Soapbox!

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Here is the £25 winner in this issue.

Dear Soapbox!

As someone coming to the end of their time as a PhD student it was with a great sense of nostalgia that I read of the experiences of the previous contributor to *Soapbox!*

As a person who now clones genes as a matter of routine and could probably prepare and run an agarose gel in my sleep, I still haven't quite forgotten those first days in the lab as a project student when racking a box of pipette tips and successfully autoclaving them was a big achievement! And although those few months gave me a tiny insight into research, nothing could have fully prepared me for the varied highs and lows of life as a PhD student. The first few days were certainly daunting. Removed from the supportive environment of the third year project lab and a distinct lack of familiar faces I felt way out of my depth. There were of course the practical problems of finding my way around a new department and the realization that fresh boxes of gloves didn't just mysteriously appear but actually had to be ordered. But that was as nothing compared to the recognition that from now on and for the next three years I, along with the help of my supervisor, would be solely responsible for my own work and for choosing the direction in which it would progress.

Unlike the previous *Soapbox!* correspondent who writes that a PhD can involve '*days, months and years*' of '*following protocol after protocol without thinking*', in my experience at least, the opposite is true. You may start your PhD with a detailed plan of the experiments you want to perform and the results you want to achieve, but in reality things often do not work out that way. Techniques may be available that should work in theory, and may indeed have worked for virtually everyone you have ever met including someone sitting feet away from you in the lab – but they just don't work for you. Speaking from personal experience you may find yourself spending more time in the library than in a lab coat. But what a sense of achievement when a technique that you yourself have dug out of a dusty paper or from the net actually provides you with the desired result.

PhD students also spend a great deal of their time outside the lab as the Research Councils increasingly emphasize the importance of transferable skills such as written or oral communication. Moreover, it is not all work, work, work. As anyone who has attended an SGM meeting will verify it's almost as much about socializing as science and presents everyone with a chance to catch up with people from other institutions. PhD research also presents great opportunities for international travel. A trip to the ASM's infectious diseases conference in Canada allowed me to present my work in front of a prestigious audience as well as see what scientists who publish in *Nature* actually look like in the flesh!

As to whether research can ever be creative – I suppose that depends on how you define creativity. Research is never just following protocols and I believe that a creative streak is a big asset in terms of problem-solving and when preparing presentations, especially if you don't want to hear the sound of gentle snoring from the back of the auditorium! Of course a PhD is not an easy option when deciding what to do after you graduate; there are definite downsides to it and I believe that the scientific community needs to address the issue of why many postgraduates are choosing to leave research after their PhDs. And as to my future in research – well I'm still not sure what that may be, but overall I can honestly say that my time as a PhD student has provided me with a wealth of unique and positive experiences which I'm sure will prove to be invaluable in whatever career I choose to pursue.

● ***Ireena Dutta, Department of Biochemistry, University of Cambridge***

Dear Soapbox!

As an undergraduate, concepts and the understanding of whole areas of modules only became real or important around exam time. I found, and still find, lectures to be a very passive experience. Understanding the material was always important, but lectures now appear much simpler in this respect. Perhaps it is the smaller scale of the lectures I have had as a postgrad, or that they seem so much more relevant to my work and myself.

Practical work was also considered important as an undergraduate and was a vital component of many modules taken at Nottingham. However, the vast majority of practical courses aimed only to provide an idea of the principles or techniques within the lab. This is not a criticism. Providing large numbers of students with the facilities to do practical work cannot be easy; but it still resulted in a very contrived approach. My final year project was such a change. I went from mixing solution A with solution B and being told I had extracted plasmid DNA, to being responsible (within limits) for making up my solutions and carrying out work with a palpable end point. I have recently started demonstrating in first year practicals and I find it amusing to see how my attitude towards practical work has changed and also how much my technique has improved.

Another notable difference between undergraduate and postgraduate study is time. As an undergrad I often worked week-by-week and never more than a semester at a time. Time was conveniently divided by modules starting and finishing, and the repetitive pattern of weekly lectures/practicals. Exam periods were potent dividers, with a real feeling of completion, followed by a period of relaxation (and excess!), then it all began again. As a PhD student, there isn't that rigid form to the course and it is quite a disturbing prospect to start three years of research with only a rough plan of where it will go.

● ***Mike Sellars, First year PhD student, University of Nottingham***