From the ‘Rhetoric of Hope’ to the ‘Patient-Active Paradigm’ - Strategic Positioning of Pharmaceutical and Biotechnology Companies

Jane Bower
Division of Economics and Enterprise
Glasgow Caledonian University

Summary
Changing public perceptions which have impacted on understandings of health, self, and relatedness to others and to the environment have led to rejection of GM foods. This has had a negative impact on the survival and growth of a number of companies exploiting genetics-based technologies which have addressed agricultural and food markets. Biopharmaceutical companies, in contrast, have managed to avoid demonisation in spite of using the same generic technologies. This implies that products and processes based on new life science-based technologies can be publicly accepted in some contexts but not in others. In this paper overt changes in strategic positioning of a number of relatively successful pharmaceutical and biotechnology companies in relation to patients and the wider public over the last twelve years are analysed and related to their success in gaining public acceptance of technically novel products. The ability of established and of new firms exploiting emerging technologies to position themselves strategically in the future in an arena which is ethically and culturally acceptable to the public and hence to investors is discussed.

Introduction
In the course of the 20th Century the pharmaceutical industry became highly profitable and attractive to investors. This persisted in spite of growing concentration of control of pricing in a few powerful hands. The bills for drugs were increasingly paid by government agencies, insurers and other large organisations which had considerable purchasing power. However, their tendency to curb the profitability of the pharmaceutical companies was held in check, mainly by popular demands for continuing improvements to public health. The pharmaceutical companies were believed to hold the key to delivering much of this. The perception was that - ‘the realization of one of man’s ancient dreams – the conquest of disease through the use of successful drugs’ (Sneader, 1985)

- had substantially taken place, and could eventually be completed provided that the pharmaceutical companies were encouraged to continue to invest in new product development. The conventional view was that healthcare was mainly a linear process in which an individual became ill, consulted a doctor, and was prescribed a regimen including a drug. It was understood that this increasingly resulted in a ‘cure’, the improvement being largely due to the ‘advances of science’ and the expertise of the doctor in deploying them (discussed, Bury, 2001; Webster, 2002; Mulkay, 2003) . However, in the later years of the century infectious diseases became less common, problems of ageing became more important, and a number of other factors began to impinge on public awareness and affect the behaviour of groups of the public. These influenced public perceptions about health, about individuality versus relationships with others and about relationship with the non-human environment. These changing perceptions also coloured popular views of agrochemical and pharmaceutical companies.
Some of the factors which were changing perceptions were the increasing access to information, (particularly after the internet became widely available), failures of science and policymakers to solve major problems such as AIDS and BSE, and a growing mistrust of government and official experts. This mistrust was reinforced by these failures. The high profitability of pharmaceutical companies combined with lack of access to their products for large numbers of poorer people in the USA and the third World also impacted negatively on public perceptions.

Other factors also contributed, of which arguably the most important factor was the ‘Biotechnology Revolution’ which began in the USA in the 1970s and spread to other countries with strong life science establishments. Academic technologies were exploited, initially by academic spinout companies. Arcane areas of scientific knowledge which would otherwise never have excited public interest attracted great attention and triggered attempts at understanding by lay groups. Biotechnology companies and their alliance partners gave rise to products and processes which in some cases, for example GM crops, provoked great public unease and widespread concern. The perception grew that these new technologies threatened to –

‘….unbind many of the values and rules which currently constitute nature, life and social organisation’ (O’Mahony, 1999).

The Biotechnology Revolution

The ‘Biotechnology Revolution’ was built on two major scientific breakthroughs, the invention of monoclonal antibodies (Kohler and Milstein, 1975) and recombinant DNA technology (Cohen et al, 1973). Academic scientists and industry commentators predicted great industrial potential for applications of these technologies in Healthcare, Food and other industries. It was claimed that they could provide an endless flow of superior therapeutics, improved crops, and other benefits. Government in the USA, followed by the UK and elsewhere provided enthusiastic support. US and European governments underwrote most of the cost of sequencing the human and other genomes to facilitate the accumulation of exploitable knowledge. In order to commercialise the business ideas which used these technologies, regulatory and legal frameworks were created and innovative financing approaches were developed (summarised in e.g., Wright, 1998; Gottweis, 1998). In the USA, the UK, and a number of other countries there is now a biotechnology ‘distributed innovation system’ (Coombs and Metcalfe, 2002) which has taken some bioscience discoveries from the laboratory through to effective application and general availability. This system has become integral to the current pharmaceutical and agrochemical innovation process, in which the large established companies frequently play complementary roles to new technology companies. However, it has not been equally successful in these two industries, in spite of drawing on the same powerful technology platforms.

Although the ‘Biotechnology Revolution’ had historical roots, there was –

‘…… something very new about the constellation of forces at play in the 1970s and 1980s’ (Thackray, 1998)

- which affected the trajectories of these two industries in very different ways. In the 1970s and ‘80s the innovation model of the agrochemical industry was evolving in a similar way to that of the pharmaceutical industry. Small biotechnology companies were intermediating in the transfer of academic science into commercial applications marketed by multinationals. However in the mid 1990s active public rejection of GM foods in Europe forced official acknowledgment of the profound and intractable nature of the responses of substantial numbers of public groups (reviewed, Krimsky, 1998; UK Cabinet Office, 2003). This public rejection resulted in loss of investor interest in small new firms in this sector. It reduced investor interest in
large firms, which responded by restructuring and divestment of the offending capabilities (e.g. Syngenta, www.Syngenta.com). It also forced acknowledgment by governments and corporations of widespread public unease with genetics-based technologies and their perceived implications.

The pharmaceutical industry and biotechnology companies targeting the healthcare markets have not (yet) been the subject of such violent public aversion. Biotechnology is producing acceptable products and corporate profits for a number of pharmaceutical and biotechnology companies with fairly strong market capitalisations in the healthcare industry. This indicates that the companies and products are perceived differently from the Ag-bio companies, in spite of using the same technologies. Will future biomedical companies exploiting emerging technologies be able to position themselves and their products equally favourably in the view of the public? There is now considerable coverage in the scientific and trade press of new life science technologies thought to have great medical potential, such as stem cell research and interfering RNAs. These have not yet achieved full public acceptance and understanding as ‘normal medicine’. This will be required to avoid cultural barriers to adoption which drive excessive regulation (Mulkay, 1993), which in turn inhibits private investment.

In this paper the changing context of the late 20th Century and the response through strategic positioning of successful pharmaceutical and large biotechnology companies in the last decade is examined. The discussion analyses the way these firms have presented themselves in relation to stakeholder groups and how this may have deflected public concerns. In the conclusion, strategic positioning issues in the future for companies planning to exploit emerging biomedical technologies is considered. This paper does not discuss or take a view on predictions about the extent to which novel life-science technologies and particularly genetics-based technologies will in fact improve healthcare and the quality of life. It stands aside from discussions about the claims made for these technologies. It seeks to uncover how successful companies have positioned themselves in the light of current understandings of health enhancement and the roles of different parties in its delivery.

Background

The biomedical innovation system

Although academic science always had close links with pharmaceutical innovation, pharmaceutical companies had until recently a high degree of vertically integrated discovery, development, manufacturing and marketing capability. The Biotechnology Revolution has resulted in a ‘distributed innovation system’ in which it has become the norm for academic scientists, small technology spinouts, a variety of other specialist contract research organisations and pharmaceutical companies to collaborate closely in bringing new therapeutic products to market (Coombs and Metcalfe, 2002).

The roles and relationships of firms in this distributed pharmaceutical system have continuously evolved. A few of the early biotechnology companies have become independently successful pharmaceutical companies (most notably US-based Amgen, Biogen, Genentech, Chiron, and Genzyme). Others have been acquired, and many have disappeared. Pharmaceutical companies, initially sceptical, were progressively converted to the view that they had to access these new technologies (Whittaker and Bower, 1994). At the time that the first biotechnology companies were advertising their technical expertise and their attractive new product ideas, the traditional pharmaceutical companies were struggling to find candidate products for their R&D pipelines. Through joint ventures, acquisitions, and outsourcing, they progressively gained access to the new techniques.
In 2003, the industry which delivers new drugs includes large pharmaceutical companies with a variety of traditional and novel technical capabilities, biotechnology companies with biotechnology products which have grown into substantial, successful pharmaceutical companies, contract research and manufacturing organisations which supply outsourced capabilities, and many smaller niche companies offering technically novel drug discovery services or developing candidate therapeutics. New firms are continuing to emerge some of which have novel technical capabilities, such as stem cell technologies (e.g. Geron Corp of the USA and Stem Cell Sciences formerly of Australia, now headquartered in the UK).

The perceived hazards of biotechnology

The perceived hazards which are currently impeding public acceptance of agrochemical applications arise from complex changes in the understandings by public groups of what may be threatening or dangerous (see below) and they have the potential to block medical applications of these and related technologies as well. This was not fully registered by policymakers until very recently. Although there was from the earliest stages an official recognition that a number of new hazards might arise from handling or patient exposure to the processes and products of biotechnology, this was initially addressed as a conventional Health and Safety issue which the technical experts and the regulators would deal with. Public concerns were voiced in the mid-1970s but were effectively dispelled for the time being (Wright, 1998). During the two decades which followed, as new companies were formed and increasing commitment to product developments was made there was little appreciation in the UK and the USA by the political, scientific and industrial establishments that a wider public might not trust the experts to decide how to deal with this, or that there might even be ethical issues which were beyond the competence of technical experts to address.

It is not clear why the UK and US Governments failed to appreciate the scale and nature of the problem at an earlier stage. This was a period during which popular trust in expertise and expert knowledge was decreasing (Barnes, 1999) and awareness of the relativity and uncertainty of knowledge was focusing public concerns, with the emergence of the 'risk society' (Beck et al, 1994; Lupton, 1999). In 1993 the UK House of Lords Select Committee on Science and Technology published evidence collected from many knowledgeable and interested sources on the Regulation of the UK Biotechnology Industry and Global Competitiveness (HoL, 1993). Its questionnaire include a question - the second last on the list of twelve - 'How best can issues of public acceptance be addressed?' Most contributions recognised that this was a problem but it was mainly seen as an issue about 'safety', and the remedy in most cases was seen to be 'educating the public'. A minority of submissions emphasised that wider issues were involved. The Agricultural and Food Research Council stated that public acceptance would be a key, and perhaps limiting, factor, with ethical concerns identified as one of the issues. There was also a substantial submission to the Select Committee (Tait, 1993, p187-196) on behalf of the ESRC based on three major research projects carried out between 1988 and 1993. This identified the scale of public fears and emphasised the importance of public acceptance. The research had found that highly knowledgeable groups, as well as the least knowledgeable, were among those most strongly opposed. It concluded that some applications might prove to be far more controversial than commonly supposed. It also pointed out that attitudes, once formed, would be difficult to change.

Little attention was paid at the time to the reports in this 1993 document which signalled that wider ethical and other 'value-related' issues in biotechnology were causing widespread public unease. Since that date widespread popular distrust manifested in ways which have strong political impact (including on some occasions
violent demonstrations) has forced general recognition of the scale and nature of the issues (UK Cabinet Office, 2003).

The role of rhetoric

Foucault (1980) has demonstrated that language has great power to incorporate and direct the understanding of a subject and the set of rules by which it should be governed. Hence when a new science-based technology emerges, the location and the rhetoric of the discussions which precede its exploitation play a key role in determining how and within what limits its development will be progressed, and consequently the agents who will have power over this progression. In the case of these novel biotechnologies difficulties have been experienced by lay groups in understanding the new technologies in a meaningful way which relates them to familiar contexts and values. They challenge traditional definitions of ‘life’ and ‘self’ and ‘food’. Before any discussion can take place, they have to be located in a discourse which is meaningful to the discussants.

This was clearly demonstrated by Mulkay (1993; 1996) in his analysis of the UK parliamentary debates on embryo research, which mapped out the rhetorical positioning of embryo research and in vitro fertilisation in a publicly acceptable and virtuous arena. He identified two contrasting views: the ‘rhetoric of hope’ is characterised by an optimistic view of science as progressive and offering future benefits to health and society. The ‘rhetoric of fear’, on the other hand, is a pessimistic view of science in which ‘mad scientists’ are ‘out of control’, morality is declining and social disintegration threatens. Discussing the contested pro- and anti-research positions which characterised the debates he argued that the ‘rhetoric of hope’ and the ‘rhetoric of fear’ are alternative sets of interrelated background assumptions and are typical assertions which are evident in an individual discourse about the relationship between science and society.

The discussion of GM foods has been dominated by the ‘rhetoric of fear’ which has demonised the technology, the products and the companies. The tone of some of the rhetoric which has been used by activist groups and subsequently adopted by the media has shaped the trajectory of the ensuing discussion – ‘Frankenfoods’ and related rhetoric located the discussion about GM foods in a disturbing, unacceptable context. This was established before scientists, Western governments and companies recognised the need to engage in the process of shaping this new discourse. The implication is that if companies, policymakers and other interested parties do not engage skilfully in shaping the discourse from the earliest stages, they risk losing the debate to those who do.

Nor is it enough to locate the new technology in the healthcare arena. The debate could have been lost in the case of embryo research. Indeed considerable efforts were required to win over many doubtful parties. Mulkay’s (1993; 1996) analysis of the parliamentary embryo research debates underlines that these highly controversial and value-laden issues were recognised and effectively addressed by the UK Government in another area of biomedical research, during the same period that they failed to perceive that GM foods might pose similar problems. The Human Fertilisation and Embryology Act (1990) which is administered by the Human Fertilisation and Embryology Authority (HFEA) was passed after considerable debate. It addressed the ethical issues and provided a regulatory process designed to minimise ethical concerns and provide a route for medical research and treatment which would be generally acceptable. As Mulkay (1993; 1996) demonstrates, the debates which culminated in the Act positioned embryo research and in vitro fertilisation firmly within the ‘rhetoric of hope’. It created a favourable and acceptable discourse around the new capability which positioned it as beneficial and health-improving. Although the UK Department of Health’s report on Stem Cell Research
(2000) acknowledges that there is still a significant body of opinion which regards the HFE Act as unethical, it was reached through a process which appears to have achieved substantial public acceptance for the framework it provided, according to the UK Parliament’s Select Committee on science and technology (2002).

Mulkay’s (1996) account notes the many strong champions who supported embryo research, including many ‘ordinary people’ who sought the promised benefits. This may indicate another critical difference from GM foods, which had no obvious champions among public groups in Europe. The promised benefits had little relevance for wealthy, well fed populations who were prepared to pay premiums for organic foods and other ‘natural’ foods. Medical applications of biotechnology, on the other hand, promised specific and substantial benefits to the public of the industrialised world.

**The changing medical model**

From the earliest days there were predictions of major improvements to health through the application of biotechnology. Thus far only a small proportion of these predictions have been realised. There are still considerable expectations, although these are not universally shared. The UK Secretary of State in 2001 announced measures to bring the genetics revolution into everyday medical practice –

‘Developments in genetics….should increasingly allow us to predict and prevent the common diseases of life’.

However, a leader article in the British Medical Journal underlined the intrinsic absurdity of these claims –

‘The unfortunate implication is that we will all be left to die of rare diseases unless the ‘NHS of the future’ eradicates death’ (BMJ, 2001).

In spite of the scepticism evinced in this ironic comment, and considerable disagreement among scientific and other experts as to how much genetic knowledge can realistically be expected to contribute to improved healthcare delivery in the future (see, eg, Jones, 2001), the new knowledge of genetics, the successful sequencing of the human genome and the predictions made by many scientists have contributed to changes in the understanding of how healthcare can and will be delivered. The growing sophistication of currently available genetic and imaging diagnostic technologies are progressively pushing back the detection of ‘disease’ to earlier stages (Prior, 2001). This is creating patients without symptoms, the ‘worried well’ (Webster, 2003).

At the same time, there have been changes in the public health discourse. There is now a strong emphasis on personal responsibility for one’s own health. In Peterson & Lupton’s words (1996) –

‘This draws on the notion of the body as an unfinished project; something to be worked on and improved throughout the lifespan, with death as the ultimate failure of self control and rationality.’

The new medical model brings together this theme with the promised future advances from genetics technologies. This is changing the publicly perceived medical model of ‘treatment and cure’ of an evident disease to the model of ‘management and care’, which slows and mitigates the progression of inherent tendencies (Bury, 2001).

**Methodology**

In the previous sections the question has been raised of how biopharmaceutical companies, i.e. large pharmaceutical companies and biotechnology companies which have sought to develop therapeutics using genetics-based product and process
technologies, have avoided the demonisation of themselves and their products which has afflicted companies developing GM foods. It is argued above that the demonisation of GM foods and associated organisations occurred because stakeholders failed to engage early enough in the debate to position them rhetorically in a virtuous and publicly acceptable arena. If this hypothesis is correct, it follows that, by contrast, biopharmaceutical companies have positioned themselves favourably. In order to investigate how they have positioned themselves, the texts of the Annual Reports of a sample of biopharmaceutical companies during the period 1990-2002 were analysed. The organisational narrative of each the companies, as presented in the Reports, was explored as it evolved over this period, to elucidate how and where it had positioned itself in relation to patients, scientists, physicians etc. The telling of stories is a universal device which integrates the subject into a position in the social context, gives it identity and meaning (Bury, 2001). The aspects of the narratives which are presented and discussed here relate to the medical models implied in the texts – the relative roles of patient, physician, and pharmaceutical company and the processes which connect them. Other subjects which were covered in the Annual Report, e.g. financial, regulatory etc, which are formally required to be included, are not included in the analysis. However some information about revenues and profitability is included in the data presented here to indicate the size and status of the organisation.

Subsequently the texts were analysed to reveal common discursive features (Mulkay, 1993), interpretative repertoires or rhetorics which enabled companies to depict themselves in a strongly favourable light.

**Significance of annual reports**

The Annual Reports of publicly listed corporations – companies and groups – are publicly available documents. They are closely scrutinised by many interested parties, including the media. As such, they are addressed not only to the regulatory bodies which lay down the minimum information requirements to be met by them, but also to other interested parties which might be expected to read them. They must be approved by top management and the Board. For these reasons, their form and content are informative about the external and internal groups which the corporation expects to read the document and its perception of their role and relative importance in assisting/impeding the corporation’s pursuit of its objectives. The narrative in these public communications can be analysed over periods of years. Taylor (1989) stated ‘we understand ourselves inescapably in narrative’. However, it cannot be concluded that the organisational narrative as presented in the Annual Report is revealing in quite the same sense as individual narrative. It is a carefully calculated revelation of the story which top management wishes to present. By implication however it does throw light on top management’s changing understanding of its relationships with the external forces impacting on the firm and how it believes they can be influenced.

**Companies selected for the study**

The companies/groups included in the study have undergone significant changes in structure and size, due to organic growth, acquisition, divestment etc. during the period covered by the analysis. They are (in 2003):

**Pharmaceutical companies**
- Glaxo Smith Kline plc (UK), Merck & Co, Inc (USA), Eli Lilly & Company (USA),

**Biotechnology companies**
- Genzyme General Corp (USA), Genentech Inc (USA)

The companies selected are several of the largest (by revenues and profits), growing, publicly listed Pharmaceutical and Biotechnology companies (targeting
healthcare markets) between the years 1990 and 2002. The pharmaceutical companies are much larger than the relatively young biotechnology companies. The biotechnology companies are more strongly associated with genetics-based technologies since their creation was based around them, but all companies in the study publicly associate themselves with the use of genetics-based and other biotechnologies. Among them they have products and product pipelines addressing a diverse range of pathologies.

**Analytic framework**

The individual narratives were analysed drawing on the framework which Bury (2001) has proposed for analysing illness narratives. Three narrative types of narrative form were explored:

1. 'contingent narratives' which address beliefs about the origins of the disease and the proximate causes of an illness episode.
2. 'moral narratives' which provide accounts of the relationship between the individual and the disease.
3. 'core narratives' which relate the individual’s experience and deeper cultural meanings attached to illness.

Within the narratives in each Annual Report common discursive features are identified. Some of these position the narrative in relation to 'the rhetoric of hope', described by Mulkay (1993). Others indicate the incorporation of new rhetorics. These are compared between periods for the same company and also between companies.

**The period covered by the study**

The period covered is 1990-2002. By 1990, a small number of therapeutic products derived using the techniques of genetic manipulation, whose development had been primarily driven by several new companies, had been approved and were on the market. At this date, then, there was objective evidence that the Biotechnology innovation system could deliver acceptable products with healthcare benefits, overcoming technical, regulatory and other hurdles. Hence it is selected as a significant date from the perspective of many stakeholder groups – government, financial investors, industry, users (patients). During the period 1990-2002 public reaction against GM foods emerged as a major political issue which is still unresolved, and remains as a barrier to investment in associated companies. Consequently it follows that in this period the technologies of the biopharmaceutical companies have been differently understood by the public from those of the agro-biotechnology companies.

**Results**

In this section the narratives of several reports from 1990-2002 are briefly summarised. Changes in the story over time are identified and cross-comparisons between companies are made.

**Genentech Inc**

Genentech was founded in 1977 and has been widely regarded as the ‘flagship’ biotechnology company, its progress watched closely and emulated by many other companies (Bower, 2002).

1990

Genentech in 1990 had products approved, including Protropin (human growth hormone) and a 350 person sales force which concentrated on calling on hospital specialists. It also sponsored educational programmes in cooperation with the
charity, Human Growth Foundation. Its 1990 Annual Report (revenues $476m; loss $98m) describes it as -

‘a biotechnology company which discovers, develops, manufactures and markets human pharmaceuticals for significant medical needs……science is our greatest strength and our most important asset.’

The 1990 Report has five times as many pictures of scientists as of patients. The implication of images and text are that scientists are the providers of the benefits, smiling patients are then the passive recipients, a unidirectional flow.

1993

Genentech in its 1993 Annual Report (revenues.$650m; profit before tax $60m), which had equal numbers of pictures of scientists and patients, added an important dimension to its moral narrative:

‘Genentech discovers, develops, manufactures and markets human pharmaceuticals for significant medical needs. The company makes all of its current marketed products available free to needy, uninsured patients in the USA’

Under the heading of corporate responsibility it provided more than $23m free pharmaceuticals through the Uninsured Patients Programs in the USA and established three Genentech Foundations for genetic diseases and science education. Patients are still portrayed as beneficiaries of science, but education programmes imply that the company perceives that patients educated about genetics will play a role which uneducated patients presumably do not. What is this role – active support of new product development, contribution of personal data, active demand for products? Whichever it is, it implies a new role which changes the contingent narrative – the origins of disease are now something to do with the patient’s genetics, which are an individual characteristic which has been determined and owned by the individual since conception.

1995

In its 1995 Annual Report, which had more pictures of patients than of scientists, the restriction to US patients has been dropped and it is:

‘using genetic information to discover …….We make our products available to all patients who need them, regardless of ability to pay’

Now the moral narrative acknowledges a global responsibility from the company to patients.

2002

There are lots of pictures of smiling patients in the 2002 Annual Report (revenues $2.7bn; profit before tax $484m). Genentech pursues excellent science to develop therapeutics for unmet medical needs.

*Trends in the Genentech narrative*

Although there are references to its excellent science and outstanding technical capabilities in all these Reports, the message about the company’s obligation to help patients comes through increasingly from 1993. Although Science helps patients, the images of scientists are progressively subordinated to those of patients. Patients are becoming knowledgeable about their genetics and becoming proactive.

**Genzyme Corp**

Genzyme Corp (Cambridge MA, founded 1981), another biotechnology company which has become a substantial pharmaceutical company, had its first major manufacturing facilities in the UK and was marketing throughout Europe by 1995. It
focused its strategy on therapeutics for niche markets, including genetic disorders such as Gaucher’s disease and Cystic Fibrosis, thus taking advantage of US Orphan Drug legislation which provides protection from competition in small markets.

1990

In its 1990 Annual Report (revenues $55m; loss $27m) it was expecting approval of its first biotherapeutic product. It noted that it had established -

‘…to support patients…. Reimbursement and clinical services teams that have designed an aggressive patient assistance program….on an individual basis… toll-free telephone line and a free care service to uninsurable patients.’

1992

In its 1992 Annual Report (revenues £219m; loss $30m) with one biotherapeutic product approved it reiterates this theme;

‘Genzyme’s pioneering efforts to provide genetic counselling, reimbursement assistance and patient advocacy….support groups for patients…..establishment of working relationships with physicians to focus on ways of lowering longterm treatment costs.’

‘We supply at no cost to patients who cannot pay for the drug themselves’

It implies that Genzyme, physicians and patients are active partners in managing improvements in patient health.

1995

In the 1995 Annual Report (revenues $384m; net income $22m) Genzyme steps back slightly. It defines customers as physicians and care organisations. It had now acquired a genetics testing business, and through this was providing counselling services, but for ‘customers and their patients’. The relationship with patients was now indirect, although the patient was proactive. Physicians are acknowledged as intermediators. They have direct links with both Genzyme and patients. It notes that Genzyme helps set ethical standards for the industry in the public debate about the uses of genetic information. Through its testing business it was becoming active in providing pre-symptomatic data for individuals who could then be diagnosed ‘at risk’ of, for example, heart disease. It is now clearly articulated that individuals are potential patients from conception, doomed by their genetics, but that the health status of asymptomatic individuals can be managed with the help of the physician and Genzyme to avoid episodes of illness or the onset of chronic disease.

2002

In 2002 Genzyme (revenues $1bn; profit before tax $207m) reiterates the messages of earlier reports and describes Genzyme as:

‘driven by a commitment to patients’

- implying patients as master, company as servant.

Trends in Genzyme

From 1990, before it had an approved product, through 2002, Genzyme consistently in its rhetoric allied itself closely with patients and physicians. This was an alliance to develop, then to treat, and also an alliance to influence payers. Here the customer groups – physicians and patients – are given very active roles in the innovation and adoption process. Payers are not directly addressed – they are depicted as important parties but outside the circle of communication as described in the Annual Report. Genzyme implies that its customers’ direct efforts rather than its own are the main instrument of influence on payers.
**Merck & Co**

Merck was established in 1891. During the period covered by the study it was one of the largest and most profitable drug companies in the world.

1990

Merck’s mission statement, in its centennial year Annual Report in 1990 (revenues $7.6bn; profit before tax $2.7bn) was:

‘to improve the health of people….

… and from this benefits flowed back to the company in the form of profits.’

Its focus was on communicating with payers (healthcare management organisations) rather than patients, although it notes its donation of Mectizan, a drug for river blindness, to indigent third world patients.

1991

In 1991 (revenues $8.6bn; profit before tax $3.2bn):

‘our belief that all people should have access to the best medicines and healthcare that modern science can deliver’.

‘bringing valuable products to society’

The programme donating Mectizan for river blindness (onchocerciasis) is described in more detail along with several other programmes assuring access to healthcare for the poor.

1994

Merck, under a new chairman, Ray Gilmartin, in its 1994 Annual Report (revenues $15bn; profit before tax $4.4bn) emphasises its close attention to ‘payers’ worldwide, such as government agencies, health insurers etc. It focuses strongly on sales and revenue growth. While it discusses its voluntary commitment from 1990 to constrain price increases, it explains this as a strategic response to a policy climate in which cost control was becoming important and the company’s growth would have to be through volume not price.

1995

In 1995: under ‘Corporate Responsibility’ Merck lists donations of drugs and vaccines, and a grant to a Russian foundation for child healthcare.

More directly related to its product offerings, a number of disease-awareness programmes for patients are described, which have resulted in increased sales in some cases, patient/physician communication programmes and direct advertising campaigns.

2002

The Mission statement in the 2002 Annual Report (revenues $52bn; net income $7.1bn) notes:

‘Our business is preserving and improving human life. We are committed to the highest standards of ethics and integrity. We expect profits, but only from work that satisfies customer needs and benefits humanity’

**Trends in Merck**

In 1990 Merck’s rhetoric is the ‘rhetoric of hope’ that through science Merck produced products which cure patients. Patients are not depicted as active parties at this stage. Payers are directly addressed. By 1995 this is changing as the importance of active patients who are ‘disease-aware’ is acknowledged, and direct advertising is
communicating with the wider public. However, they are not at any time perceived as partners in the innovation process. The picture is a linear process of science providing products from which patients receive future benefits.

There is attention throughout to presenting Merck as an ethical and socially responsible organisation which gives generously. There is no ambiguity about its products – they are presented as offering unqualified benefits.

**Glaxo, now GSK plc**

Glaxo, one of the largest and most profitable pharmaceutical companies in the world during the period of study, undertook two major acquisitions and name changes during the period covered by the study. Its main products were in chronic care.

1990

Glaxo in its 1990 Annual Report (revenues £2.8bn; profit before tax £1.1bn) claims:

‘Glaxo’s corporate purpose is discovery, development, manufacture and marketing of safe effective medicines of the highest quality’

The focus in the Chairman’s statement was on growth, with concern for patent protection, and a commitment to non-animal testing techniques. At the end of the review it mentions that Glaxo gave $425,000 worth of pharmaceutical products to alleviate third world suffering, and £275,000 to train African students in wildlife management.

1992

In its 1992 Annual Report (turn over £4bn; profit before tax £1.4bn) charitable support for people has risen up the agenda at Glaxo. It is mentioned in the Chairman’s statement:

‘This year our expenditure worldwide on such support programmes (providing medicines) was £18m, an increase of 29% over last year.’

1995

In 1995, now as GlaxoWellcome (turn over £6.5bn; profit before tax £2.3bn), the mission statement has changed somewhat:

‘GlaxoWellcome is a research-based company whose people are committed to fighting disease by bringing innovative medicines and services to patients throughout the world’

It strategy now includes - ‘focus on the needs of patients’

In the Directors’ report it notes that:

‘patients are becoming more knowledgeable and demanding ... patient activist groups are becoming more organised and vocal’

‘GlaxoWellcome makes an important contribution to health in developing countries...’

Managed care is noted as a growing area and universities and biotechnology companies are cited as a prime source of new candidate drugs and technologies.

2002

In 2002 GlaxoSmithKline (revenues £21bn; profit before tax £5.5bn) stated its mission:

‘Our global quest is to improve the quality of human life by enabling people to do more, feel better and live longer.’
The Chairman’s statement noted that in 2002 it was for the second time producing a full report of corporate and social responsibility...ethical, social and environmental concerns in our business decisions.’

*Trends in Glaxo*

In 1990 Glaxo follows the ‘rhetoric of hope’ – its scientifically generated products confer benefits on passive patients. By 1995 it has recognised that patients are active parties who influence the success of its products. Managed care is mentioned briefly as a growth area. By 2002 it has felt the need to make a substantial commitment to demonstrating and communicating its corporate responsibility and ethical concern.

**Eli Lilly and Company**

Lilly was founded in 1885. It was one of the first large pharmaceutical companies to recognise the importance of biotechnology and to enter into alliances with biotechnology companies. Genetically-engineered therapeutics were already its main products in 1990. Its business was from the start of the period covered by the study mainly in chronic care.

1990

Lilly’s 1990 mission (revenues $5.1bn; net income. $1.1bn) puts, on the first page, its dedication to ethics in all phases of its operations. In its vignette of a diabetic patient it includes the question ‘how can you take care of other people if you don’t take care of yourself?’ The active role of the patient in illness management is presented several times in this report. This might be attributed to the dominance of chronic care products in its portfolio. However, Glaxo’s sales at the same date were mostly drugs for chronic care conditions – ulcers and asthma – although it did not share this focus on patient responsibility at this date.

Lilly’s scientists are mentioned several times but they do not have a high profile.

1995

The first page features a case study of a diabetic girl, describing how she has learnt to monitor and manage her lifelong condition, and is able to lead a an active, apparently normal life. In the chairman’s report it is noted that Lilly was rated the top disease management company by US health maintenance organisations (HMOs). The report designates its customers as HMOs, hospitals and employers (who pay health insurance for employees). It has a long section on the importance of information technologies. Lilly’s scientists are not mentioned although ‘scientific progress’ is mentioned once in a later section. Alliances with biotechnology companies are cited as a source of genomics expertise.

2002

‘It’s our passion – achieving medical advances for patients who urgently need answers’

This is similar to Genzyme’s mission statement at this date.

**Discussion**

At the beginning of the period the five companies position themselves into two distinct spaces. Over the period of the study, however, their positions progressively converge.

Lilly and Genzyme from the beginning are in partnership with responsible, proactive patients and their physicians. The companies are portrayed as committed to serving patient needs. They maintain this theme of the ‘patient-active paradigm’ throughout the period. Although their science is excellent it is not driving the agenda.
By contrast in 1990 Genentech, Merck and Glaxo share a view of patients as grateful recipients of benefits provided by the companies. It is the companies which identify the needs, and their outstanding science which actively generates solutions. However, to varying degrees they converge over time towards the view of Lilly and Genzyme of the patient as active, informed, and having some responsibility for his/her own health. They are clear proponents of the ‘rhetoric of hope’ in which science will provide future benefits for passive patients. In the period between 1990 and 2002 all three become more aware of public groups as powerful players, and of patients as active and powerful customers. Patients are educated and expected to make decisions about the demands they consequently make. Where previously the patient felt sick, consulted the physician and accepted prescription of the drug provided by a remote pharmaceutical company which was actively producing more and better drugs, now the ‘patient-active paradigm’ is entering the story. By 2002 it is a significant component of all five narratives.

All five companies present themselves strongly as good citizens, law-abiding and charitable givers. From the start, Lilly and Genzyme focus this around their actual business activity and their target patient groups. It is presented as part of the bond which ties them to their patients demonstrating their total subservience to patient need. The other three companies initially present a number of ‘good citizen’ projects which do not link them specifically with their target patient groups. Over the period they steadily converge an increasing proportion of their ‘moral’ projects around their products and service offerings. Accompanying this, concern for poor patients who cannot pay for medicine, increasingly as a global responsibility, becomes a prominent theme.

Although it cannot be said that any of these companies at any time suggest that the promise of continuing benefits flowing from science has been withdrawn, their narratives are no longer dominated by the ‘rhetoric of hope’. There are now other powerful parties apart from ‘Science’ and there are acknowledgments of ethical issues.

The emerging rhetoric which now partners the ‘rhetoric of hope’ is characterised here as the ‘patient-active paradigm’, in which the patient takes on an active role. This patient is not only more powerful, s/he also bears some responsibility for his/her health. A feature of this model is its acceptance that the patient today is on a medical continuum from conception, in which health is constantly determined by a composite of genetic and environmental factors. Although there may not be any observable symptoms of illness, the individual is expected to act to optimise his/her health in the longterm. The implicit assumption is that with complete knowledge of the genetics and environmental experience of the individual, a perfect healthcare regime can be devised. The power and importance of information technology is mentioned in some of the reports - the threat of the ‘risk society’ is countered by the promise of complete information and the possibilities of control which this offers.

This introduces the twin themes of control through knowledge and through the power of the patient to control his/her behaviour. The ‘rhetoric of fear’ is banished through these powers to control. There is no threat of mad scientists taking over – the patient has taken control and is directing the innovation process. Supporting and ensuring the safety of this decision making is the physician, who is trusted to understand the technology and the ethical issues (Barnes, 1999).

By 2002 these similar themes are emerging as discursive regularities across the five companies.
**The public-as-patient**

The shared discourse which emerges can be explored in terms of the narrative types which form Bury's (2001) analytical framework. The contingent narrative (concerning the origin of disease) is that the origins lie as much in the genome of the individual as in the external environment. The proximate causes of illness episodes in this narrative are not so much uncontrollable external factors such as infection, as the failure of the individual to responsibly diagnose, monitor and manage his/her lifestyle.

The moral narrative of the Annual Report now interdigitates with the contingent narrative. The individual now has a moral responsibility to keep disease at bay through positive actions. The moral narrative also involves the company. The company is a centre of technical expertise, but it is also in a position of trust to maintain moral values. Its scientific activity must be controlled and directed in accordance with accepted moral values. All the companies present themselves as ‘good citizens’, which underlines their trustworthiness. Lilly and Genzyme focus this moral activity around their patients. All the companies progressively converge on this position and intensify their focus on this commitment. Genentech in 1993 is assuring all US patients that they will have access to the therapeutics they require regardless of ability to pay. By 1995 it has extended this promise to the whole world.

In the later period of the study the moral narrative presented by all the companies in the sample has firmly positioned them in a virtuous arena. They have all integrated their technical excellence with a moral oversight of all their activities, especially in their relation to patients.

The core narrative, relating the activities to deeper cultural meanings, runs through both the other strands – the new medical model in which the individual has ceased to be the passive recipient of infections and treatments, who has become the active manager of his/her own fate. However, alongside this apparent elevation of the importance of the individual and the power to choose, are the shadowy links to parents, children and the wider community – all related by these genes. The narrative does not yet address the conflicting communal responsibilities these imply and the problems they raise of insurance, reproductive choices, etc. These issues still lie just beyond its present scope.

However the patient has now become the public at large. Under the new genetics-based paradigm, the individual is always imperfect, and requires health management. His/her condition just does not appear overtly pathological at first. Although some genes may be judged to be better than others, there is no promise yet of immortality hence all are imperfect. The individual has the responsibility to test, monitor, manage his/her lifestyle and when appropriate take ameliorating drugs. From the corporate viewpoint the public-as-patient is an attractive expansion of the market. Chronic diseases are already the source of greater pharmaceutical profits. If everyone is understood to be suffering from a degree of chronic ill health, the market becomes the whole population. From the corporate perspective, healthcare which cures is less attractive than healthcare which diagnoses and manages, generating steady long term revenues. In addition, the patient as champion becomes the public as champion, which is a desirable extension from the corporate point of view. The role of the biopharmaceutical company in this narrative is to respond to the demands of the public to provide more and better tools.

**Technical expertise versus moral authority**

The role of the physician – who is uniquely trusted to intermediate at the boundary between technical and moral questions (Barry, 1999) – is to support the patient’s
decisions. However, the power of medicine has been diminished overall in these narratives as they develop over time, at the expense of the increasing power of the patient/public. Most striking is the surrender of apparent power of the company, which has moved from the role of the powerful agent of science to a role subservient to patient needs.

This shift in the power relationships is a prominent aspect of the discourse about biopharmaceuticals, and one of the critical features which distinguish it from the GM foods discourse. While the biopharmaceutical company retains some responsibility, it shifts a substantial burden of responsibility on to the patient/public. In addition, the patient/public is presented as the dominant power driving the development and use of the products of the new technologies. The physician as trusted adviser, expert in both science and ethics, is central to the shift. This allows the patient/public to be comfortable with the power thus transferred. In the case of GM foods and Ag-bio technology and companies, there is no obvious agent trusted to arbitrate where the amoral potential of new technology raises confusing questions of ethics and values. This may have been a significant factor in the differing public reactions to different biotechnology applications. There is no obvious intermediating group with both technical and moral authority. Nor is there any attempt to transfer power and responsibility from scientific experts to the public.

Across the biopharmaceutical companies, science remains important, but it is progressively downplayed. In the case of the large pharmaceutical companies, the increasing mentions of alliances with biotechnology companies could be construed as a distancing of the large company from the scientists, with an increase in the power to control and terminate. In these cases the company may also take on something of the mantle of intermediary and responsible controller rather than instigator of the science. However the excellence of their science is too important to all of the companies for them to be able to distance themselves significantly from it.

**Strategic positioning**

Biotechnology companies must attract substantial external finance from an early stage. Key factors in attracting finance are investors’ perception that they are (a) developing products which can be brought to market; (b) will eventually find substantial markets throughout the industrialised world. Products and processes which are threatened by public distrust and/or the threat of inhibiting regulation or legislation lose attractiveness rapidly. When GM food became a cause of major public hostility amid calls to ban or to regulate more extensively, investor interest in this area collapsed and associated companies large and small suffered dramatic falls in share prices or were unable to raise funds. When there is not a complete and accepted regulatory path to the market it is impossible to assess the costs of compliance and delays. The more complete and acceptable the path, the easier it is to assess financial risk.

With the emergence of new technologies from research on stem cells, interfering RNAs and others yet to be invented, positioning startup companies in a favourable arena with an accepted regulatory path is of great importance. Stem cell research has already been positioned within an acceptable arena and an understanding has been established. Drawing on Mulkay’s (1997) concept of ‘discursive regularities’, Parry (2003) has analysed the Parliamentary debates about stem cells, cloning and embryos. She demonstrates how they established a rhetorical discourse which ‘normalised’ stem cell research in the sense identified by Foucault (1980). They positioned it firmly in the context of an amendment to the 1990 HFE Act which regulates a relatively normalised practice. Hence stem cell research has been placed within an existing and widely accepted framework of ideas, values and practices relating to health, illness and therapeutic progress.
This debate has thus established a discursive practice which has led to the formal assignment of critical powers over the commercialisation of stem cell research to the HFEA and the agencies which play roles in its approvals processes. However, the onus is still on those who seek to commercialise it to create and maintain public trust in their ability to contain the technology within acceptable limits.

The processes by which strategic industrial arenas are created and coloured by cultural and emotional associations are complex. There has been widespread discussion about the extent to which genetic manipulation and other new technologies have created truly novel possibilities compared with natural processes and older plant and animal breeding technologies. What cannot be disputed is that much of the public in Europe and the USA perceive them to be novel, and to varying degrees are alarmed by this. While sociologists, ethicists and others contest this terrain, it is unlikely that company founders will be able to fully understand and predict how public opinion will evolve. However, this study indicates how companies themselves play an active role in placing their activities and their organisation in relation to others and in relation to acceptable and unacceptable processes.

_The ‘patient-active paradigm’_

The concept of the biopharmaceutical distributed innovation system (Coombs and Metcalfe, 2002) is significant here. In the customer-active paradigm of von Hippel (1978) customers feed their knowledge and specifications actively into innovation processes, to produce products which meet their needs and fit their systemic requirements. In this model customers are part of the innovation system. Bower (1996) in a study of a number of inherited diseases has argued that von Hippel’s model fits very well in these cases and that patients and their families played an important role in directing innovation. The converging view of the Annual Reports is that customers/patients/the public are regarded as part of the distributed innovation system and seen to be active in ways which impact on the innovation process.

_Emerging technologies_

For emerging technologies, such as stem cell research, there are implications for the strategic positioning of startup or other companies which wish to commercialise them. The Public wish to feel convinced that scientists are controlled and development and treatment procedures are regulated appropriately. Patient groups and their advocates are powerful champions who are essential allies in public debates about what is to be permitted and how it is to be regulated. Scientists and companies which are seen to be working closely with patients and subservient to their needs are viewed favourably by patient groups.

Obviously, the bigger the patient groups who act as champions the better. Ideally, they include the whole population. With the new medical model which identifies everyone genetically and then expects them to manage their susceptibilities, everyone is a patient. There are no perfect genes, it is just that some are believed to be associated with greater susceptibility to heart disease, cancer or whatever. No matter which alleles you possess, one day they will let you down and you will die. Consequently, for a company which wishes the maximum support from the Public it is advisable to adopt some version of the new medical model and the ‘patient-active paradigm’. This should position them in a virtuous arena in which more conventional business issues can be pursued.
References


J. Bower


