

PREFACE

The scene was cast in 1992 while I was still a tenured faculty member at a university and program director at a supercomputer institute. I received a letter from a lady in Argentina. The lady had just lost her only beloved son and was looking for someone to help clone her son. Still young and early in my career, I made a number of phone calls to try to get some leads. I called experts, including a personal physician of a former president. Of the experts I called, one was less polite. He snarled skeptically that "someone must have scribbled your name on a toilet wall". In spite of the few days of futile attempts, I had a colleague who could speak the lady's native tongue to call and tell her it was not doable. At that time, the closest we came to cloning was the very popular flick by Steven Spielberg — *The Jurassic Park*.

Then in 1993, my father became a statistic in a botched routine hospital operation while I was on a United Nations mission to help set up a biotech and bioinformatics science park along the Pacific Rim. My mother was more fortunate. She is a courageous fighter and survivor of breast cancer. My family members, like most people, are fortunate beneficiaries of the wonders of modern biotechnology and healthcare system.

As I penned the first word of this book, I thought of the Argentinean lady. If the same real-life scene could be recast in the current prevailing climate, the whole episode would have unfolded very differently. She would in all likelihood not have written me. In all probability, she would have contacted Claude Vorlignon of the Rael Group, or Panayiotis Zavos in Kentucky, or Severino Antinori in Rome. As for the skeptic expert who snarled that "someone must have scribbled your name on a toilet wall", he probably could not foresee what he thought was impossible less than a decade ago is now within grasp.

I also thought of my father. Had the healthcare system in Malaysia been a little more advanced, my father would likely have survived the operation to see this book. So I decided that I would title the book in a letter format, in response to the Argentinean lady's letter, and in a form that I can convey to my father.

By 1992, the human genome project had already begun. The neologism "bioinformatics" had been coined for almost five years. Though bioinformatics was still not popular, international conference on the subject had been convened at least twice. In certain sense, I was then a pioneer in the field. The field exploded after 1996. Like most pioneers of the field, I soon had a hard time keeping up with the progress. Soon, I find myself falling into being a student. As the eclectic field grows larger, becomes more encompassing and ubiquitous, I can hardly catch a breath just to keep abreast. Thanks to all the wonderful publications: *BioCentury*, *Genetic Engineering News*, *Genome Technology*, *Nature*, *Science*, *Trends in Biotechnology*, *CNN News*, *New York Times*, *San Francisco Chronicle*,

Washington Post, and many other publications and books too numerous to mention each by name, I manage to keep myself afloat in the ocean of bioinformation.

The ideas of the book come from many sources, including the above-mentioned publications, only some of which I have been able to acknowledge specifically in the text as footnotes. Fellow peers, experts, colleagues, and friends, whom I meet at conferences, conventions and workshops around the world, and many other cyber friends whom I have never met have all provided insightful and enlightening perspectives. I am very grateful to many friends who regularly bring to my attention or forward electronically to me interesting articles. I appreciate the many penetrating and often times difficult to answer questions — particularly when I am on the air live — from reporters of TV and radio stations.

This book, in part, builds on my previous writings. They all — genome projects, agbiotech, aquaculture, cloning, stem cell research, animal bioreactor, genomic and proteomic technologies, patentability, bioinformatics, and modern warfare — I now realize, hang together as different facets or parcels of life. To separate them would be to miss the meanings and messages of the forest in a minute examination of its trees.

The topics of discussion are marching ahead at an unprecedented pace. The torrents of news of new breakthroughs, of new discoveries such as there are only 30,000–40,000 human genes instead of the long-held 100,000 human genes necessitate a revision. There is always something to update and add. Without the encouragement of colleagues and a self-imposed deadline, the last chapter would never have been completed.

I applaud the generosity of D'Trends for the time while I am on trips, in flights, between flights, late evenings, and on numerous occasions during work when inspiration strikes. I like to thank all my ballroom dancer friends who help me unwind every Friday and Saturday evening after a week of hectic chores. Their company is the ballast that keeps my sanity in balance. I also admit the child in me when I take a breather and watch Tom and Jerry cartoons in the wee hours.

This book is addressed primarily to experts who are very busy and would like to have a different and comprehensive perspective, and to laypeople who are interested in learning more about bioinformatics, the biotechnology, pharmaceutical and healthcare industries, and the roles of biotechnology and information technology in modern warfare. Writing this book is my way of learning a very vast and fast progressing subject. I hope that reading it will help others do the same.

February 2002
D'Trends, Inc.
Silicon Valley, California, USA

Hwa A. Lim
hal@d-trends.com
<http://www.d-trends.com>