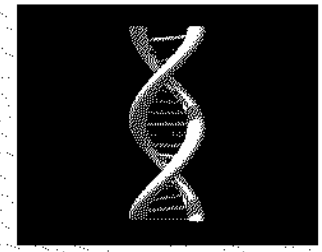
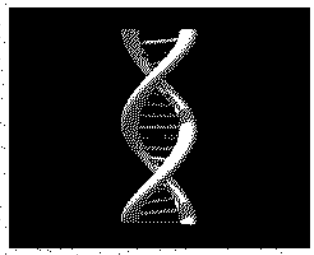


genetic technologies

SCIENCE AND SALES

Bringing Inventions to the Market.

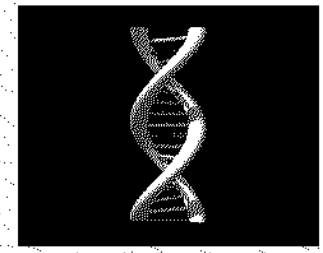
Dr. Mervyn Jacobson
Executive Chairman
Genetic Technologies Limited



Genetic Technologies - From an Acorn to an Oak

genetic technologies

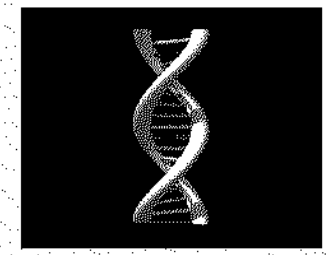
- Founded 1989, ASX listed 2000, Listing on NASDAQ 2005
- Original research focussed on structure of genes
- This led to **broad patents on the use of non-coding DNA**
- This provided basis for a new **licensing business**
- GTG created a **DNA service testing business** for human paternity testing to help fund its early research
- This has expanded to also include DNA analysis across **other human genes, animals and plants**
- The success of GTG's **licensing business** and **DNA service testing business** then funded the development of numerous other **research projects** each capable of being company makers



The Potential of the Global Biotech Market is Vast

genetic technologies

- Huge boost from the Human Genome Program
- Treatment concepts - from pills to genetic “wands”
- Not just human medicine – animals, plants, energy etc
- Global View
  - USA pharma is spending $3-6B pa on genomics research
  - Colorado as one example
  - E&Y Report – Biotech spending to be $100B by 2010
  - US think tank – what is a life worth? $50B generates $500B



Motivation to do Research

genetic technologies

Old days:

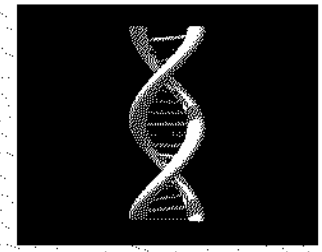
- publicly funded institutes - driven by purported altruism
- companies - make money.
- therefore - the old view - institutes make inventions and companies take them to the market.

These days:

- institutes are under pressure to become self-funding,
- many have had to establish substantial tech-transfer units,
- while companies must still make money to satisfy shareholders, they must now also take community interests into consideration.

In Summary:

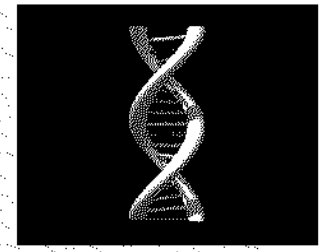
- There is now a progressive merging of roles, and ultimately, the same laws and ground rules apply to both.



Additional Pressures on the Institutes

genetic technologies

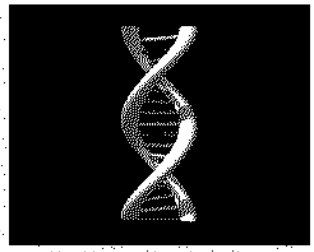
- Altruism and the original mission of the institutes
- Particular interest in certain projects, diseases, challenges
- Pressure to maintain status, prestige, power, need to publish,
- Plus
  - the need to move towards becoming self-supporting financially
  - need to meet community expectations, adhere to new laws,
  - all leading to reduced motivation to respect patent laws and the prior inventions of others, and a misguided view they are above the law.



The Cycle of Invention

genetic technologies

- Research leads to Inventions
- Inventions lead to Patents
- Patents lead to Licenses
- Licenses lead to Revenues
- Revenues lead to more Research

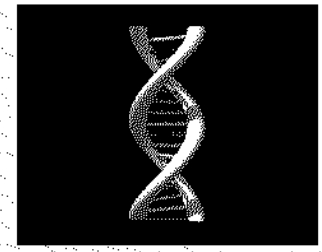


A Further Complication

genetic technologies

- There are now three different cultures involved, each with their own language:
  - Science
  - The Patenting Process
  - Exploiting Business Opportunities

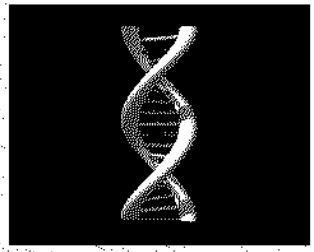
The challenge is to find people who can bridge these cultures.



Means of Protecting IP

genetic technologies

- Patenting
- Copyrighting
- Other registrations - trade marks etc
- Trade secrets.
- The need for confidentiality

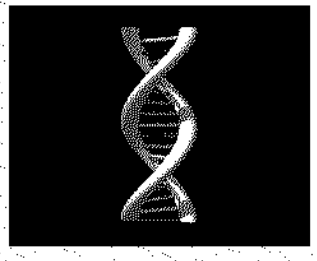


Taking Inventions to the Market

genetic technologies

What is actually being sold?

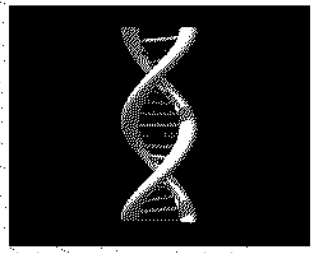
- a concept, often at an early stage, maybe even before Proof of Principle.
- an invention - proven in lab, but maybe no patent has yet issued.
- a patent.
- a license to the patent - innumerable variations
  - exclusive or non-exclusive
  - by field - maybe by gene/species/platform
  - by territory.
- a product - test/kit/instrument/treatment, etc
- or maybe even the entity owning the IP.



Protecting Inventions by the Patent process

genetic technologies

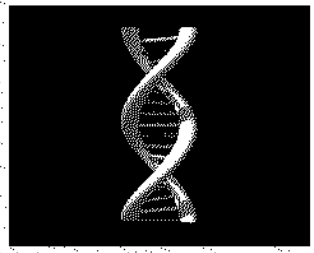
- Intended by Governments to encourage innovation, enterprise & persistence.
- Reward is a valuable legal monopoly, albeit for a small number of years.
- There is no prize for second best.
- Governments have established global conventions to harmonize the rules.
- A biotech company's major assets today is likely to be its IP portfolio.
- The new challenge - how to sell/license rights to such intangible assets.



Some Risks of Relying on the Patent Process

genetic technologies

- The original hypothesis may be proven to be wrong.
- The hypothesis may be proven to be right - but unpatentable.
- A patent may be granted, but there is no clear way to make money.
- A patent may be granted, but some other invention supersedes its relevance.
- A patent may be granted, and everyone simply ignores it.

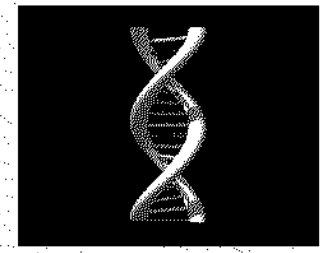


Famous Quotes

genetic technologies

- “Why should we all have to pay for one company’s bright idea” ?

- New Scientist May 2002

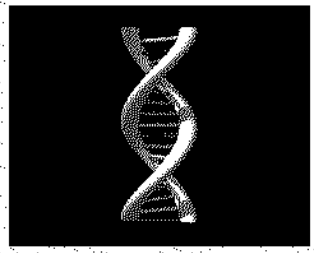


Famous Quotes

genetic technologies

- “Those patents are immoral – of course, I’ve never read them myself”

- Professor at New Zealand University

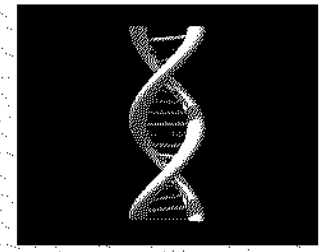


Famous Quotes

genetic technologies

- “Gene patents: Pathologists call on Governments to challenge GTG”.

- Australian Biotechnology News, May 2003

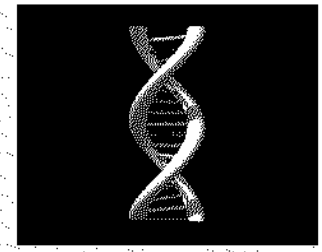


Famous Quotes

genetic technologies

- “DNA has two types of digital information – the genes that in code proteins and the gene regulatory networks”.

- “The digital code of DNA” by Leroy Hood and David Galas, “Nature”, January 2003.

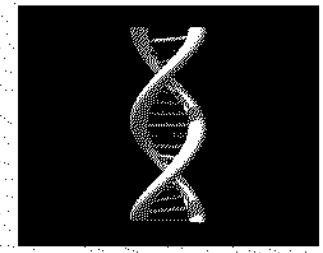


Famous Quotes

genetic technologies

- " How come we never saw that before?"

- Director of Science at Affymetrix, a major US biotech company.

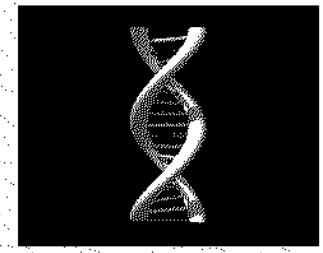


Famous Quotes

genetic technologies

- “My goodness, there’s a lot more that matters in the human genome than we had realised”.

- Dr Eric Lander, Director of Genome Research, Whitehead Institute, USA

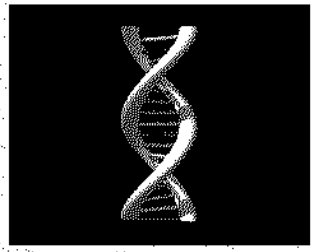


Famous Quotes

genetic technologies

- “The failure of biologists to consider the massive amounts of transcription involving non-coding DNA and the Genome will be regarded as perhaps the biggest mistake in the history of biology”.

- Professor John Mattick, February 2003.

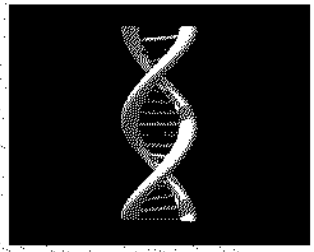


Famous Quotes

genetic technologies

- “Pathologists back down from GTG attack”.

- Australian Biotechnology News July 2003.



An Optimal Strategy for a Small Company Licensing Rollout

genetic technologies

- Get listed on a public exchange – for clout
- Secure patent insurance – if you can
- Build a database of prospective targets
- Understand your targets – produce claim charts
- Engage them in negotiations – the carrot and the stick
- Do deals
- Ensure the license agreement is tightly written – or you will get screwed later……

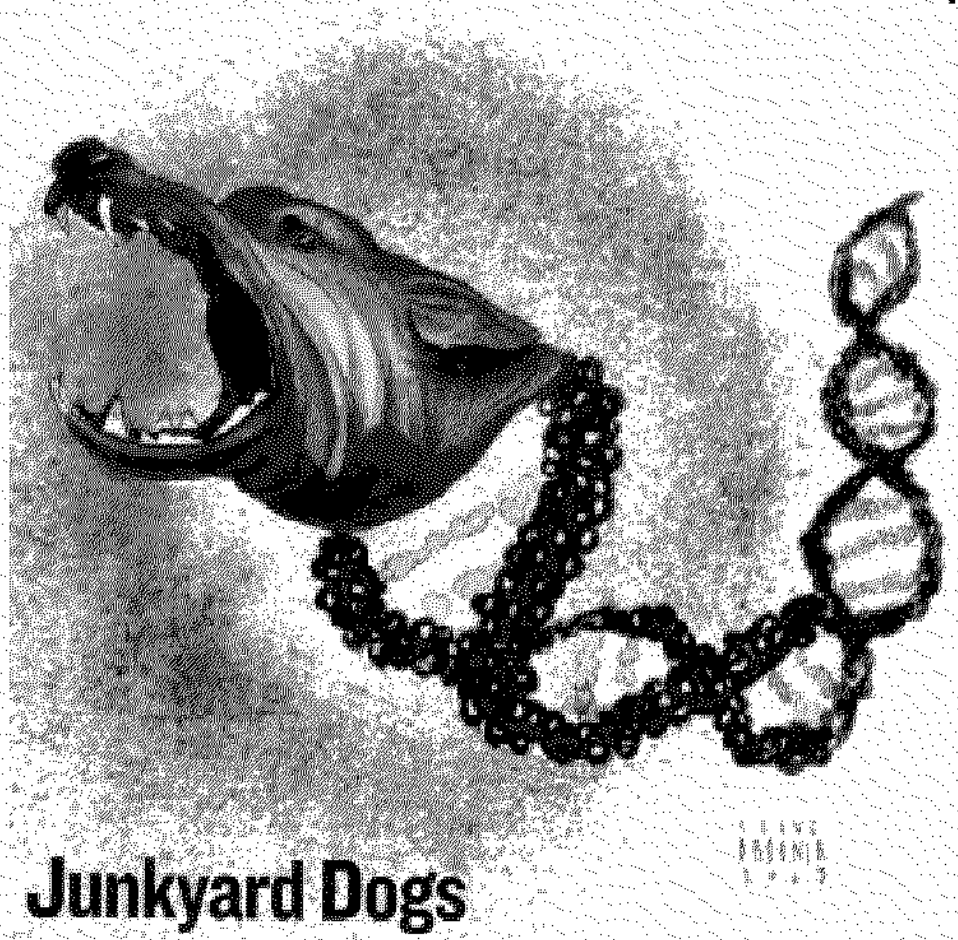
Segment your Market

genetic technologies

- All Companies are not equal
- Small – maybe not worth too much effort initially
- Medium – focussed on their mission, short chain of command and generally good value to work with
- Large – typically confused, unsure who has responsibility and difficult to reach decision makers. Danger of being seen as a threat rather than as an opportunity.

The Price of Success

genetic technologies



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