

Editorial

China is Taking Steps Toward Alternatives to Animal Testing

“China requires animal testing of cosmetics” has rocketed through the Internet over the last few weeks,¹ and the response from most observers has been: “Why are they so slow to change?”

Of course, the speed at which change occurs has always provided sustenance for pundits. Even Aristotle commented that, with changes, there are “some too quick and others too slow”.²

To a few toxicologists, the shift away from animal testing seen in Europe is progressing at light speed; to many animal protection groups, it is progressing at a snail’s pace. Yet in reality, it is probably progressing at a reasonable pace. Let’s look at what has happened in the USA and Europe. We suggest the rate at which China is addressing the problems associated with animal testing may be reasonable, when one considers the fact that the Three Rs concept of refinement, reduction, and replacement of animal tests to detect chemical hazards, which is relatively new to China, has already existed for over 50 years in most English-speaking countries. But for only about half that time has it been considered by a majority of scientists as a respectable goal to pursue. The field started slowly in the Western world, championed mainly by animal protectionists. Later it was then joined by scientists who gradually realised that results from animal tests were often misleading, and was further spurred on by the hopes that using human cells and tissues *in vitro* could provide answers more *predictive* of our prime concern — human health effects. Finally came the financial/logistical revelation that unless something better than the traditional animal tests was found, we would never be able to assess health hazards from tens of thousands of existing chemicals, let alone the thousands of new ones developed each year. Now we’re in a situation where a scientist can speak about the use of non-animal *in vitro* tests in front of his colleagues without embarrassment, and where government regulators are accepting — even in some cases, requiring — the non-animal tests. Yes, we have changed, but the change has happened over a 50-year period. We’ve slowly — certainly not quickly — become used to the concept that animal testing does not provide the ultimate truth.

So, what is really happening in China? We know that their regulations call for a considerable

amount of animal testing before new chemicals and products, even cosmetics, can be marketed. These tests include animal models for eye, skin and systemic endpoints.

Actually, this is not too strange — Europe was the same 50 years ago — and slowly changed during a 50-year period. Should we expect China to do better? China hasn’t had the luxury of a 50-year dating period with alternatives and *in vitro* testing methods. These concepts only began to be mentioned in China about 10 years ago. Chinese scientists and regulators have not had the time to gain familiarity with the methods, but now the rate of change is accelerating.

In fact, the changes that have occurred in China over the last five years are extremely encouraging; laboratories conducting *in vitro* testing are springing up all over the country. There is a Chinese alternatives organisation, the Chinese Center for Alternatives Research & Evaluation (CCARE).³ The first textbook (*Alternative Laboratory Animal Methods: Principles and Application*) on alternative methods has been published (entirely in Chinese, but with Chinese, European and American authors). Impressively-funded laboratories are creating tissues from human stem cells, searching for toxicity pathways, and are using OECD *in vitro* Health Effects Test Guidelines as part of safety assessment programmes. Just recently, the Chinese state Food and Drug Administration (sFDA) published for comment an *in vitro* phototoxicity test method that they expect to begin using for regulatory purposes this summer.⁴ And we’re told that a five-year plan for the integration of non-animal methods has been developed, which outlines the acceptance of upwards of ten alternative methods in that period of time. The support for alternative methods is not just coming from within China, but also globally. For example, the Institute for In Vitro Sciences has established an International Outreach Program to provide technical support for integrating these non-animal methods into China’s safety assessment programmes. Other companies are providing individual assistance as well.

So, is China going too slowly? Perhaps not. Certainly, they haven’t reached the level of acceptance of alternative methods that currently exists in the USA and Europe, but China’s cur-

rent rate of change is impressive. Let's revisit the state of affairs in another 2–5 years' time and then see who's changing fastest. There is a Chinese proverb that says "one step at a time is good walking", and China has made their first steps into the world of non-animal methods. Let's give them as much support as we can, to help them maintain the current pace.

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References

- ¹Manzelli, A. (2012). *The Mean Ladies of Make-up*. Santa Monica, CA, USA: Global Animal. Available at: <http://www.globalanimal.org/2012/03/06/the-mean-ladies-of-make-up/68546/> (Accessed 30.03.12).
- ²Hoachim, H.H. (translator) (1922). Aristotle's *On Generation and Corruption*, Book II Chapter 10, p. 85. Available at: http://books.google.co.uk/books?id=xdUkGq1OjjAC&printsec=frontcover&source=gbs_ge_summary_r&cad=0#v=onepage&q&f=false (Accessed 30.03.12).
- ³Chinese Center for Alternatives Research & Evaluation (2012). Website — translatable into English. Available at: www.vitrotox.com (Accessed 30.03.12).
- ⁴Yeomans, M. (2012). *China Proposes First In Vitro Method for Cosmetics Phototoxicity*. Cosmetics design. com USA. Available at: <http://www.cosmeticsdesign.com/Regulation-Safety/China-SFDA-proposes-first-in-vitro-method-for-cosmetic-phototoxicity> (Accessed 30.03.12).