

## **Medical Dominance in the Australian Health System: The Case of the Bionic Ear.**

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The cochlear implant or bionic ear, is a small device that can be implanted under the skin and within the cochlear, and has been developed to assist profoundly deaf people. The device is quite different from a hearing aid, as it does not amplify sound, but replaces 'natural' sound with coded, electronic 'messages' which describe sound. For the first time in history, people who are technically, totally deaf, are able to hear 'sound'.

The material for this paper is based on approximately 60 face-to-face interviews with specialist doctors, consumers, administrators, policy makers, various officials, researchers and company representatives. It is a case study of the development of the Australian Bionic Ear (or cochlear implant prosthesis) providing an analysis of the key social relationships within medicine - between doctors, scientists, consumers, government officials, industry representatives and others - which shape the development and implementation of new medical technologies.

Despite continuous and organised consumer resistance, the Bionic Ear has been relatively well funded, both publicly and privately from its early development. To explain why this has occurred, an investigation was undertaken into the dominance of the medical profession in the health care sector. Although 'medical dominance' has become almost an orthodoxy in medical sociology, nevertheless explaining the 'success' of the implant from a perspective of 'medical dominance' will be shown to be problematic. It will be demonstrated that the concept of medical dominance is inadequate because firstly, it is defined in terms of the doctor-patient relationship, and secondly, because its conclusions are drawn solely from a study of clinical medicine. In the health care sector however, the patient-doctor relationship is only one of many social relationships, and clinical practice is not, in itself, a primary source of social power.

The case study of the Bionic Ear demonstrates some of the limitations in the current literature in dealing with the issue of control in the health care system. It suggests there is a great need for empirical research into the extent of medical power, and the means by which the medical profession is, and is not, able to control the development and delivery of new therapies in Australia.

Within the literature on health care and the medical profession, one of the most influential approaches has been to examine the medical profession within a capitalist society in which health care is the product of business interests. With this approach, the medical profession has power as a result of an alliance between the profession and macro-level structures of power (e.g. Navarro:1980; Freidson:1970; Johnson:1972). McKinlay typifies this approach, presenting the 'business of medicine'

under capitalism as having four distinct levels. The most influential is the level of financial and industrial capital, the second is the capitalist state, the third is medicine itself, and the fourth is the public (1977:464-5). Under this typology, medicine is dominated by capital and the capitalist state, and is challenged, though not dominated by, the public.

The literature from this perspective may also explain developments in health care as the outcome of an essential 'association' between capitalism and 'technological' medicine. For example, Navarro explains the increasing interest in developing new medical technologies as the result of the action of capitalism, where human services are replaced with commodities that can be bought and sold on the market (1986:30). The relationship between the commodification of services and the system of world capitalism is thought to provide an impetus for the development of technologies such as the cochlear implant.

In regard to the cochlear implant, this is a product both locally produced and manufactured, and extremely successful in regard to the process of capitalist accumulation (cf. Prime Minister's Science Council:1991:6). Its success is particularly surprising, given the difficulties of a market heavily dominated by multinationals (cf. Hill & Johnston:1983; Williams: 1992; Hirshorn & Patrick:1992; AIH:1990; Scott-Kemmis et al:1988; Johnston et al:1990a). In 1978, the first patient in Australia, Rod Saunders, was implanted with the Australian made device. Since that time, 309 people have been given a bionic ear in Australia, and 3,500 devices have been implanted throughout the world (see Lea:1991:30). The devices currently sell for about \$A17,000 each.

### **Two Definitions of Deafness**

In the literature, the nature of the 'association' between capitalism and 'technological medicine' is further explained in regard to an ideological similarity between the acquisitive nature of capitalism and the orthodox medical model of health and illness. The latter is a model apparently dominant in contemporary health care (e.g. Doyal & Pennell:1983; Davis & George:1988; Inglis:1981). Within this model of health and illness, deafness is perceived as a medical condition - a 'pathological disability' - and defined as a 'lack of audiological hearing'. In contrast, according to members of the Deaf Community, deafness refers to the membership of a distinct cultural and linguistic community (e.g. Sacks:1989).

The ideological compatibility of capitalist development with professional intervention in health services, suggests that as a consequence, medical care under capitalism is individualistic, object rather than person centred, mechanistic, curative and interventionist (Doyal & Pennell:1983; Navarro:1986:166; Stark:1977). The development of the cochlear implant, which offers artificial hearing for the profoundly deaf, is therefore part of an overall trend, where 'technical' artefacts are provided as solutions to 'social' problems.

The relationship between the idea of deafness as a 'disease', and the production of a technological device to 'cure' deafness, may be presented as a straightforward one. However, the relationship between ideas and social structure is problematic in Marxist theory (cf. Cohen: 1968:199; Berger & Luckmann:1984:18). The extent to which the orthodox model of health and illness - or any other form of knowledge - actually dominates health care practice and the organisation of the health care sector, needs to be addressed empirically. As Willis asserts, ideas cannot be reduced to a 'tool' of capital, nor merely are they a function of the economic structure (1983:24). Rather, the prevailing ideas of health and illness are the outcome of social struggle between competing groups.

For example, deafness is classified as a notifiable 'disease' in Australia. This is not simply the result of an ideological association between 'deafness' and 'disease', but the outcome of past action taken by public health authorities to control outbreaks of measles (rubella) in the population which came to be associated with increases in the incidence of congenital deafness. Public perceptions of deafness are also shaped by continuing conflict between various groups and institutions, particularly in regard to the education of the deaf (cf. Cameron:1992; Conrad:1981; Cummins & Leigh:1992). Many of the deaf insist that the implant promotes the idea that deafness is an illness or disease that can be 'cured', and the implant is therefore perceived as an 'attack on their validity and on their very existence as human beings' (Uniacke:1987:12-3). The cochlear implant has even been envisaged as the 'final solution' for the deaf (ibid). The introduction of the cochlear implant appears to have highlighted and intensified past conflict, bringing a new focus and meaning to the debate over education. It has also brought new interest groups into the arena, groups such as surgeons, hospitals, and manufacturers.

### **Capitalism and Technology**

Navarro points out that medicine in a capitalist society is not capitalist because it produces value or is distributed according to the market, but because it 'reproduces the dominant/dominated class relations' (1986:243). Although the use of the term 'class' is problematic here, nevertheless, the introduction of the cochlear implant appears to reflect and entrench the dominant medical view of deafness as a 'disability'. Furthermore, it disregards and diminishes the views of a minority group who are systematically disadvantaged in regard to the education system, the labour market, the legal and the political system (cf. Hyde:1988; Hyde & Power: 1991; Williams and Thorpe:1992).

Deaf persons in Australia may prefer to be provided with alternative technologies or services such as a comprehensive telephone-typewriter technology (TTY machines) which assist communication without endangering cultural ties or community networks. However, the 'needs' of the deaf continue to be defined without regard to the deaf themselves. As one deaf person explained:

"We are not strong enough to put more pressure on the government ... they use a lot of words and jargon, and it becomes very difficult for deaf people to understand the jargon ... I know they do that to hearing people, but hearing people have ... are on the same level, and they can support each other. Whereas deaf people, at times their education is very limited".

The cochlear implant technology therefore illustrates some of the difficulties which are presented when a minority group attempts to resist or influence technological change. The introduction of technology reflects the prevailing social order. Under capitalism, it can be used against the less powerful by the more powerful, and can entrench the interests of the more powerful (e.g. Wajcman:1991:20; Doyal & Pennell:1983:292-3). Despite this, the relationship between technology and capitalism is not straightforward. Even though a given technology may be introduced because of the powerful interests of the sponsors rather than because of any intrinsic worth of the innovation (e.g. McKinlay:1981), and a given technology may be preferred because it has higher potential levels of profitability (e.g. Mansfield:1968), it cannot be assumed that a given technology is introduced *because* it will favour the interests of the powerful over those of the less powerful. Many studies come very close to this Functionalist position when it is posited that there is an 'inevitable' and 'necessary' relationship between technology and capitalism (e.g. Braverman:1974; Navarro:1986). For example:

"In capitalist societies labour is subservient to capital and it is capital that determines which technology is introduced and how that technology is utilised" (Willis:1983:34).

In contrast, Wajcman insists that there is a fundamentally indeterminate relationship between technology and social change, as neither the designers nor promoters of the technology can completely predict or control the final uses of technology (1991:163). The relationship between technology and society is an historically contingent process (Scott-Kemmis et al:1988) dependent upon such factors as the industry, the country, various market factors such as the availability of capital, labour, and natural resources (e.g. Uttley:1991:42) as well as priorities set within a well-defined structure of economic and political relationships (Commission For the Future:1988:7).

The Marxist approach to medicine is excellent at identifying the impact of multinational corporations on the health sector, and in providing a focus on those activities of the medical profession which assist in this process (e.g. Illich:1976:71-2; Braithwaite:1984). However it tends to present us with a *fait accompli*, where the medical profession is always, 'in the final analysis', subservient to financial and industrial capital (e.g. McKinlay:1977:464-5; Navarro:1986; Esland:1980:229). Within this scenario, the medical profession is an 'agent' of capitalist control, a servant of capitalism. Professional autonomy and the *limits* of the power of the medical profession, are wholly defined by the capitalist system.

### **Medical Dominance**

As such, medical dominance is dependent upon the interests of the medical profession coinciding with those of the dominant class (cf. Willis: 1983:208). Strictly speaking then, without capital, the medical profession has no power. Power belongs to the bourgeoisie, not the medical profession. The form and nature of medicine is determined by the power relations of the bourgeois order (cf. Navarro: 1986:168,239,243).

'Medical Dominance', a term occurring fairly frequently in the literature (e.g. Willis:1983; Globerman:1990), is often used interchangeably with the term 'professional dominance' (e.g. Freidson:1970, 1984; Larkin:1983) and refers to the medical profession's control over the division of labour, the conditions of its own work, over other health occupations, and the wider sphere (Willis:1983:8). As a concept, medical dominance is highly problematic. It is difficult to envisage how the medical profession might be both an 'agent' of capital, and an autonomous institution or group of occupations which determine the nature of health care.

Certainly there are *instances* where the intentions or practices of the medical profession coincide with those of capital, and where it makes sense to theoretically collapse the profession into the level of capital. For instance, McKinlay suggests 'predatory' companies advertise and promote their products by *using* interested specialists who are often also involved in the development stages of a technology (1977:461; 1979). The cochlear implant technology has been marketed in Australia and elsewhere in the world following this same basic pattern of technology diffusion.

The company 'uses' the 'culture' of the medical profession to advertise and market the cochlear implant. For instance, the company recognises that the medical profession displays an extreme disdain for glossy advertising, but is convinced by an 'academic' approach to medicine. The company therefore markets its product via company sponsored educational conferences and seminars.

Marxism however, is not the only perspective which reduces the power of the medical profession to the level of capital. For example, both Williams (1992:84-6) and Alford (1975) collapse 'medicine' with 'business'. Business and the medical profession together form one of the three main protagonists in the health sector. The other two are given as the State (or 'corporate rationalisers') and the community.

Although it is not disputed that there are indeed strong connections between the medical profession and the processes of capitalist accumulation, there is also a need to posit the existence of at least some independence for the medical profession to act in its own interests, and perhaps the interests of its patients. Companies make profits by taking advantage of the conventions of the profession for reputation and status building, but it cannot be assumed that professional 'culture' is an 'effect' of capitalism. In fact, in many ways, the medical profession actually controls the dispersal of the

technology. Using the collegial network of the profession, specialists show strong disapproval of hospitals or surgeons who use the technology without 'permission' from the core group. In this way, the technology is restricted to a few specialist centres.

Theories of health care which reduce the activities of the medical profession to an alliance with capital, expose some of the constraints placed on the medical profession by capitalism, but ironically, do not allow the identification of the *extent* of medical dominance. They do not grant the medical profession the autonomy to act independently of capital, and as a result, under-estimate the influence of the medical profession and under-theorise its dominance.

Although, as we have seen, the medical profession can act independently of capital, its influence is not unlimited, and can be seriously challenged by the public (e.g. Willis:1983). The cochlear implant for instance, is resisted by the very sector of the community that it is designed to assist. The Deaf Community has, on many occasions, demonstrated their opposition to the technology. The effectiveness of this resistance is however, difficult to gauge. They were successful in 1977 in stopping Channel 0s Telethon from continuing to raise money from the public for the cochlear implant research team. They appear to be currently successful in their campaign to ensure that the technology remains under-utilised in Australia. It is suggested that only 10% of possible candidates have been implanted, a fact only partly explained by the cost of the technology.

### **Technology and the State**

Another factor which must be taken into any consideration of medical dominance, is the activity of the State, which has a significant role in Australia (Pusey:1988:22). The State has been quite instrumental in the development of the cochlear implant technology, providing business development grants at a crucial time when the Telethon money had been withdrawn. The problems of Marxist analyses of the State have been described elsewhere (e.g. Williams:1986; MacKinnon:1987; Johnson:1982; Laclau:1977). Although there have been significant developments in theories of the State (cf: Williams and Thorpe:1992:194-209) these have not yet been applied specifically to the literature on health care.

In contrast to the Marxist approach, other studies of the health care sector provide more analysis of the relative strengths and weaknesses of the various interest groups and institutions. However, many of these, often from a policy studies or political science approach, tend to neglect corporate interests. For instance, Sax states that 'market forces' "no longer have a significant role in the demand for, or supply of, health services" (1990:125). These studies, by focussing on the role of the government tend to over-estimate the ability of the government to control the medical profession and assume it is the government which determines the nature of the health care sector (e.g. Marmor et al:1976; Nieuwenhuysen & Williams-Wyn:1982; Globerman:1990; Bjorkman:1989; Sax:1984).

For example, Sax assumes politicians make decisions about Medical Benefits (1990:143). Yet while politicians have formal authority, research shows that particular segments of the medical profession clearly dominate the outcome of decision-making in regard to the Medical Benefits Schedule. As one senior government health policy administrator commented bluntly:

"If it comes down to a fight between the government and the medical profession, I would back the medical profession. Not because they are right, but because they would just walk out and leave the 60% of people in Australia without private health insurance .. they would just walk out of the hospitals, they don't care".

Studies from an Interactionist perspective have also contributed to the field, particularly in relation to the question of whether medical dominance is increasing or decreasing in the face of rationalisation and bureaucratisation (e.g. Leonard:1973; Hall:1968, 1973; Oppenheimer:1973). These studies often show considerable insight into some of the ways the medical profession influences other groups, but rarely place sufficient emphasis on the influence of capital on the medical profession, and the influence of capital on the State. For example, Fulcher describes disability as a 'complex, political construct' (1989a:64). However, disability might also be described as an 'industrial construct'. For instance, Repetition Strain Injury or RSI became an established medical condition largely as a result of worker militancy and changes in the labour market (e.g. Davis & George:1988:284; Willis:1986). It is therefore important not to under-estimate the effect of industry and capital on the medical profession and on medicine. Research shows that in regard to the cochlear implant, the company has representatives on government advisory committees such as the Therapeutics Devices Evaluation Committee. This enables the company to legitimately influence decisions concerning the regulation and funding of relevant government services.

In most of the studies viewed thus far, there is also a tendency to consider the professions as an homogenous entity. This obscures the real nature of the profession in Australia. The medical profession is both an institution, and a conglomerate of multiple, and conflicting, interest groups, with a discernible (but constantly changing) hierarchy. The membership displays a wide range of ideological positions. Some oppose free enterprise medicine whilst others oppose government intervention for instance (Stevenson et al:1988). Furthermore, the medical profession cannot be reduced, *as it often is*, merely to an occupational group, generally doctors, and specifically, clinical practitioners (e.g. Larkin:1983; Larson:1977; Freidson:1970; Johnson:1972).

There are significant outcomes resulting from a reduction of this kind. Firstly, the studies tend to restrict the scope of the analysis to a focus on *the delivery of health care services*, where clinical doctors tend to be the significant players anyway.

Secondly, it places the emphasis on *the utilisation of technology*, which is assumed to have actually been developed *elsewhere*. As a consequence, it creates an artificial distinction between research, development and practice.

Thirdly, other areas of medicine are neglected, particularly where technology is developed, tested, marketed, managed, regulated and financed. These are the areas where other members of the medical profession may predominate, individuals who are not necessarily only involved in clinical practice, but in activities such as medical science, research, teaching, regulation, testing, engineering, sales, finance, policy, administration etc. Ignoring the heterogeneity of the practices of the medical profession tends to over-emphasise the importance of the doctor-patient relationship, as found in Parsons 'sick role' (1954, 1970), and under-estimate the significance of the profession's industrial and scientific practices; its involvement with companies, funding bodies, regulatory authorities; and its concerns with test tubes, books, mice, rats, and, in the case of the cochlear implant, with kittens.

As a result, the studies tend to conclude, *a priori*, that 'medical dominance' exists, through defining the medical profession in terms of clinical doctors, and examining those areas where clinical practitioners work and have most influence. Additionally, it is assumed that where there are limits on the profession, these are imposed externally, by capital (and to some extent, by the State), because the presence of the medical profession in industry and in government tends to be neglected. Whereas, the medical profession, in the widest meaning of the term, is very much present both inside and outside of industry and government.

Very few studies investigate the relationship between clinical and scientific practice. Yet the cochlear implant study demonstrates the inter-dependence of particular organisations and institutions - the hospital system, the university system, the State, and industry - and of the inter-dependence of scientific and clinical activities. These institutions and relationships have shaped the introduction of medical services for the deaf, through providing a social context in which the search for knowledge is constructed as meaningful activity.

The desire for knowledge and for research opportunities tends to have been neglected in most of the literature as an explanation for the behaviour of medical specialists in favour of explanations based on economic survival, fear of litigation, the need for status building, or entrepreneurial activity (e.g. Peterson:1978; Willis:1983). However, Globerman's study of the medical profession suggests both diversity and complexity, suggesting that their views cannot be reduced to one primary motivation (1990:22). One area of considerable neglect has been the element of 'scientific curiosity'.

This neglect is probably another result of focussing on clinical medicine rather than on the other activities of the medical profession. Yet the activity of science and research, both inside and outside designated research institutions shapes the delivery of health care services as much, if not more than,

the doctor-patient relationship. Pacey reflects on the importance of examining the meaning of the technology for the people who develop it, and suggests that "[a]nalysis, rationality, materialism and practical creativity do not preclude personal values or emotional purposes". Furthermore, the 'pursuit of existential joy' may be the momentum behind invention and development in science and technology (Pacey:1983:80-1).

It is quite apparent that few studies in the literature manage to integrate the role of technology and knowledge into their theoretical perspectives. Most studies tend to ignore the role of technology and knowledge (except perhaps as an ideology, e.g. McKinlay:1973). Where the role of technology and knowledge is included, it is likely to be given a central place (e.g. Bell:1974) but is also assumed to be the primary or sole basis of power. Thus where technology and knowledge *are* theorised, it tends to be assumed that the power of the medical profession is wholly an outcome of the special knowledge or technology they possess. As a result, this latter perspective tends to overlook the way the exercise of power is also vital to the determination of which knowledge, or which technology, will become 'special' (see e.g. Turner:1985). These analyses therefore tend to over-emphasise the extent of medical dominance (e.g. Alford:1975; Denzin & Mettlin:1968; McCormack:1956; Goode:1961).

This then, is a paradox of medical dominance. On the one hand, the medical profession acts as an 'agent of capital' to develop, market, spread, and utilise the technology. As a result, medical dominance *per se* is very limited. It is capital which controls the health care sector. On the other hand, the medical profession controls health care through its special expertise and knowledge, and is therefore the dominant institution within the sphere of medicine, and perhaps, even the wider society. As a result, medical dominance is virtually unlimited in its capacity to influence health care and there appears to be no restraints from corporate interests for example, or even the State (e.g. Krause:1983:126; MacKay:1976).

It is interesting however, to examine the way knowledge and/or technology are theorised within all the studies viewed thus far. Knowledge and/or technology are often treated as something of a 'black box'. For instance, we find in Parsons (1970:313) that while knowledge is central to the profession's ability to maintain control over the health sector, knowledge *per se* is not open to theoretical investigation. Knowledge and technology are somehow independent of the social structure and not products of social relationships, even though they may be utilised *within* social relationships (e.g. Ezrahi:1971; Brooks:1964).

Wajcman's analysis and others (such as Wright and Treacher:1982) are strong attempts at reaching beyond the 'black box'. Knowledge and technology have come to be theorised as products of social influences, social constructs, shaped by political, ideological and economic factors. Very few studies of health however, even attempt to explore the theoretical relationship between knowledge, technology and society. Willis presents us with a rare example. He asserts that technology is not a

'thing', but a 'system of social relationships' and stipulates that technology and society shape each other dialectically (1983:34). However, Willis places a condition upon this dialectic, arguing that within the relationship, social organisation takes precedence (1983:35).

One result of treating the relationship between technology and society asymmetrically, is the tendency to again reify technology, to 'close the lid' once more on the 'black box', separating technology from 'society'. It again forces a focus on the way the medical profession is able to appropriate and utilise technologies to their own advantage (e.g. Willis:1983:35) rather than to explore the way medical technology is actually developed and produced within medicine (even if it is not always within clinical medicine). The result is a tendency to focus on only one aspect of the dialectic, and to regard any of the effects of technology as 'technological determinism'.

### **Technological Determinism**

Technological determinism though, involves the idea that there can be a steady progression of technical developments which 'drag' society along behind it (Pacey:1983:24). It rests on the idea that technology is 'value free' and independent of human purposes. However, an examination of every 'technical' decision will reveal social processes of decision-making. For instance, the cochlear implant is said to be 'technically' suitable only for the profoundly deaf. However, this 'technicality' reflects an initial decision to invent an implant to assist only those with a specific type of deafness (known as nerve deafness) for people who have problems with the inner ear. In these cases the main hearing nerve is still intact and can respond to sound, providing that sound is artificially brought to it (Epstein:1989:20). These 'technical' constraints however are recently being exposed as 'ethical' issues rather than 'technical' ones. For instance, one problem with giving severely deaf, rather than profoundly deaf people an implant, is that placing the device in the ear destroys any residual hearing. The ethical dilemma is the medical destruction of a healthy organ. It is not obvious whether replacing poor but 'natural' sound with artificial 'messages' is necessarily an improvement.

In contrast to the technological determinist position, it can be argued that technology and society are truly dialectical, and that an investigation into the effects of the other half of the dialectic, the 'socialised' technology, is not necessarily technological determinism. In fact, it provides some clarity in a 'muddy field' to argue that a given social development has been a technological process, just as a technological development has been a social process. In fact, to ignore the technological dimension is to practice a form of 'technological avoidism'.

Following on from these ideas, technology may be considered a thoroughly social process with some autonomy to affect other social processes. In the case of the cochlear implant, it has enabled deafness to be medicalised for the first time, and assisted the development of a new medical speciality. The care of the deaf is no longer the sole prerogative of educational professionals nor the

Deaf Community. Children who are born deaf may now be given cochlear implants, and there is a possibility that as the traditional Deaf Community 'shrinks', a new cultural group of the 'implanted' deaf may emerge. It appears the technology has brought both advantages and disadvantages to the deaf, but only advantages to the medical profession.

### **Summary and Conclusion**

This paper has been a review of some of the more important literature dealing with medical dominance and technology, to explain some of the factors which shape the development of a medical technology in the health care sector. Medical dominance however, was found to be a highly problematic concept.

The Marxist approach was found to be useful in providing a general framework for analysing the development of a technology within a systematically unequal social context. It explains the way differences in power between two groups can shape decisions about the introduction and diffusion of technology. It was the only approach which thoroughly examined the 'business of medicine'. Unfortunately, corporate interests and activities tended to be emphasised to the detriment of other interests, activities, institutions and interest groups. Clearly the valuable aspects of this kind of analysis need to be deployed in conjunction with others which examine the behaviour and power of other institutions and groups within the health care sector. A tendency was found to derive the interests and power of groups *a priori* from the model used, and to disregard empirical evidence. This made it particularly inadequate for examining the concept of medical dominance and the activities of the medical profession.

Other approaches to medical dominance were examined from a policy studies and an Interactionist perspective. Some of these were helpful in examining a much wider variety of means by which the medical profession influences the decision-making of government, and shapes the lives of minority groups. However, many of these studies over-emphasised the role of government in controlling the activities of the medical profession, and ignored the role of capital. Other studies over-emphasised the ability of the medical profession to dominate health care. They did this because they took the special expertise or knowledge of the profession at face-value, and ignored the mediating influence of the State, business and the public. There was a general tendency for the studies to draw conclusions about the nature and extent of medical dominance according to the theoretical propositions or models of thought, rather than rely on material evidence.

The concept of medical dominance was, in most studies, restricted to the idea of the clinical practitioner. This resulted in a focus on clinical medicine and a neglect of scientific and industrial medicine; a focus on clinical practitioners and their relationship with patients, rather than on other actors, activities, and relationships within medicine; a focus on science as an ideology rather than as a

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practice; and a focus on the utilisation of technology rather than on the development of technology. This led to an unbalanced and inaccurate assessment of medical dominance.

In particular, the concept of technology was inadequately theorised in studies of health care. This made it difficult to explain the role of the medical profession in the development and diffusion of technology in the Australian health care sector. The idea that technology can have no independent effect on social processes was a general conclusion or assumption throughout the literature. This was the result of conceptualising technology as a non-social or socially 'neutral' entity, rather than as a social process. This is a form of 'technological avoidance', which may be a greater 'sin' than technological determinism.

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