



DR ANJI REDDY

CHAIRMAN/ DR REDDY'S LABORATORIES

INDIA'S JOURNEY TO BECOMING A DEVELOPED NATION

A DEVELOPED NATION IS ONE THAT has achieved a high degree of industrialisation and which enjoys a high standard of living. World-class infrastructure, a sound education system leading to a high level of literacy, and a strong healthcare system are some of the prerequisites to being considered a developed nation.

Where do we stand in terms of these parameters? How industrialised is India? How much more would give us the tag of a developed nation? What roles do companies, the government and other institutions play in the process?

For the first time since independence, India doesn't suffer from the lack of options but from a surfeit of choices. Unlike smaller East Asian economies, we are not constrained by the limits of geography, or people, or

culture, or technological awareness. We are a large and diverse nation of a billion people with mineral, industrial, and technological wealth. Our people are in great demand, outside India, as always, even within the country. On paper, it should be easy for us to get from here to being a developed nation. In practice, it is not easy, because we have too many choices. And all choices are not equal.

Muscle Power To Mental-p

The First Wave of change, launched by the agricultural revolution of 10,000 years ago, led to the transition from hunting, gathering, and foraging to the great peasant societies of the past. The Second Wave of change, triggered by the Industrial revolution some 300 years ago, gave rise to a new factory-centered civilization. It is still spreading in some parts of the world as hundreds of millions of

peasants, from Mexico to China, flood into the cities searching for minimal-skill jobs on factory assembly lines. But even as the Second Wave plays itself out on the global stage, America and other countries are already feeling the impact of a gigantic Third Wave partly based on the substitution of mental power for muscle power in the economy.

Alvin Toffler
The Third Wave

To my mind, the core idea is the *substitution of mental power for muscle power*. Let us try and put this statement in the context of India today. I would like to take a very topical phenomenon to illustrate this: the Business Process Outsourcing or call centre boom. In terms of the number of people employed, this boom promises to be much bigger than anything India has experienced in the past. Indeed, according to a report by McKinsey & Company, 1.1 million new jobs will be created by this sector over the next 5 years.

Lured by the hype and the promise of a respectable salary, much of the country's young talent, including that of the engineering type, is moving to the sector. I believe this isn't a good sign. When Toffler refers to mental power, he is probably not referring to the kind required for jobs in call centres. The BPO boom, however much it grabs our attention today, is not the stuff of which great nations are built.

India today, suffers from the problem of plenty. When many choices are available, one invariably picks the path of least resistance. It requires little effort to make money from call centres and cost-arbitrage. That is why so many of our entrepreneurs and industrialists are foraging into this sector. But cost arbitrage is not a sustainable game, unless the experience gained can be leveraged into moving up the value chain. How long will it take the Chinese to learn English? How much longer will it be before an even lower-cost nation, China, perhaps Vietnam, even Senegal emerges to usurp our position? What will Indian call centres do then? More importantly, what will happen to an entire generation of the nation's young that has spent its best and most productive years in a call centre? Our freedom of choice, if exercised loosely, has the power to debilitate us.

The world is at the threshold of the third wave, where the ability to create knowledge

and the ability to innovate will be the key competitive differentiator between nations. What can we do to ensure our success in this new environment?

Travel The Path Less Taken

India should choose the path of innovation, invention and the creation of intellectual property. Only this will help it create new products, and, in turn, great organisations.

When one thinks about innovative organisations, 3M is top of mind. The company's product portfolio is not particularly exciting—its best-known product is scotch tape. The name 3M, which stands for Minnesota Mining and Manufacturing, comes from the business the company entered initially (in 1902), one that almost immediately ended in failure. Since then, 3M has evolved rapidly; today, it is a diversified company with a range of innovative products, from the mundane to the breathtakingly complex.

This has come about because of a conscious orientation within the company to encourage the entrepreneurial urge in its employees. Take the example of the popular *Post Its*, the adventitious fallout of a failed experiment at making better adhesive. In a company that makes adhesives, one that doesn't bond well would be shelved as a bad 'invention'. At 3M, this did not happen. An employee with imagination thought up the idea of using the poor adhesive to make *Post Its*. Nothing like it had existed before.

The chairman of 3M between 1949 and 1966, William McKnight, built a company where employees are encouraged to 'tinker' around, and accidents, allowed to happen. The management champions the ideas generated by adapting the 'tinkering' into products that meet real human needs. A book on 'visionary' companies has called 3M a "mutation machine". I find this term particularly apt for a company that uses innovation to drive its own evolution.

While 3M is an example of how a great organisation can be built by and around innovation, the biotech boom presents one of how innovation can create an entire new industry.

In 1973, the technique of gene cloning had just been announced to the world. Herbert Boyer was one of the scientists who conceived it. Robert Swanson, a biochemist-turned-venture capitalist recognised the latent

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opportunity in the invention. He realised that the gene cloning technique could be used to artificially insert genes into bacteria to make them human proteins like insulin. In effect, bacteria could be used as factories for an unlimited supply of scarce human proteins. Most scientists scoffed at the possibility of the idea becoming reality in the near future. Swanson discussed it with Boyer and convinced him to join forces to start a company, Genentech. Exactly five years later they succeeded in getting bacteria to produce human insulin. On the day of the announcement Boyer's \$500 investment in Genentech was worth \$80 million. The success of Genentech spawned an entire industry in the US. Boyer, on his own, may never have thought of putting his invention to practical use. It took a savvy entrepreneur like Swanson to leverage the technique to its fullest potential.

Today the biotech industry in the US alone is worth more than 200 billion dollars. More than creating wealth, the industry is now turning out medicines that are saving lives!

Path-breaking Discoveries

The pharmaceutical industry is replete with examples of path-breaking discoveries resulting in successful, blockbuster products. Some of today's pharma majors are actually built on such products. GlaxoSmithkline (GSK) is what it is today because of Zantac; Merck was

built on Zocor; and Eli Lilly on Prozac.

Most people are familiar with Dr Reddy's successful efforts in drug discovery. Here's an example of a different kind of innovation in our generics business. When Dr Reddy's was preparing to file an ANDA (Abbreviated New Drug Application) with US-FDA (Food and Drug Administration) for Fluoxetine (Prozac), we noticed that 60 per cent of Prozac prescriptions were for 20mg tablets for twice-a-day use. So we developed a formulation of 40 mg, conducted bio-equivalence studies, and were the first to file an ANDA for 40mg tablets. We were granted exclusive marketing rights for this product for six months; the result was \$100 million in profits for Dr. Reddy's. This is a 'techno-legal innovation', as it involved technical expertise in developing a new formulation and also legal expertise in successfully defending our generic version in the case filed by Eli Lilly.

Failures are part of this path of invention and innovation. *Post Its* are one example of how failure was turned to success. We have an Indian example too! The Tata Group's initial indigenously developed passenger car, Indica, received lots of flak. However, the later models proved bestsellers. And there was huge demand for Tata Indigo even before it hit the market.

This is a time of great change for India. This is the best time to choose the path of invention and innovation, to think innovatively and differently. A nation derives its economic prosperity largely from its natural and man-made resources, human capital and enterprises. Fortunately for us, India has all these inputs in good measure, but what we need are capabilities to harness these to create new knowledge.

The government is slowly learning to keep out of the way of business. The State has a role to play in basic and higher education, public health, and public infrastructure.

Let us create new products and build great organisations like Merck, Genentech or GE. This is what the corporate sector has to do and this is what budding engineers and scientists have to aspire for. If the corporate sector formulates strategies to deploy mental power to build enterprises with innovative capability; if the government does its bit; then, it should be possible for India to attain the status of a developed nation by 2020, even earlier. **bt**

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