



Observations of an Owl (12)

Sci-chology

“Hey Owl! Why exactly did you quit active research?” That was the question I referred to in last issue’s column, do you remember? Well, it triggered off a tirade about how much the whole science business has changed for the worse during the last two decades.

That was easy – simply place all the blame on the cutthroat and merciless system that finally left

innocent and helpless Owlie hung out to dry.

Do you sense the irony? Of course, a lot of you will have rumbled me. A young swallow professor, for example, wrote: “Sorry, Owl, but do you really think you can convince us that the only reason you spread your wings and flew off was because you didn’t want your own superb moral standards to be corrupted by having to comply to some dubious demands of a changing system? Oh, you’re so honourable! C’mon Owl, there are still many cool and clever guys around cocking a snook at the system and still having a lot of fun with science. It couldn’t have been the business alone. There must have been something else, so be honest, what happened, Owl?”

Okay, you’ve caught me. It’s not easy to write about it but, in the meantime, I’ve come to admit, even to myself, that towards the end my science was ... well, not exactly bad ... but... somehow not successful. Yes, in the last couple of years I experienced hardly any achievements. There were none of those incredible “Eureka!” moments that only occur in science, for example, when you suddenly realise that the unexpected band in your gel has just opened up a completely new and exciting angle on a problem.

I couldn’t blame my students. They were clever, skilful and really hard working (as I certainly was too, errrm). That was not really the stumbling block; nevertheless, the whole situation became increasingly frustrating.

You can’t imagine how often I’ve ransacked my brain in an attempt to figure out what exactly caused this downward spiral and by and by I have reached a conclusion, which will sound rather odd to you dedicated scientists: psychology! Yes, it was predominantly psychology that goaded us into chasing some scientific phantom further and further into a deep, dark gorge – until, finally, we were unable to find our way out.

At that time, purification of a certain membrane protein was the central premise to test our hypothesis. Thus, we developed an assay to follow the protein through the individual purification steps. Unfortunately, the protein’s activity became very unstable after its solubilisation from the membrane, which led to us “losing” it each time before we were even half way through our purification protocol.

We tried several dozen detergents, changed pH, salts and buffer compositions, applied each and every protein stabilisation protocol available, condensed the purification protocol to the shortest time possible – but our efforts were all in vain. (In the

last couple of months, we relied on sarcasm to boost our spirits. For example, it almost became sad ritual to announce each new failure by citing the last two lines of Goethe’s famous poem “Der Erlkönig”: *Erreicht den Hof mit Müh’ und Not; In seinen Armen das Kind war tot – Reaches the court with toil and dread; the child he held in his arms was dead.*

In retrospect, I think what finally broke the camel’s back for my small group was a fatal mixture of two psychological “syndromes”. These days, I refer to the “Try-the-same-but-harder syndrome” and the “Driven-by-unrealistic-perfectionism syndrome”.

The first only became apparent ten years later when my friend, Harrier, revealed that a group of Japanese egrets had confirmed our old hypothesis – by applying sophisticated algorithms for functional genomics, RNAi gene silencing and tailor-made microarrays. Thus, protein purification was no longer necessary and with one swooping, elegant experiment they successfully solved the whole question.

Ten years earlier we didn’t realise (later, we didn’t really want to know) that it simply wasn’t possible to purify “our” protein in an active state by applying the methods of the day. Blissful in our ignorance, we had, effectively, convinced ourselves that we were constantly trying *new experimental approaches*, and that success

was just around the corner. What we actually did was merely change the conditions of *one and the same experiment*. Basically, we spent years trying the same thing time and time again.

Yes, yes, I can sense your perplexity. Why didn’t we just freeze the project and turn our (feathered) brains and wings to another question? Well, that’s where the “perfectionism syndrome” kicks in. Buzzard, Hawk and all the other colleagues in the field knew what we were after and they were sure that we were on the brink of a positive result. Keenly, we adopted their optimism (which was unrealistic right from the start) and went completely overboard. Of course, we wanted to meet these expectations *perfectly*. Unfortunately, as perfectionists, incapacitated by our own tunnel vision, we failed to recognise that purely the pathological fear of failure was spurring us on through our futile experiments.

And at a certain point things spun out of control. We were no longer able to turn the tables because our confidence and self-esteem had hit rock bottom. Until one very cold and dark winter’s night I chose my fate when, finally, I smoothed my ruffled feathers and flew off...

Perhaps this tragic (but not unfamiliar) story would have ended differently if failure (let’s face it, who never fails?) was more acceptable to the whole syst... Oooops, okay, I’ll shut my beak and leave ranting about the system to others this time.

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