During my career as a Research Scientist in the area of cell biology I have been exposed to images and patterns of great beauty and power. Many of these result from examination of tissues using light and electron microscopes which enable the form and behaviour of cells to be studied at a huge range of magnifications. For example, a light microscope can magnify an image about 1,000 fold (beyond this the resolution fails) and a transmission electron microscope can magnify an image from 13 to 500,000 times with the resolution so good (down to 4 Angstroms = 10^-10 metres) that viruses and the coils of their DNA can be observed. The expression of many proteins and genes in these cells can now be detected and observed by staining with specific probes labelled with colours or fluorescence. The recent developments in cell and molecular biology combined with highly sophisticated technology for image acquisition and enhancement have opened up many new possibilities beyond the classical approaches.

There is great scope for bringing some of this beautiful biology into the world of visual art. This visual interpretation of the biological processes appears relatively unexplored. Photography has been the medium of choice and has captured superb images. Some books, movies, educational videos and computer programmes start to indicate the wealth of material that is available. The extraordinary developments in computer technology with multimedia and virtual reality can now be applied to this fascinating world. Medicine is usually concerned with what happens when the body becomes unhealthy from either the physical or mental/emotional perspective. It attempts to prevent or treat damaged or sick bodies and minds that result when normal control mechanisms are defective or fail. Thus a strong understanding of the normal processes of the body is fundamental to both conventional and alternative medical practice. The power of the mind over the body and its impact on health is now widely accepted. Emotions and mental processes can be successfully expressed and explored through media such as the visual arts, writing or music and this is demonstrated in paintings by psychiatric patients which often dramatically reflect their mental state and thus can be useful for diagnosis and prognosis. Furthermore, art and music are well recognised as powerful therapies.

For 20 years my biomedical research was conducted within the University Departments of Experimental Pathology in London, and Pathology at the Queen Elizabeth II Medical Centre in Perth. This environment emphasised what can go wrong in the normal behaviour of cells and tissues of the body during the disease process. Traditionally, much of pathology diagnosis was based upon visual assessment, using light or electron microscopy, of small samples or biopsies of tissues — “bits of the body” which readily reveal changes due to the presence of infections (e.g. bacterial or viral) or cancers. The relationship of “bits of the body” to the whole organism has been interestingly extended by developments in tissue transplantation where donor cells or major organs (such as a heart or kidney) can become a vital part of a second person, thus challenging the concept of one’s “own body” and giving new reality to the
meaning of "seeing through someone else's eyes"! Since taking up an academic position in the Department of Anatomy and Human Biology at the University of Western Australia in November 1994, the interest of many artists in "the body" with an emphasis on human form has been brought to my attention. Classically, the form of the human body has been appreciated and interpreted by sculptors and artists. This will undoubtedly continue. Fascination with the infinite possibilities of the body is radically demonstrated by performance artists like Stelarc [http://www.merlin.com.au/stelarc] who take the body and explore and expand upon the original theme using sophisticated medical technology, with projects like Stomach Sculpture, Virtual Arm, Virtual Body, and Fractal Flesh where involuntary muscle movements caused by electrodes can be controlled globally by a modem connected to the internet. This present exhibition on Art, Medicine and the Body demonstrates the great interest in going far beyond the classical view of the body as a physical entity. The works by 88 artists explore the underlying processes, aberrations, ramifications and interactions of medicine and the body, using media such as photography, sculpture, painting, print, sound and installation. Some issues examined are the politics, culture and history of medicine, health and illness, the effect of medicine upon individuals, perceptions of the body, body memory, body scarring, sexuality, mental illness and dreams. They challenge our view of the world. I was contacted last year by this enthusiastic group of artists working on the project Art, Medicine and the Body. I encouraged them to use the facilities of our Department and to experience the use of the light and electron microscopes as it would seem that only by such first hand experience can the true dimensions of such material be fully appreciated and explored. We welcome the interaction with such groups and hope that it will lead to many collaborations that will mutually enrich the way we all perceive and visualise the human body. The Department of Anatomy and Human Biology has a very broad, almost renaissance, approach to this subject. The research and teaching interests are extraordinarily wide and include: understanding at the molecular and cellular level how cells and tissues are organised and behave; cell transplantation and therapy; gross anatomy where all aspects of body structure are studied; expert computer diagnosis of diseases; the effects of stress; reproductive biology; genetic and population studies including diverse communities in Asia and the Kimberleys, biosocial anthropology, and evolution particularly of the human form. An illustrator, Martin Thompson, is a permanent member of the staff and the sculptor, Hans Arkveld, has had a long-standing association with this Department through his interest in studying human material which is available only within our facilities. We would like to extend the use of our valuable resources to the wider artistic community at several levels. The unique facilities and range of expertise within our Department presents a rare and exciting opportunity to bring together the disparate forces of fine art and science/medicine within Australia. Much interesting and important art and teaching material could arise from such a challenging liaison. Various strategies are required to help make this happen and these have funding implications which could be addressed by grants, patrons or benefactors. An upgrading of resources is a high priority and this would include a dedicated studio space, ideally with an improved museum. The existing museum material and specialised collections need to be expanded and enhanced. This would greatly facilitate access by a range of people and groups to this material. Support for artists-in-residence, joint students and projects need to be developed and especially commissioned 'works of art' pursued. There are a wealth of possibilities that can be developed along the theme of Art, Medicine and the Body as is demonstrated by the diverse works in this exhibition. The nurturing and forging of new links between biomedical Departments and artists should open up many new opportunities and these will hopefully be of particular benefit to the wider artistic community.

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