection and dejection are the facts of scientific life.

In part, this is because science is now a trade; most of us who do it do it for a living. It is by its nature competitive. We have always competed for recognition, but now recognition translates into income, and we need a way to keep score. One way we do this is through publication, and our publications lead to grants (also very competitive), which let

us publish more. When I was a wee mole-let, my friend, Professor Sloth (we called him Three-toe), once told me that our jobs were to convert money into text in the most expensive way conceivable.

To most of us, publishing papers is the single goal of what we do. Actually getting it right comes in second. This is so ingrained in the system that we usually require our students to publish before they can obtain a degree, and for a seemingly good reason, because without publications our careers cannot progress. And we know that this promotes the volumes of irreproducible trash that makes up much (perhaps most) of what we ironically call 'the literature' (tantamount to dubbing it fiction). Publication is the means and therefore becomes the end.

So we need to ensure, if we can, that at least *some* of what is published is actually 'true'. We do this by rejecting everything, pretty much, to create a gauntlet that must be run as a test of validity. Different journals and funding agencies set up different gauntlets, which may seem easy or impossible depending on which one it is, the alignments of the planets, and plain luck.

So what happens if you've submitted a paper or a grant, and it's been rejected? It's only been looked at by a handful of people, so you have to determine the *type* of rejection to decide what to do next. Rejections fall into several categories.

They all begin with two statements. The first asserts that the work has been evaluated by experts. We'll come back to this next time. The second generally runs like this: "unfortunately your paper/grant cannot be accepted/funded", and might go on, "at this time." This is the first key to knowing what sort of rejection you're dealing with. Here are the types of rejections, and how to know them.

The *just go away* rejection. This rejection does not include the "at this time" disclaimer, and states, hopefully in a clear way, that they never, ever want to see it again. Hints include suggestions that you send it to a more *specialized* journal or agency. This is a euphemism for 'less desirable' and means, 'not *us*'. You might be confused by the tendency of the bearers of the bad news to sugar it with suggestions that the reviewers found some of the ideas or observations to be of potential interest. You need to decide carefully if a rebuttal will be a waste of time. It could be a waste of a lot of time. You'll need to turn your attentions elsewhere.

The *we're just not that into you* rejection. This reads very much like the first rejection and will have many of its features. But it will include a statement of what would have made it more interesting. This can be an unfortunate lapse on the part of the sender, because, even if you address it, they still might not care. Your decision must be weighed carefully, and you could waste much more time. But there's a chance. It may be useful to address a query to the source of the note, but don't do this just yet. Read on.

The *we like you, but we don't love you* rejection. This one is partly technical. Again, the work is potentially interesting, but you didn't convince them. You may never be able to. You'll have some suggestions here of the sorts of experiments you would have to come through with to make it happen. If these work, you might be okay. If they work. Regroup and decide if the effort might be worth it.

The *oh, there are so many things* rejection. They like it, they really do, but there were too many problems. There are *always* problems. The give away that this is this sort of rejection is that they have provided information on how you might be able to resubmit it. This is great news – they'll look at it again, but you have to solve all of the issues, and this almost certainly involves a lot more work. Roll up your sleeves and hit the bench.

The *there's someone else* rejection. This is hard. They liked it, maybe loved it, but they feel that your work was trumped by someone else. You could argue the point, but often it is best to either change the focus (probably requiring new experiments) or try your luck elsewhere (where they might not have the same opinion or, if you're lucky, might not be aware of the other work). If this is a grant, you'll probably have to redirect and convince them of your advantage. If it is a paper, you can try a rebuttal but be prepared for disappointment.

The *everything that's new is old again* rejection. Another hard one. They don't feel that what you've shown is sufficiently new. You'll have to tell them. And they might not believe it. This is difficult – you might find a more receptive audience elsewhere.

The *it's not a rejection* rejection. Often, near acceptance sounds like a rejection. Read it again – maybe after you've slept on it.

Whatever you do next, here is the most important thing: Don't write back today. You are angry and hurt, and the things you will say today (even if you think you're being extremely reasonable) you will come to regret. Write this down, or better yet, put it in neon over your desk: 'Don't respond to a critique on the day you receive it'. Trust me.

What great advice. I wish I always took this advice; whenever I fail to, it backfires. So let's not write that rebuttal today. We'll give ourselves a chance to cool off, and tackle it next time.

And meanwhile, I'm going to do another little dance.

Mole

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