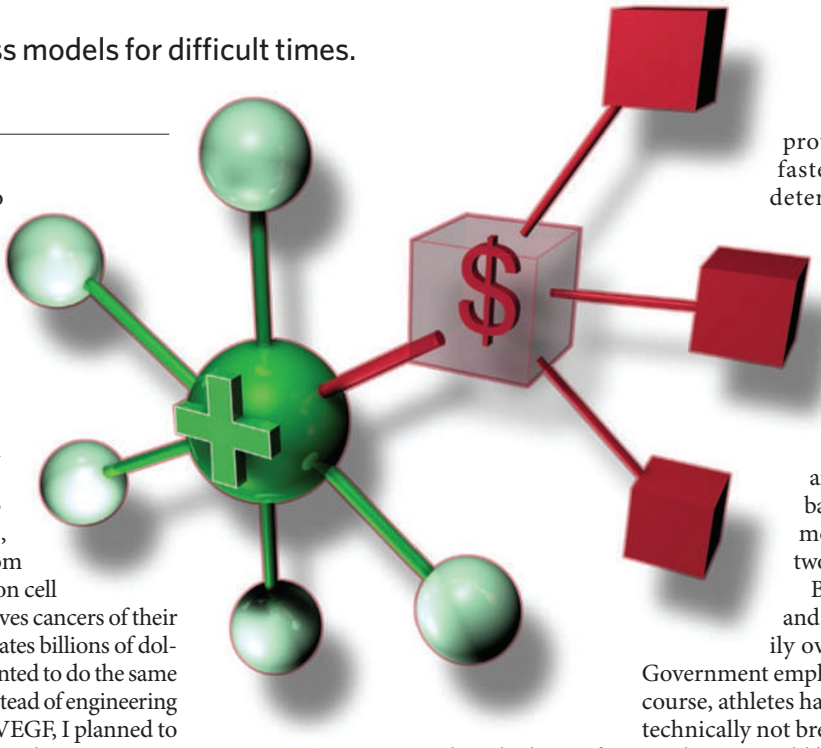
Transitions

Different business models for difficult times.

Dan Erlanson



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I started out trying to make drugs.

I was working in protein engineering when I realized that I could transform proteases, enzymes that cleave other proteins, into medicines. You know how typical therapeutic antibodies work: bevacizumab binds another protein, VEGF, and keeps it from binding to its receptor on cell surfaces. The result starves cancers of their blood supply and generates billions of dollars in annual sales. I wanted to do the same thing with proteases. Instead of engineering an antibody to stick to VEGF, I planned to engineer a protease to shred it.

That's how TST was born. Transition State Therapeutics: transitioning your way to a disease-free future.

I used my life savings to rent a small lab and hire a research associate, Blue Nebo. Blue exemplified the cliché 'work hard, play hard' — a sharp biochemist with extraordinarily gifted hands by day, a keyboardist in a trance band by night. Her stories of drug-fuelled jam sessions were not to my taste, but her work ethic was unimpeachable, and she got results. Within a few months we had enough data to convince a few wealthy 'angel' investors to fund us, and I hired a small staff of researchers.

Things were going well. We were working on multiple targets, talking with venture-capital firms to try to raise a larger round of funding, and discussing possible deals with major pharmaceutical companies. Then came the crash of '08. Companies stopped IPOing. Angels lost their wings along with their net worth, and venture capital slowed sharply. Money is the oxygen of industry, and I watched helplessly as TST suffocated.

Bills started piling up. I began to calculate which suppliers we could forgo paying. Rent could wait — other companies were in the same position, and our landlord knew that no one else was looking for space anyway.

But of course the main expense for a preclinical company is payroll, and so I had to let everyone go — everyone except Blue. I stopped taking a salary, and put my remaining money into a last-ditch proof-of-concept experiment. We were so close. We outsourced a study in primates; if the results came back positive I knew requests for funding would too.

The monkey study failed.

Blue understood when I told her I could no longer pay her, but I could barely contain my tears.

It was Blue who saved the company. Even during the Great Recession, good research associates were hard to find, and within a few weeks she had an offer from a large pharmaceutical company — contingent on her passing a drug-screening test.

She called me for help. There's plenty of Internet advice on beating drug tests, some of it good, most of it not. I quickly realized that all the primary drugs tests are immunoassays that depend on antibodies binding to illegal drugs. In other words, protein-based. In other words …

I got to work. Soon I had generated a set of proteases that could rapidly destroy the antibodies used in all the standard drug tests. Of course, a more sophisticated follow-up would be harder to beat, but if the primary test was negative there would be no follow-up. An invisible amount of my new product added to any urine sample would transform a sinner into a saint.

Blue got the job.

I placed a few ads online. Transition State Technologies: transitioning your way to a clean future. Orders started to trickle in.

I continued to work alone, tweaking the proteases, making them faster, more resistant to detergents, saliva, blood. The trickle of orders became a stream, and I started paying rent again.

Six months later, Blue was let go in one of the mass restructurings convulsing big pharma, and I was able to hire her back. Within another six months I needed to hire two more researchers.

Business has been good, and we've expanded steadily over the past few years. Government employees, parolees and, of course, athletes have flocked to us. We're technically not breaking any laws — our products are sold "for informational purposes only", and we get careful legal advice on everything we do. Our lawyers have also assured me that the non-disclosure agreement you just signed is air-tight.

The work is scientifically challenging: as our products become increasingly popular, the antidoping industry has responded by increasing the sophistication of its tests. We constantly need to keep one or two steps ahead. And we're actively developing new products. Our latest effort is designed for people who, for whatever reason — we certainly don't ask — don't want to leave any DNA behind. We've generated a highly active and stable deoxyribonuclease suitable for formulating into skin creams, shampoo, laundry detergents, you name it.

Well, that's our story. You've already met Blue and the rest of the team, and they've given me great feedback about you. Your references and training are top-notch. I know that this is probably not what you had in mind when you started studying science, but frankly, there aren't many positions left in the biotech or pharmaceutical industries. We, on the other hand, can offer you a generous salary, competitive benefits and the security of a rapidly growing industry. If you want it, the job is yours.

Will you join us? ■

Dan Erlanson is a chemist and the co-founder of a company that is still focused on drug discovery.

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