

NOTE

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**Globalisation, Human Genomic Research and the Shaping of Health:
An Australian Perspective**

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Abstract

This thesis examines one of the premier “big science” projects of the contemporary era — the globalised genetic mapping and sequencing initiative known as the Human Genome Project (HGP), and how Australia has responded to it. The study focuses on the relationship between the HGP, the biomedical model of health, and globalisation. It seeks to examine the ways in which the HGP shapes ways of thinking about health; the influence globalisation has on this process; and the implications of this for smaller nations such as Australia.

Adopting a critical perspective grounded in political economy, the study provides a largely structuralist analysis of the emergent health context of the HGP. This perspective, which embraces an insightful nexus drawn from the literature on biomedicine, globalisation and the HGP, offers much utility by which to explore the basis of biomedical dominance, in particular, whether it is biomedicine’s links to the capitalist infrastructure, or its inherent efficacy and efficiency, that sustains the biomedical paradigm over “other” or non-biomedical health approaches.

Additionally, the perspective allows for an assessment of whether there should be some broadening of the way health is conceptualised and delivered to better account for social, economic, and environmental factors that affect living standards and health outcomes, and also the capacity of globalisation to promote such change. These issues are at the core of the study and provide the theoretical frame to examine the processes by which Australian policy makers have given an increasing level of support to human genomic research over the past decade and also the implications of those discrete policy choices.

Overall, the study found that globalisation is renewing and extending the dominance of the biomedical model, which will further marginalise other models of health while potentially consuming greater resources for fewer real health outcomes. While the emerging genomic revolution in health care may lead to some wondrous innovations in the coming decades, it is also highly likely to exacerbate the problems of escalating costs and diminishing returns that characterise health care systems in industrialised countries, and to lead to greater health inequities both within and between societies.

The Australian Government has chosen to underwrite human genomic research and development. However, Australia’s response to the HGP has involved both convergences and variations from the experiences of more powerful industrial nations. The most significant divergence has been in industry and science policy, where until the mid-1990s, the Australian Government displayed no significant interest in providing dedicated research funding, facilities, or enabling agencies to the emerging field. Driven by the threat of economic marginalisation and cultural irrelevance, however, a transformation occurred. Beginning with the Major National Research Facilities Program of the Department of Industry, Science and Technology, and then the landmark Health and Medical Research Strategic Review, support for human genomic research grew strongly. Comprehensive policy settings have recently been established to promote the innovation, commercialisation, promotion and uptake of the products of medical biotechnology and genomics. As such, local advocates of a broader model of health will be forced to compete on the political and economic stage with yet another powerful new area of biomedicine, and thus struggle to secure resources for perhaps more viable and sustainable approaches to health care in the 21st century.

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Statement of Originality

The material presented in this thesis has not been previously submitted for a degree or diploma in any other university, and to the best of my knowledge, contains no material published or written by any other person, except where due acknowledgment is made in the thesis itself.

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Abbreviations

AIDS	Acquired Immune Deficiency Syndrome
AMA	Australian Medical Association
ANGIS	Australian National Genomic Information Service
ARC	Australian Research Council
ASTEC	Australian Science and Technology Council
BSE	Bovine Spongiform Encephalopathy
CGAT	Canadian Genome Analysis and Technology Program
CJD	Creutzfeldt-Jakob Disease
CMCB	Centre for Molecular and Cellular Biology
CRC	Cooperative Research Centres
CSIRO	Commonwealth Scientific Industrial Research Organisation
DALY	Disability Life Adjusted Year
DEET	Department of Employment, Education and Training
DHA	Department of Health and Ageing
DHAC	Department of Health and Aged Care
DISR	Department of Industry, Science and Resources
DIST	Department Industry, Science and Tourism / Technology
DITAC	Department of Industry, Technology and Commerce
DITR	Department of Industry, Tourism and Resources
DNA	deoxyribonucleic acid
DoE	Department of Energy
DRG	Diagnostic Related Groups
ELSI	Ethical, Legal, and Social Issues (Working Group)
EOI	export oriented industrialisation
ESO	European South Observatory
GATT	General Agreement on Tariffs and Trade
GDP	gross domestic product
GM	genetically modified
GMO	genetically modified organism
GNP	gross national product
HGH	human growth hormone
HGP	Human Genome Project

HGS	Human Genome Sciences
HS&H	Department of Human Services and Health
ICI	Imperial Chemical Industry
IMF	International Monetary Fund
MNC	multinational corporation
MNRF	Major National Research Facility
NBF	new biotechnology firm
NHMRC	National Health and Medical Research Council
NIC	newly industrialised country
NIH	National Institutes of Health
NRC	National Research Council
OECD	Organisation for Economic Cooperation and Development
OGTR	Office of the Gene Technology Regulator
OTA	Office of Technology Assessment
RAFI	Rural Advancement Foundation International
SNP	Single Nucleotide Polymorphism
TCC	transnational capitalist class
TIGR	Institute for Genomic Research
TNB	transnational bank
TNC	Transnational corporation
UCSC	University of California Santa Cruz Campus
UNESCO	United Nations Educational, Scientific and Cultural Organisation
VLT	very large telescope
WEHI	Walter and Eliza Hall Institute
WHO	World Health Organisation