

REVIEW ARTICLE

THE MASTER AND HIS EMISSARY: THE DIVIDED BRAIN AND THE MAKING OF THE WESTERN WORLD

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Iain McGilchrist, *The Master and His Emissary: The Divided Brain and the Western World*, New Haven and London: Yale University Press, 2010, ix + 534 pp. ISBN: 978-0-300-16892-1 pb, £11.99, \$25.00.

It is now more than a century since Friedrich Nietzsche observed that ‘nihilism, this weirdest of all guests, stands before the door.’ Nietzsche was articulating what others were dimly aware of but were refusing to face up to, that, as he put it, ‘*the highest values devalue themselves*. The aim is lacking; “why” finds no answer.’¹ Essentially, life was felt to have no objective meaning. It is but ‘a tale, Told by an idiot, full of sound and fury, Signifying nothing.’² Nietzsche also saw the threat this view of life posed to the future of civilization. Much of the greatest work in philosophy since Nietzsche wrote has been

¹ Friedrich Nietzsche, *The Will to Power*, trans. Walter Kaufmann and R.J. Hollingdale, New York: Random House, 1968, p.9. Friedrich Jacoby had some intimation of this some hundred years earlier.

² William Shakespeare, *Macbeth*, Act 5, Scene 5, 26-28.

in response to the crisis of culture that Nietzsche diagnosed. Although the word 'nihilism' was seldom used, the struggle to understand and overcome nihilism was central to most of the major schools of twentieth century philosophy: neo-Kantianism and neo-Hegelianism, pragmatism, process philosophy, hermeneutics, phenomenology, existentialism, systems theory in its original form, the Frankfurt School of critical philosophy and post-positivist philosophy of science, among others. William James, John Dewey, Henri Bergson and Alfred North Whitehead, Edmund Husserl, Max Scheler, Martin Heidegger, Maurice Merleau-Ponty and Ludwig Wittgenstein are just some of the philosophers who grappled with this most fundamental of all problems. Nietzsche, along with these philosophers, influenced mathematicians, physicists, chemists, biologists, sociologists and psychologists and inspired artists, architects, poets, novelists, musicians and film-makers, generating a much broader movement to overcome nihilism. Iain McGilchrist's book builds on this anti-nihilist tradition, a tradition which is facing an increasingly hostile environment within universities and is increasingly marginalized. Although he does not characterize it in this way, *The Master and his Emissary* can thus be read as a major effort to comprehend and overcome the nihilism of the Western world.

Transcending disciplinary and institutional boundaries, McGilchrist is eminently qualified to make such a contribution. After having studied literature and philosophy, he taught English at Oxford University, where he was three times elected a Fellow to All Souls College. Dissatisfied with academic life, presumably seeing where the study of literature and universities generally were heading and the broader implications of this, McGilchrist studied medicine and psychiatry. He was appointed a Consultant Psychiatrist and Clinical Director of the Bethlem Royal & Maudsley Hospital, London and undertook research in neuroscience, carrying out work in neuroimaging at John Hopkins University. Using his knowledge of literature, the arts and philosophy and their history, his experience with psychiatric patients, his own research on the brain, his engagement with the work of John Cutting, a psychiatrist who has resisted current trends in the field and advanced the growing discipline of philosophical psychopathology, and Louis Sass, a psychologist who also has crossed disciplinary boundaries to reveal the relationship between modernity, art and mental illness, particularly schizophrenia, McGilchrist not only offers new insights into modern and postmodern culture, but into how this culture emerged, what is wrong with it, and what a healthy culture would be.

The introduction of the book includes a story from Nietzsche, and although the views developed are closer to those of Scheler and Heidegger, it is in relation to Nietzsche's work that McGilchrist's book can best be understood. It is an effort to justify and illuminate (and implicitly critique) Nietzsche's insights into the nihilism of

modernity (along with the insights of other anti-nihilist philosophers), to rethink the history of Western civilization to reveal and better characterize what has been lost through nihilism, and to open a more satisfactory path beyond nihilism. First, then, it is necessary look more closely at Nietzsche's diagnosis of the sickness of Western civilization.

To describe, explain and overcome what he claimed was the diseased state of modern culture, Nietzsche postulated a general will to power which, due to the *ressentiment* of the weak, had turned against itself. The Homeric Greeks were active, Nietzsche claimed. The 'Hellenic will' was a 'mastering unity' through which the Greeks achieved a 'unifying mastery of their drives', of their knowledge drive in philosophy, of their ecstasy and the formal drive in art, and of their *eros* in *agape*.³ 'Good' (*agathos*) was used by these masters to approve the lives they led. They meant by it what is noble, mighty, high placed and high minded. Their mode of existence was such that they were able to affirm themselves and their way of life. Slaves, by contrast, are incapable of ascribing value to and thinking well of themselves. They are reactive, and feel compelled to define themselves in opposition to others. As Nietzsche characterized slaves and their values:

The slave revolt in morals begins by rancour turning creative and giving birth to values - the rancour of beings who, deprived of the direct outlet for action, compensate by an imaginary vengeance. All truly noble morality grows out of triumphant self-affirmation. Slave ethics ... begins by saying *no* to an "outside," an "other," a non-self, and that *no* is its creative act.⁴

It is this reactive will which has turned life against itself, engendering the nihilism of modernity. Nietzsche's solution to this nihilism is to celebrate the 'overman', people who can create values through the way they live.

While Nietzsche famously attacked Christianity for its role in this, he saw this hostility to life reaching its apogee with modern science. 'Has not man's determination to belittle himself developed apace precisely since Copernicus?' he asked.

Ever since Copernicus man has been rolling down an incline, faster and faster, away from the centre - whither? ... All science ... is now determined to talk man out of his former respect for himself, as though that respect had been nothing but a bizarre presumption.⁵

³ 'The Philosopher' 46, in Friedrich Nietzsche, *Philosophy and Truth*, ed. Daniel Breazeale, New Jersey: Humanities Press, 1979, p.16.

⁴ Friedrich Nietzsche, *The Genealogy of Morals*, trans. Francis Golffing, along with *The Birth of Tragedy*, N.Y.: Doubleday, First Essay, X, p.17of. See also *Beyond Good and Evil*, par.261.

⁵ Friedrich Nietzsche, *The Genealogy of Morals*, Third Essay, XXV, p.291f.

To begin with, science abstracts from the rich diversity of the world a few abstract properties and takes this ‘columbarium of concepts, the graveyard of perceptions’⁶ to be the true reality, portraying nature, as Whitehead put it, as ‘a dull affair, soundless, scentless, colourless; merely the hurrying of material, endlessly, meaninglessly.’⁷ It then portrays humans as nothing but machines, the effect of the meaningless motion of matter, and colours, scents, sounds and tastes as subjective sensations not part of the real world. This drive of humanity to belittle itself was furthered by Darwin’s evolutionary theory in which all apparent purpose in the construction of these machines was explained away as nothing but the effect of blind variation and selection through the struggle for survival. The belittling drive culminates with the development of psychology. Psychology is the discipline that attacks the last stronghold of those striving to defend the dignity of humanity. Nietzsche had seen this proclivity:

What are these English psychologists really after? One finds them always, whether intentionally or not, engaged in the same task of pushing into the foreground the nasty part of the psyche, looking for the effective motive forces of human development in the very last place we would wish to have them found, e.g., in the inertia of habit, in forgetfulness, in the blind and fortuitous association of ideas: always in something that is purely passive, automatic, reflexive, molecular, and, moreover, profoundly stupid. What drives these psychologists forever in the same direction? A secret, malicious desire to belittle humanity, which they do not acknowledge even to themselves? A pessimistic distrust, the suspiciousness of the soured idealist? ... Or is it, perhaps, a kind of stew—a little meanness, a little bitterness, a bit of anti-Christianity, a touch of prurience and desire for condiments? . . . But, again, people tell me that these men are simply dull old frogs who hop and creep in and around man as in their own element - as though man were a bog.⁸

‘The goal of science’ Nietzsche observed, reflecting on its nihilistic tendencies, ‘is the destruction of the world.’⁹ He defended art, and particularly music, against the devaluing claims of such science.

Nietzsche’s story recounted by McGilchrist in his introduction, the story on which the title of the book is based, is that of a wise spiritual master who, in order to rule his domain, carefully nurtured and trained emissaries. Wisely, he kept his distance from them, allowing them to do things in their own way. The cleverest and most ambitious emissary took this temperance and forbearance as weakness and irrelevance, adopted

⁶ Nietzsche, ‘The Philosopher’, *Philosophy and Truth*, p.88.

⁷ Alfred North Whitehead, *Science and the Modern World*, Cambridge: Cambridge University Press, 1932, p.69.

⁸ Nietzsche, *The Genealogy of Morals*, First Essay, I, p.158

⁹ Nietzsche, *Philosophy and Truth*, p.156n.9.

the master's mantle and usurped his power, establishing a tyranny, which, lacking the master's wisdom, eventually collapsed in ruins. Given Nietzsche's characterization of the history of European civilization as the triumph of reactive forces turned against the active forces of the will to power, it is not difficult to identify the wise master with active forces and the tyrannical emissary with reactive forces that have turned against life. McGilchrist reinterprets this history in terms of the relationship between the two cerebral hemispheres. While they should balance each other with the right hemisphere being the master, they have been in conflict, with the left hemisphere trying to suppress completely the right hemisphere. The subsequent battles between them are recorded in the history of philosophy, science and the arts and the seismic shifts characterizing the history of Western culture. The usurpation of power by the left hemisphere and its suppression of the right hemisphere has engendered a sickly culture characterized by a mechanistic view of the world, domination by instrumental reason, fragmentation, loss of meaning and loss of direction, all combined with a fatuous optimism. As McGilchrist put it: 'An increasingly mechanistic, fragmented, decontextualised world, marked by unwarranted optimism mixed with paranoia and a feeling of emptiness, has come about, reflecting, I believe, the unopposed action of a dysfunctional left hemisphere' (p.6). McGilchrist also defends the arts as the means to appreciate and augment life and its meaning.

NEUROSCIENCE AS A TURNING POINT IN THE BATTLE AGAINST NIHILISM

McGilchrist's research on the basis of which he confronts the nihilism of our culture is focussed on the lateralization of the brain and the different functions of the different hemispheres. It draws on a range of disciplines, including psychiatry and neuroscience, evolutionary theory, archeology, cultural history, linguistics and philosophy and its history. It is at the cutting edge of neuroscience and psychology, and a major contribution to cultural history and philosophy. Why should McGilchrist be able to succeed against nihilism where others have failed?

Along with reductionist science generally and the philosophies defending them, the dull old frogs of psychology have been challenged vigorously; but so far these challenges have made little headway and are in a much weaker position than they were forty years ago. Despite all the work of anti-nihilist philosophers, scientists and artists, nihilism is now accepted as true and any questioning of it regarded as

uninteresting.¹⁰ Universities and the channels of communication are almost completely dominated by nihilists with their mechanistic, reductionist mindsets, their view of the arts and humanities as trivial, and their flaccid ethics. As Jerome Kagan, among others, have lamented, opposition to this way of thinking in universities has been almost eradicated.¹¹

Most analytic philosophers continue to promote reductionist science and 'scientism', the view that by applying dispassionately and mechanically a scientific method, scientists can add to the bucket of useful knowledge without the need for any philosophical justification or reflection. Other academics in the humanities and artists, claiming to be radically anti-elitist, have embraced deconstructive postmodernism, effectively also capitulating to scientism. Ignoring philosophers who had defended the value of the arts and humanities, artists and writers have embraced and promulgated the view that the arts and literature are nothing but forms of decoration or entertainment. Rather than struggling against the fragmentation, disorientation and ugliness of a nihilistic world, they have gone with the flow and created fragmentary, disorienting, ugly works of art which are supposed to shock people, apparently believing that surrendering to scientism and the dull old frogs of psychology is challenging. Robbe-Grillet's 'The Secret Room' exemplifies this. As McGilchrist described it, "This 'story' consists of a series of static descriptions of a woman's corpse. Its cold, clinical detachment expresses better than any purely abstract art the triumph of alienation over natural human feeling, over in fact the body and all that it implies' (p.397).

Sociobiologists claim to have explained the appearance of altruism as the mechanical effect of selfish genes, then, redefining ideas as memes, they claim to have explained the reproduction and transformation of these in the same way. Neoclassical economists, the preachers of the 'gospel of greed' (to use John Ruskin's characterization of political economy), proselytizing Hobbes conception of humans as machines moved by appetites and aversions have colonized and subjugated all the other social sciences. Sociology has been trivialized, fragmented into subdisciplines and reduced to an adjunct of economics, dealing with problems of how to make people conform to the requirements of a society dominated by the market. Most

¹⁰ As I have argued elsewhere, nihilism has been incorporated as a *habitus* and embodied in our institutions and built-up environments, and thereby been placed beyond questioning. (*Nihilism Inc.: Environmental Destruction and the Metaphysics of Sustainability*, Sydney: Eco-Logical Press, 1996. <http://researchbank.swinburne.edu.au/vital/access/manager/Repository/swin:9739>.)

¹¹ Jerome Kagan, *The Three Cultures: Natural Sciences, Social Sciences, and the Humanities in the 21st Century*, Cambridge: Cambridge University Press, 2009.

importantly, the dull old frogs of psychology have continued to elaborate their debasing theories of humanity. Creeping around their bog, they found the human brain. Having failed to convince people of behaviourism, that minds were complete illusions, they took to neuroscience and set out to explain conscious thought as nothing but the effects of physical and chemical processes without causal efficacy. They claim to have succeeded in showing that apparently conscious decisions are nothing but epiphenomena, following rather than preceding physico-chemical events in the brain.

The complete debasement of humanity and life, the ultimate nihilism of modern civilization, appeared to be at hand. If consciousness could be dismissed as an epiphenomenon and the brain described as nothing but a computer made out of proteins, destined to be superseded by more efficient manufactured computers made out of silicon, any assumption of the intrinsic significance of humans, let alone other forms of life, would be dissolved. Reductionist science and the scientism associated with it, originating in the quest for truth, will have finally succeeded in devaluing the highest values, including the value of truth. People could then be treated as disposable instruments by those who have worked out how their brains work and replicated their abilities in machines. Ecocide, culminating in the destruction of all terrestrial life, will become a matter of indifference.

However, neuroscience has produced results, often overlooked, that not only do not support this debased view of humanity, but justify Nietzsche's contention that detached reflectivity and the drive to explain away the value of life are manifestation of a sick culture. This is not just a matter of showing again that reductionist approaches fail and greater insight into the brain's functioning can be achieved through holistic traditions of thought. It is now becoming evident that despite winning virtually all the arguments and being able to justify a world orientation that reconciles the sciences, the arts and the humanities and justifies believing in the intrinsic value of life, those defending such views have still been marginalized. What these developments in neuroscience promise is an explanation for the imperviousness to arguments by these reductionists and for the continued advance of nihilism.

New research on the different hemispheres of the brain made possible by new technologies such as electroencephalography (EEG) and magnetic resonance imaging (MRI) which enable researchers to see where brain activity is occurring when experimental subjects engage in different activities, and to stimulate or put out of action different parts of the brain and observe the effects, along with further research on brain physiology and studies of people with damaged brains (including people with split brains), have provided not only greater understanding of how the different hemispheres work, how they interact and what is their contribution to experience and

thought, but also how the hemispheres develop and how they can malfunction. Such research suggests that the direction being taken by mainstream modern science, far from being the result of the disinterested quest for truth, is driven by a neuropathological condition. Integrating the results of this research, results which were supposed to be the crowning achievement of reductionist science, McGilchrist has shown the quest for reductionist explanations to be a symptom of malfunctioning brains. Using this research in neuroscience, along with research on the evolution of the brain and the history of civilization, relating all this to the study of psychopathologies, he has shown the nihilistic orientation to the world is an effect of an improper balance in the relationship between the two cerebral hemispheres. Reductionist science, and the culture it supports, is revealed to be a symptom of a neuropathology.

THE NEUROLOGICAL BASIS OF NIHILISM

The most striking evidence that nihilism is the result of malfunctioning brains is the changes brought about by physical damage to or deactivation of the right hemisphere. In the afflicted individuals there is a dramatic narrowing of focus, fragmentation of experience, emotional detachment, blindness to the reality of life and insensitivity to the feelings of others, combined with a peculiar shallow optimism and a blindness to their own limitations. Such changes show that it is through the left hemisphere that the world is experienced mechanistically, and that it is the right hemisphere which confers the ability to empathise, to appreciate wholes as wholes and the reality of life, to appreciate context, particularly temporal context, and consequently, to experience coherence and meaning in the world.

Illustrating how the impetus to understand the world mechanistically comes from the left hemisphere, and highlighting the experience of being alive (the body as lived rather than contemplated) that is lost when the world is experienced mechanistically, is the way patients with right hemisphere damage come to experience their own bodies as assemblages of parts. One patient experienced the left side of his chest, abdomen and stomach as a 'wooden plank' divided into compartments of transverse planks (p.55). He described how food is sucked into compartments of this scaffolding and how it falls through a hole at the bottom. Emotional impoverishment occurs because, as McGilchrist explained, it is the right hemisphere which is 'more intimately connected with the limbic system, an ancient subcortical system that is involved in the experience of emotions of all kinds ... than is the left hemisphere.' And '[t]he right frontal pole also regulates the hypothalamic-pituitary axis, which is the neuroendocrine interface between the body and emotion' (p.58). That is, the right hemisphere is more fully integrated with and integral to the functioning of the body as a whole. Similarly,

empathy requires ‘the right frontal lobe, particularly the right ventromedial and orbitofrontal cortex’ (p.85). Psychopaths in particular have been shown to be deficient in this area when observing other people. The right hemisphere is also more important in emotional perception and emotional expression and in inhibiting emotion. The decontextualized world of people with right hemisphere damage eventually breaks up into meaningless fragments which then appear to be unreal. Summing up observations of people so afflicted, McGilchrist wrote:

The world loses reality. People who have lost significant right-hemisphere function experience a world from which meaning has been drained, where vitality appears attenuated, and where things themselves seem insubstantial, to lack corporeal solidity. Because of the sense of detachment, such people can begin to doubt the actuality of what they see, wondering if it is in fact all ‘play-acting’, a pretence, unreal (p.191f.).

The peculiar phenomenon that McGilchrist draws attention to is that transformations of experience shown to be brought about by damage (or deactivation) of the right hemisphere are manifest in the broader culture. Modernity, in which a mechanistic world-view was accepted, was followed by modernism in which the abstractions of science were absorbed into everyday life, and this is now giving way to postmodernism in which the consequent fragmentation of experience is being absorbed. As McGilchrist observes,

With post-modernism, meaning drains away. Art becomes a game in which the emptiness of a wholly insubstantial world, in which there is nothing beyond the set of terms we have in vain used to ‘construct’ meaning, is allowed to speak for its own vacuity. The set of terms are now seen simply to refer to themselves. They have lost transparency; and all conditions that would yield meaning have been ironized out of existence (p.422f.).

Schizophrenia is a modern disease, the symptoms of which were only unambiguously described in recognizably modern terms in the early nineteenth century, and since then has become progressively more common. Noting the similarities between schizophrenics and modern and postmodern art, and neurological evidence that schizophrenia is associated with excessive left-hemisphere activity, McGilchrist observes that schizophrenia is really an extreme expression of modern and postmodern culture. He points out common features between people with right-hemisphere damage and this psychopathology of modern and postmodern culture:

In cases where the right hemisphere is damaged, we see a range of clinically similar problems to those found in schizophrenia. In either group, subjects find it difficult to understand context, and therefore have problems with pragmatics,

and with appreciating the 'discourse elements' of communication. They have similar problems in understanding tone, interpreting facial expressions, expressing and interpreting emotions, and understanding the presuppositions that lie behind another's point of view. They have similar problems with *Gestalt* perception and the understanding and grasping of wholes. They have similar problems with intuitive processing, and similar deficits in understanding metaphor. Both exhibit problems with appreciating narrative, and both tend to lose a sense of the natural flow of time, which becomes substituted by a succession of moments of stasis. Both report experiencing the related *Zeitraffer* phenomenon in visual perception (something that can sometimes be seen represented in the art works of schizophrenic subjects). Both appear to have a deficient sense of the reality or substantiality of experience ('it's all play-acting'), as well as of the uniqueness of an event, object or person. Perhaps most significantly they have a similar lack of what might be called common sense. In both there is a loss of the stabilizing, coherence-giving, framework-building role that the right hemisphere fulfils in normal individuals. Both exhibit a reduction in pre-attentive processing and an increase in narrowly focused attention, which is particularistic, over-intellectualizing and inappropriately deliberate in approach. Both rely on piecemeal decontextualized analysis, rather than on an intuitive, spontaneous or global mode of apprehension. Both tend to schematise - for example, to scrutinize the behavior of others, rather as a visitor from another culture might, to discover the 'rules' which explain their behavior. The living become machine-like: as if to confirm the left-hemisphere's view of the world... (p.392).

For those who do not experience the world as nothing but meaningless, decontextualized fragments, the question arises why people who experience the world in this way are not horrified by what they are experiencing. Why is there not a reaction against absurdity? At least in the early phases of modern art, there was such a reaction. Modernist poetry, some modernist painting, existentialism and the theatre of the absurd were in fact heroic responses to the threat of nihilism, achieving some coherence despite such fragmentation. As McGilchrist noted, referring to Marc Chagall among others, grappling with the conundrum of incorporating the fragmentation of the modern world into art while not succumbing to this fragmentation, they have 'been impelled to truly imaginative, intuitive solutions, creating often idiosyncratic works of great power' (p.410). However, late modernists and postmodernists are happy to wallow in the gutter of this fragmented world, producing works which are as 'fragmented, incoherent, decontextualised and alien' as the world around them. Claiming to celebrate play, they produce 'a grim parody of play... familiar to psychiatrists because of the way that psychopaths use displays of

lack of feeling – a jokey, gamesy, but chilling, indifference to subjects that spontaneously call forth strong emotions – to gain control of others and make them feel vulnerable’ (p.424f.). All this becomes intelligible when another feature of right-hemisphere damage occurs, the astonishing inability of these people to face up to reality and their own condition and limitations. This is the extraordinary phenomenon of anosognosia.

Illustrating anosognosia, McGilchrist describes patients after strokes severely damaged their right hemispheres and left them with partial or complete paralysis of their left side. Unlike patients with left-hemisphere damage, patients with right-hemisphere damage pointedly refuse to accept that there is anything wrong with them, offering preposterous explanations for why they are not able to move paralysed limbs. There is a willful denial, characterized by patients spontaneously hiding the affected limb behind their backs or under their bedclothes, and if forced to touch the affected limb, looking away from it in disgust. Sometimes limbs are disowned, in one case a woman claiming her left arm belonged to her mother (p.68). At the same time these patients have a shallow, facile optimism with ‘euphoria, joviality, and a penchant for feeble puns’ (p.85). McGilchrist concluded from this:

Denial is a left hemisphere speciality: in states of relative right-hemisphere inactivation, in which there is therefore a bias toward the left hemisphere, subjects tend to evaluate themselves optimistically, view pictures more positively, and are more apt to stick to their existing point of view. In the presence of a right hemisphere stroke, the left hemisphere is ‘crippled by naively optimistic forecasting of outcomes.’ It is always the winner.... (p.85)

Along with this capacity for denial is a tendency to avoid taking responsibility. If a paralysed left arm is injected with salt water and told that this will paralyse the arm, the patient, who can then blame the paralysis on someone else, accepts that it is paralysed. However, it is the vehemence of denial and refusal to accept responsibility that is truly astonishing. Quoting V.S. Ramachandran, McGilchrist continued:

‘The left hemisphere is conformist, largely indifferent to discrepancies, whereas the right hemisphere is opposite: highly sensitive to perturbation.’ Denial, a tendency to conform, a willingness to disregard the evidence, a habit of ducking responsibility, a blindness to mere experience in the face of the overwhelming evidence of theory: these might sound ominously familiar to observers of contemporary Western life. ... Evidence of failure does not mean that we are going in the wrong direction, only that we have not gone far enough in the direction we are already headed. (p.235).

The right hemispheres of most people living in the modern or postmodern world are not damaged. Why should they be behaving like people with damaged brains?

Studies of how the two hemispheres of the brain interact with each other through the corpus collosum have shown that this not only functions as a channel of communication, but also, just as importantly, has an inhibitory function, allowing the two hemispheres to work independently of each other. However, such inhibition is asymmetric. The right hemisphere has a more even concern for the functioning of both hemispheres, while the left hemisphere tends to compete with the right hemisphere, and is better able to suppress the right than the right is able to suppress the left. So while the role of the right hemisphere with its contextual, global comprehension and openness to new experience is more important than the role of the left hemisphere and is required for the effective synthesis of the contributions to experience of the two hemispheres, the left has more power than the right (p.218f). Since the left hemisphere, the specialized function of which is to manipulate and control, cannot understand what the right hemisphere understands (although, as McGilchrist notes, 'it is expert at pretending that it does, at finding quite plausible, but bogus, explanations for the evidence that does not fit its version of events' (p.234), it tends to suppress the right hemisphere's contributions, and if it gains dominance, this suppression is accentuated. Although McGilchrist does not refer to this example, the suppression of the experience of one eye when there is a muscle imbalance illustrates what happens with such suppression. It can lead to complete blindness in that eye, although there is nothing wrong with it physiologically. The process of suppressing the right hemisphere, while not so complete, is more dramatic. It is evident in 'the left hemisphere's intemperate attacks on nature, art, religion and the body, the main routes to something beyond its power' (p.230). As McGilchrist characterized this, 'the Master's emissary has become a tyrant' (p.230). Schizophrenia and disorders of bodily experience are merely the extreme form of this suppression of the right hemisphere and tyranny of the left hemisphere.

This suppression is not merely psychological but has consequences which have the effect of reinforcing this suppression. McGilchrist refers to

the unprecedented assault on the natural world, not just through exploitation, despoliation and pollution, but also more subtly, through excessive "management" of one kind or another, coupled with an increase in the virtuality of life, both in work undertaken, and in the omnipresence in leisure time of television and the internet, which between them have created a largely insubstantial replica of 'life' as processed by the left hemisphere (p.387).

That is, left hemisphere dominance transforms the world and the environments in which people live in such a way that such dominance is fostered and reinforced.

On the basis of this analysis of the neurological basis of nihilism, McGilchrist conjectures what society would be like if the left hemisphere succeeded in suppressing

the right hemisphere completely:

We could expect, for a start, that there would be a loss of the broader picture, and a substitution of a more narrowly focused, restricted, but detailed world, making it perhaps difficult to maintain a coherent overview. The broader picture in any case would be disregarded, because it would lack the appearance of clarity and certainty which the left hemisphere craves. In general, the 'bits' of anything, the parts into which it could be disassembled, would come to seem more important, more likely to lead to knowledge and understanding, than the whole, which would come to be seen as no more than the sum of the parts. Ever more narrowly focussed attention would lead to an increasing specialisation and technicalising of knowledge. This in turn would promote the substitution of information, and information gathering, for knowledge which comes through experience. Knowledge, in its turn, would seem more 'real' than what one might call wisdom, which would seem too nebulous, something never to be grasped. One would expect the left hemisphere to keep doing refining experiments on detail, at which it is exceedingly proficient, but to be correspondingly blind to what is not clear or certain, or cannot be brought into focus right in the middle of the visual field. In fact one would expect a sort of dismissive attitude to anything outside of its limited focus, because the right hemisphere's take on the whole picture would simply not be available to it. Knowledge that came through experience, and the practical acquisition of embodied skill, would become suspect, appearing either a threat or simply incomprehensible. ... Skills themselves would be reduced to algorithmic procedures which could be drawn up, and even if necessary regulated, by administrators, since without that the mistrustful tendencies of the left hemisphere could not be certain that these nebulous 'skills' were being evenly and 'correctly' applied. There would be an increase in both abstraction and reification, whereby the human body itself and we ourselves, as well as the material world, and the works of art we made to understand it, would become simultaneously more conceptual and seen as mere things. The world as a whole would become more virtualised, and our experience of it would be increasingly through meta-representations of one kind or another; fewer people would find themselves doing work involving contact with anything in the real, 'lived' world, rather than with plans, strategies, paperwork, management and bureaucratic procedures. In fact, more and more work would come to be overtaken by the meta-process of documenting or justifying what one was doing or supposed to be doing - at the expense of the real job in the living world. Technology would flourish, as an expression of the left hemisphere's desire to manipulate and control the world for its own pleasure, but it would be accompanied by a vast expansion of bureaucracy, systems of abstraction and control (p.428f.).

McGilchrist might have added that in such a world there would be only tepid

emotions (apart from anger, the emotion based in the left-hemisphere) and little empathy, shame, guilt or responsibility. The failures engendered by this social order would not be acknowledged until they had reached disastrous proportions, and then responsibility for creating these disasters would be denied. Clearly, we are advancing rapidly towards this complete suppression of the right hemisphere, if we have not already arrived.

LIFE IN A HALL OF MIRRORS

McGilchrist is making some very bold claims, and defending them is challenging in more ways than one. When, following groundbreaking research by Roger Sperry on patients who had had their corpus collosums divided, splitting their brains and revealing the difference between the two hemispheres, most psychologists concluded that it is the left hemisphere that is the seat of the most important abilities of humans. This view was eloquently defended and developed by Michael Corballis in *The Lopsided Ape: Evolution of the Generative Mind*.¹² It was appreciated by some that more holistic and creative thinking was associated with the right hemisphere, and this was championed by a smaller group, usually associated with counter-cultural movements. This polarization, based on what was increasingly exposed as simplistic interpretations of the two hemispheres and their relationship, discredited much work in this area.¹³ In order to defend his views McGilchrist has had to combat both those who have taken the left hemisphere as more important, and those who extolled the right hemisphere whose ideas McGilchrist's work superficially resembles. Noting that there are two kinds of people, those who believe there are two kinds of people and those who don't, McGilchrist emphatically aligns himself with the latter. His argument is much more complex than aligning himself with the right hemisphere against the left hemisphere. It is an argument that the development of the whole brain is required for humans to realize their full potential and to experience and understand the richness of the world, and this requires that the right hemisphere's role not be usurped by the left-hemisphere, which, as the potential of the frontal lobes develop with the advance of civilization, it is prone to do. McGilchrist emphasizes repeatedly that he fully appreciates the contributions to life made through the cultivation of the left hemisphere, that is, all the technological developments that have made civilized life possible, and to distance himself from those who denigrate the quest for truth and science. What he is critical of and sees as pathological is the identification of truth and

¹² Michael C. Corballis, *The Lopsided Ape: Evolution of the Generative Mind*, New York: Oxford University Press, 1991.

¹³ See for instance William H. Calvin, 'Left Brain, Right Brain: Science or the New Phrenology?', *The Throwing Madonna*, Lincoln: iUniverse.com, 2000, ch.10.

science with the knowledge claims of scientific materialism.

The greatest difficulty in defending this position arises from being in a culture in which people's left hemispheres have usurped the role of their right hemispheres and everything is seen from its perspective. Experience coming from the right hemisphere is denied significance, blocking the emergence of new qualities of experience through the interaction of the two hemispheres. Rather than acknowledging the holistic, living quality of reality that only the right hemisphere can fully experience and appreciate, people simply deny that it has this quality and block efforts to utilize the abilities of the right hemisphere to illuminate this quality. And rather than appreciating values that transcend utilitarian values, people invert the hierarchy of values as characterized by Max Scheler (p.160) and judge the higher values, the values of life, of the intellect and holy values, instrumentally. McGilchrist offers an example: '[T]here has been ... a parallel movement towards the possible rehabilitation of religious practices as utility. Thus 15 minutes Zen meditation a day may make you a more effective money broker, or improve your blood pressure, or lower your cholesterol' (p.441).

A similar inversion is evident among neuroscientists who claim to be redeeming aspects of experience that in the past have been denigrated. In his book *Descartes' Error: Emotion, Reason and the Human Brain*, Antonio Damasio argued what appeared to be a radical position in pointing out the importance of emotion for reasoning. Gilchrist supports this argument, pointing out that affect precedes cognitive assessment (p.184); but as he pointed out, Damasio reduced emotion to an instrument of reason. Emotion, according to Damasio, is 'derived from the body by a "readout" enabling you to "see" your feelings "through a window"' (p.186). He has 'outstripped Descartes at his own game,' McGilchrist observed.

Because people's brains are malfunctioning, and such malfunctioning is so entrenched, any questioning of it is immediately interpreted from a mechanistic, instrumentalist perspective, a perspective now embodied in social practices and forms of life. As McGilchrist described this problem:

[T]he left hemisphere, which creates a sort of self-reflexive virtual world, has blocked off the available exits, the ways out of the hall of mirrors, into a reality which the right hemisphere could enable us to understand (p.6). Today all the available sources of intuitive life – cultural tradition, the natural world, the body, religion and art – have been so conceptualised, devitalised and 'deconstructed' (ironised) by the world of words, mechanistic systems and theories constituted by the left hemisphere that their power to help us see beyond the hermetic world that it has set up has been largely drained from them (p.244).

It is for this reason that simply pointing to the similarities between people with right hemisphere damage, schizophrenia and postmodern culture is not enough. To escape

this hall of mirrors and defend the mode of being in the world made possible by the right hemisphere it is necessary to foster imagination and contextualize studies of the present state of culture through both evolutionary theory and history, showing how the brain evolved and how the history of civilization is illuminated by showing the role of the brain in the great achievements and great failures of civilization.

BRAIN FUNCTIONING IN EVOLUTONARY CONTEXT

The Master and His Emissary is divided into two parts, 'The Divided Brain' and 'How Our Brain has Shaped our World', each with six chapters. In Part I, McGilchrist engages in debates over the whole range of evolutionary biology and brain science, and Part II, offers new insights into the evolution of Western civilization and our present condition. The first part also provides a history of research into the brain from a range of disciplines. The complexity of the topic with arguments over such a range of disciplines makes it impossible to do the book justice, even in a relatively long review essay. However, it is possible to describe the central arguments.

The first chapter describes the evolution and growing asymmetry of the brain, pointing out that the right hemisphere is larger and has a more complex structure than the left hemisphere and has different kinds of neurons with the right hemisphere having greater dendritic branching, meaning more connective processes. The right hemisphere also has more white matter, facilitating transfer across regions, where the left hemisphere prioritizes local communication. With new stimuli, noradrenaline is released in the right hemisphere, and noradrenergic neurons specific to this hemisphere do not fatigue, enabling exploratory attention to be held open over a longer expanse of both space and time (p.43). The right hemisphere has a longer working memory and is able to access more information and hold it together. It is also connected to, influenced by and more integrated with the rest of the body as it interacts with its environment. The difference between the hemispheres becomes intelligible when it is seen that the left hemisphere is really an adjunct to the right hemisphere. The size of the corpus collosum has decreased with evolution, suggesting an advantage in having each hemisphere work relatively independently without distracting signals from the other hemisphere. This is more the case with the left hemisphere. So, what functions do the different hemispheres serve? Drawing on research on birds and other animals, McGilchrist argues 'the left hemisphere yields narrow, focused attention, mainly for the purpose of getting and feeding. The right hemisphere yields a broad, vigilant attention, the purpose of which appears to be awareness of signals from the surroundings, especially of other creatures, who are potential predators or potential mates, foes or friends; and it is involved in bonding in

social animals' (p.27). He suggests the right hemisphere at the same time is also required to integrate the two largely incompatible types of attention.

Having pointed to the core differences between the two hemispheres, McGilchrist examines the two different worlds brought into being and the different ways of attending to these worlds of these hemispheres. In the rest of the book he shows how, with the evolution of the human brain, this difference has not been superseded but taken more complex forms. Greater complexity is associated with the evolution of the frontal lobes which in humans are greatly enlarged and which are responsible for their distinctive abilities. It is this development which enables humans to stand back from immediate experience, their world and themselves and to inhibit their responses to immediate situations. As McGilchrist noted, 'This enables us to plan, to think flexibly and inventively, and, in brief, to take control of the world around us rather than simply respond to it passively' (p.21). Most obviously, this detachment from immediate situations enables people to coldly calculate not only how to control things, but how to outwit others. These are the capacities associated with the frontal lobes of the left hemisphere. However, it is this standing back, developed most fully with civilization, that makes possible our appreciation of others and ourselves as social beings. As McGilchrist noted: 'what is less remarked is that, in total contrast [to such cold calculation] it also has the opposite effect. By standing back from the animal immediacy of our experience we are able to be more empathetic with others, who we come to see, for the first time, as being like ourselves' (p.22).

What this means is that the development of the frontal lobes of the brain with civilization simultaneously advances two fundamentally different and partially opposed worlds and ways of attending to the world. However, while it is the achievements associated with the left hemisphere which are normally emphasized, these are derivative and ultimately less significant than the achievements of the right hemisphere. In the conclusion to this chapter McGilchrist describes how the left hemisphere's achievements are based on representations which filter out and deny reality to life and interconnectedness in nature and society which we experience immediately with the right hemisphere:

...the brain has to attend to the world in two completely different ways, and in so doing to bring two different worlds into being. In the one, we *experience* – the live, complex, embodied, world of individual, always unique beings, forever in flux, a net of interdependencies, forming and reforming wholes, a world with which we are deeply connected. In the other we 'experience' our experience in a special way: a 're-presented' version of it, containing now static, separable, bounded, but essentially fragmentary entities, grouped into classes, on which predictions can be based. The kind of attention isolates, fixes and makes each thing explicit by

bringing it under the spotlight of attention. In doing so it renders things inert, mechanical, lifeless. But it also enables us for the first time to know, and consequently to learn and to make things. This gives us power (p.31).

‘Presentational’ experience is advanced with the development of the right hemisphere, extending our abilities to empathize and put ourselves in the shoes of others, to appreciate life’s significance and to experience what is new, while what is seen as representative of a category is rendered lifeless and thereby controllable. As McGilchrist elaborated on this in the following chapter:

Not only does the right hemisphere have an affinity with whatever is living, but the left hemisphere has an equal affinity for what is mechanical. The left hemisphere’s principal concern is utility. It is interested in what it has made, and in the world as a resource to be used. It is therefore natural that it has a particular affinity for words and concepts for tools, man-made things, mechanisms and whatever is not alive (p.55).

The crucial point is that it is the right hemisphere, ‘with ... its mode of knowing which involves reciprocation, a reverberative process, back and forth, compared with the linear, sequential, unidirectional method of building up a picture favoured by the left hemisphere’ (p.194), which experiences the world as it is presented. The right hemisphere cannot analyse and make explicit what it knows, but once it has been explicated by the left hemisphere, the right hemisphere is required to reintegrate what has been unpacked into the whole where it can once more live. As presented, the world is in process of becoming, while the left hemisphere, in re-presenting what is presented, breaks up this flow of experience into changeless bits. It focuses on limited aspects of presented experience, explicating what is implicit, so it is a derivate and impoverished view of the world, even if it does facilitate the quest to control and dominate and the development of technology. As McGilchrist put it,

... it is the right hemisphere that succeeds in bringing us in touch with whatever is new by an attitude of receptive openness to what is – by contrast with the left hemisphere’s view that it makes new things actively, by willfully putting them together bit by bit – it seems that here, too, is evidence, if any further were needed, that the right hemisphere is more true to the nature of things’ (p.198).

RETHINKING THE NATURE OF MIND

The chapters in Part I following Chapter One further defend and elaborate on this difference between the two hemispheres, focusing in particular on the distinctive contributions of the right hemisphere, that is, the aspects of experience which in the modern and postmodern world tend to be grossly undervalued or even denied,

showing this to be the effect of the triumph of the left hemisphere. The chapter titles of this part are: 'What do the Two Hemispheres Do?', 'Language, Truth and Music', 'The Nature of the Two Worlds', 'The Primacy of the Right Hemisphere', and 'The Triumph of the Left Hemisphere'. A proper understanding of these chapters clarifies McGilchrist's anthropomorphic language in describing the two hemispheres. He does not expect his anthropomorphic descriptions of the brain hemispheres as actors, 'usurping', 'seeing', having drives, being in conflict etc., to be taken literally. It is shorthand for more complex descriptions that, if used, would make his account of his work too clumsy to follow properly.

At the same time, there is some justification for using this anthropomorphic language. Reference to the brain is usually taken to mean reference to a 'thing' or object, and so there is a tendency in reading McGilchrist to interpret him as arguing that the hemispheres are things or objects with intentions in opposition to the normal view that only subjects have intentions. However, this whole way of thinking is being challenged by the tradition of philosophy McGilchrist is aligned with, a tradition which takes processes as basic and treats subjects and objects as co-emergent from these. To clarify this, McGilchrist quotes John Dewey:

To see the organism in nature, the nervous system in the organism, the brain in the nervous system, the cortex in the brain is the answer to the problems which haunt philosophy. And when thus seen they will be seen to be *in*, not as marbles are in a box but as events are in history, growing, never finished process. (p.142)

The brain is a structured and structuring process of becoming in the context of a whole hierarchy of other processes. It is simplifying to characterize it, or a hemisphere, as a thing or an actor with drives. That is an abstraction. But then it is a simplifying abstraction to treat individual people as completely autonomous agents with drives. Their experiencing, thinking and acting are always enmeshed in social, cultural and physical contexts, and are made possible by and involve physiological processes. It is not only that such thinking would not be possible without these contexts; these contexts are involved in people's feeling, thinking and acting in a way that is not under conscious control, at least as normally understood. As McGilchrist notes, simply being presented with stereotypes of professors as opposed to hooligans leads people to perform better on tests (p.167).

What is emphatically brought home by these chapters is that '[t]he right hemisphere is responsible for every type of attention except focused attention' (p.39), and shows that this is both the most important form of attention and the condition for focused attention. Serving such attention,

the right hemisphere has a greater degree of myelination, facilitating swift transfer of information between the cortex and centres below the cortex, and

greater connection in general. ... It is also better able to integrate perceptual processes, particularly bringing together different kinds of information from different senses ... and from memory, so as to generate the richly complex, but coherent, world we experience' (p.42).

This less focused attention is required for flexibility of thought and creativity, for appreciating what is new and the limits of present knowledge, for global attention and the sense of one's embodied position and being an embodied subject in the world, for recognizing whole patterns before they can be analysed, for appreciating context as opposed to what is abstracted from context, and for appreciating what is individual as opposed to general characteristics. The right hemisphere is required to appreciate life in nature, for seeing facial expressions and appreciating the emotions of others, for emotional expressivity, to appreciate what is personal as opposed to impersonal and changes occurring within individuals over a duration rather than differences between individuals. Consequently it is also required to experience durational patterns as in music, three-dimensional depth, and for a moral sense and sense of a self with a history.

More specifically, the right hemisphere 'with its greater integrative power, is constantly searching for patterns in things. In fact its understanding is based on complex pattern recognition' (p.47). While 'there is a tendency for the left hemisphere to deny discrepancies that do not fit its already generated schema of things' ... [t]he right hemisphere, by contrast, is actively watching for discrepancies' (p.41). At the same time, it is the right hemisphere that grasps the *Gestalt*, the whole. The right hemisphere specializes in 'pragmatics, the art of contextual understanding of meaning, and in using metaphor' (p.49). While 'the left hemisphere utilizes abstract categories, the right hemisphere operates more effectively using specific exemplars' (p.52). By understanding of meaning as a whole in context, '[i]t is with the right hemisphere that we understand the moral of a story, as well as the point of a joke' (p.70). Since it is the right hemisphere that grasps temporal becoming, 'understanding of narrative is a right hemisphere skill; the left hemisphere cannot follow a narrative' (p.76). As McGilchrist notes, '[t]ime is the context that gives meaning to everything... and conversely everything that has meaning for us... everything that has a place in our lives, exists in time.' This appreciating of temporality also underlies the appreciation of poetry, and the sadness or melancholy associated with this appreciation.

If pointing to and defending the primacy of the contributions of the right hemisphere were all McGilchrist were doing, this would not add a great deal to the arguments of those who have already pointed to these aspects of experience. Nietzsche, Bergson, James, Whitehead, the Gestalt psychologists, Husserl, Scheler, Heidegger, Merleau-Ponty, Paul Ricoeur and Mark Johnson among many others have

all pointed to the primacy of the experience of being an embodied subject and of becoming, the centrality of metaphor and narrative, and the derivative status of abstract thought, and they were preceded in this by Vico, Herder and Schelling. The importance of McGilchrist's work on this is that he has shown how all these insights have been validated by experimental work on the brain, research that was supposed to be the triumph of scientific materialism. At the same time he has greatly clarified the nature of such experience, providing a subtle analysis of the way in which abstract thinking evolved from a manipulative orientation to the world, and the way this orientation, while valuable in its proper place, can blind people to what is experienced by the more complex and less focused forms of attending to the world which are its preconditions.

On the basis of the elucidation of these different forms of attention, McGilchrist has challenged the widely held view that it is those aspects of language based in the left hemisphere, that is denoting, categorizing and abstracting and abstract thinking, which are the defining feature of humans, and that the development of these has driven the expansion of the brain. Each hemisphere is predisposed to understand the world in a particular way and the language associated with the left hemisphere, which includes the most abstract language, can be shown to derive from the manipulative orientation to the world of the left hemisphere. However, the development such language is incomprehensible except as metaphorical elaborations of our bodily engagement in the world. Metaphors are both the cause and the effect of our understanding, and, as McGilchrist points out, the capacity to think metaphorically is based in the right hemisphere.

Concomitantly, it used to be thought that the left hemisphere was the seat of language, but it is now recognized that the right hemisphere also has a language centre, more concerned with emotional expression than analytical reflection, and is particularly important in gesturing. And it is now recognized that gesture was central to the evolutionary origins of language, and is still of major importance, accounting for up to a half of what is communicated. There are expressive and instrumental gestures associated with the right and left hemispheres respectively, with expressive gestures being more important to speech and communication. Expressive gestures are not only central to communication but help constitute thought and expression, especially thought and expression associated with the global-synthetic form of what people want to say. Supporting this contention that it is the right hemisphere that is the more important for the evolution of language, McGilchrist points out that evidence from evolutionary biology also suggests that music preceded language, and language emerged from the capacity to sing associated with the right hemisphere. McGilchrist

concluded,

language originates as an embodied expression of emotion, that is communicated by one individual 'inhabiting' the body, and therefore the emotional world, of another; a bodily skill, further, that is acquired by each of us through imitation, by the emotional identification and intuitive harmonisation of the bodily states of the one who learns with the one from whom it is learnt; a skill moreover that originates in the brain as an analogue of bodily movement, and involves the same processes, and even the same brain areas, as certain highly expressive gestures, as well as involving neurons (mirror neurons) that are activated equally when we carry out an action and when we see another carry it out (so that in the process we can almost literally be said to share one another's bodily experience and inhabit one another's bodies); a process, finally, that anthropologists see as derived from music, in turn an extension of grooming, which binds us together as physically embodied beings through a form of extended body language that is emotionally compelling across a large number of individuals within a group (p.122f).

McGilchrist argues that rather than abstract language being the defining characteristic of humanity, it is our capacity to imitate that is our defining characteristic. As he writes in a later chapter:

Imitation is a human characteristic, and is arguably the most important human skill, a critical development of the human brain. It is surely how we came to learn music, and ... it is how we learnt, and learn, language. Only humans, apart from birds, are thought normally to imitate sounds directly, and only humans can truly imitate another's course of action. ... This may sound like a backward step, but it isn't. The enormous strength of the human capacity for mimesis is that our brains let us escape from the confines of our own experience and enter directly into the experience of another being: this is the way in which, through human consciousness, we bridge the gap, share in what another feels and does, in what it is like to be that person. This comes about through our ability to transform what we perceive into something we directly experience (p.248).

He continues:

Imitation gives rise, paradoxically as it may seem, to individuality. That is precisely because the process is not mechanical reproduction, but an imaginative inhabiting of the other, which is always different because of its intersubjective betweenness. The process of mimesis is one of intention, aspiration, attraction and empathy, drawing heavily on the right hemisphere, whereas copying is the following of disembodied procedures and algorithms, and is left-hemisphere-based (p.249).

Imagination is central to imitation, and McGilchrist warned, 'Imagination, then, is not

a neutral projection of images on a screen. We need to be careful of our imagination, since what we imagine is in a sense what we are and who we become' (p.250).

THE BRAIN AND CIVILIZATION

Having provided this evolutionary account of the human brain and pointed out its implications, in Part II McGilchrist embarks on his study of Western civilization. The six chapters are 'Imitation and the Evolution of Culture', 'The Ancient World', 'The Renaissance and the Reformation', 'The Enlightenment', 'Romanticism and the Industrial Revolution', and 'The Modern and Post-Modern Worlds'. To begin with, it has to be emphasized that McGilchrist appreciates the achievement of civilization. It is made possible by the large frontal lobes of the human brain, but with civilization the original potential of these lobes is greatly developed. This gets back to McGilchrist's claim that he is not one of those people who see things in terms of binary oppositions. In Part II McGilchrist's task is twofold, or perhaps threefold. It is to show what is possible in civilization. Then, to clarify where civilization has gone off the rails, where it has not only failed to realize what is possible, but has prevented these possibilities being realized. The third task is to reveal a way out of the hall of mirrors that has been created by the tyranny of the left hemisphere.

To show what is possible with civilization, McGilchrist identifies those periods of history in which the potential of the two hemispheres of the brain were both developed and maintained their proper relationship, with the right hemisphere properly recognized by the left hemisphere as the master. As with Nietzsche (and Heidegger) McGilchrist looks back to Ancient Greece, although he identifies two other periods where there was this balance: Augustan Rome and the Renaissance. He also recognizes the Romantics as thinkers attempting to recover the proper relationship between the two hemispheres. They have been misunderstood; they were not anti-Enlightenment but were promoting the proper relation between the worlds and forms of attending characteristic of the two hemispheres. The example of these healthy eras provides the historical background against which the deformity of modern and postmodern culture can be appreciated.

McGilchrist argues sixth century Ancient Greece was associated with a distinct shift favouring the right hemisphere, characterized by an appreciation of expression and depth in works of art. As he observes, this was also a period in which the left hemisphere also developed, manifest in the change of direction in writing. There was 'a symmetrical, bihemispheric advance at this time – an advance in the functioning of the frontal lobes of both hemispheres' (p.259). In Nietzschean terminology, the Dionysian and Apollonian elements were both developed and remained in balance. It was the development of these frontal lobes that enabled the Greeks to stand back from

their world and from themselves, permitting ‘a far greater capacity to speculate, to consider the lessons of the past and to project possible worlds into the future’ (p.259). These developments, associated with writing, the development of analytic philosophy, development of maps, observations of the stars and of the objective natural world were associated with the development of the left hemisphere, but as McGilchrist pointed out, ‘the urge to do so at all comes from the right’ (p.259). At the same time, these left-hemisphere developments acted as mid-wife for the expansion of the right-hemisphere functions, manifest for instance in the birth of tragedy, revealing an emerging capacity for people to understand the suffering of others. What we see is the rise of certain aspects of the self: ‘empathy with others, imaginative, metaphoric language and art; humour and irony; the discrimination of individual faces, emotional expression, and so on’ (p.260). That is, there was development in two diametrically opposed directions at once, towards greater abstraction from the world and greater empathetic engagement with the world.

McGilchrist describes the evolution of Greek civilization, showing how this tension between two directions played itself out in Greek philosophy. The early philosophers, having achieved some distance from the world, were struck by wonder at the sheer fact of existence and rebelled against the normal way of construing the world. They were torn between efforts to recover the right hemisphere openness to the ‘presencing’ of what is, or tendencies to turn their backs on sensory experience and turn inwards to contemplate the contents of the mind. At first, with philosophers such as Anaximander and Heraclitus, there was an equitable balance between these two tendencies as they searched for the *arche* from which the diversity of things emerged. As McGilchrist notes, for Heraclitus, ‘*logos*, the ultimate reason, cause, meaning, or deep structure of the world, is not some power that lies somewhere behind appearances, as it later would become, but is what Kahn calls a “phenomenal property”, evidenced and experienced in reasoned thought and responses to the world’ (p.269). Heraclitus saw the world as in constant process and argued that we have to open ourselves to experience anew. Without preconceptions we encounter the unity of opposites. We also come to appreciate that all things are full of soul, that there is no sharp distinction between the soul and matter, and the infinite depth of the soul. This sense of the unity of opposites was rejected by Parmenides and Zeno, signaling the challenge by the left-hemisphere to right-hemisphere comprehension. By the time of Socrates and with Plato, respect for the senses was lost and the idea of things was prioritized over the things themselves. Plato left a legacy of a left-hemisphere congruent belief ‘that truth is in principle knowable, that it is knowable through reason alone, and that all truths are consistent with one another’ (p.285). This was associated with the denigration of

myth and art. Acknowledging Plato's ambivalence, McGilchrist concludes 'there is no doubt that it is ultimately the left-hemisphere version of the world that Plato puts forward, for the first time in history; puts forward so strongly that it has taken two thousand years to shake it off' (p.288).

This heralded the beginning of the revolt by the left-hemisphere against the dominion of the right-hemisphere. While Plato's student, Aristotle, reacted against this, Aristotle's followers froze his ideas and observations and turned their backs on the sensible world. McGilchrist describes the unfolding of this revolt which, despite a new balance between the hemispheres having been achieved in Augustan Rome, eventually led to 'a culture marked by a concern with legalistic abstractions, with correctness, and dogmatic certainties of the left-hemisphere' (p.295), eventually leading into the Dark Ages where people lost the capacity to draw back from the world, and almost everything that had been achieved with civilization was lost, until the Renaissance, 'the next great insurgence of the right hemisphere' (p.299).

With the Renaissance there was again a standing back from the world, this time, more self-conscious than in Ancient Athens because people could reflect on the Ancient Greeks and Romans and consciously strive to recover what had been lost. This again was followed by the left-hemisphere gaining the upper hand with the Reformation and the Enlightenment, which McGilchrist takes to include both the scientific revolution of the Seventeenth Century and its development in the Eighteenth Century. The Romantics reasserted the experience of the right-hemisphere, incorporating the best of Enlightenment thought in a more inclusive way of experiencing the world while criticizing the Enlightenment's narrowness and superficiality. 'The best of Enlightenment values were not negated, but *aufgehoben*' McGilchrist pointed out (p.352). Romantics continued to oppose the one-sidedness of these values during the Industrial Revolution. McGilchrist characterized the Industrial Revolution as 'colossally, man's most brazen bid for power over the natural world, the grasping left hemisphere's long-term agenda', 'with its competitive, confident manner, and its belief in its unassailable rightness (the clarity of Truth)'. This involved 'the creating of a world in the left hemisphere's own likeness' (p.386). The Industrial Revolution was followed by the Modernity and Postmodernity in which the agenda of the left hemisphere was further pursued, creating the world which we now inhabit. McGilchrist notes that for the right-hemisphere, the Renaissance, the Reformation, the Enlightenment, the Romantic era, the Industrial Revolution and Modernity and Postmodernity are not sharply divided periods but flow into each other and are complexly inter-related. Using his insights into the functioning of the brain, McGilchrist provides a complex and insightful account of this whole era, showing

relationships between developments in philosophy, painting, music, architecture, literature and science.

The four chapters in which these developments are described and analysed cover too much ground to summarize. However, because of their relevance to understanding postmodernity there are two points that are important to mention. The first is that despite the self-confidence of the Enlightenment, its proponents were forced to recognize that rationality as they conceived it could not secure its own foundations. It had to give a place to a different kind of reasoning to do this, as for instance in Kant's critical philosophy, and the Romantics were in strong position to take this up as a weakness of the left-hemisphere's world and to challenge it. This also underlay Nietzsche's challenge to the Enlightenment, invoking the will to power as the condition for knowledge.

The second is McGilchrist's notion of depth. Pointing to this and revealing its implications is one of McGilchrist's most original contributions and one of the most rewarding aspects of the book. Through this notion, he illuminates the significance of art, music and poetry and their place in history. Noting the place accorded to depth in Ancient Greece and then again in the Renaissance, explaining its possibility as an aspect of the less focused ways of attending of the right hemisphere, he shows how the arts are able to inspire people, and the significance of changes in styles for the advance, or decay, of civilization. The discovery of depth, clearly evident in the art of the Renaissance, indicates the development of the right-hemisphere. And as McGilchrist noted, 'Depth is the sense of something lying *beyond*' (p.181). It is associated with empathy and appreciating people's emotions, with appreciation of context, with freeing people from the stale experience of the left hemisphere and allowing them to experience the world anew, as though for the first time, which is what they are really doing. Loss of depth signifies suppression and stultification of the right hemisphere and should be taken as a warning for the future of civilization. Although it is not clearly spelt out by McGilchrist, it seems that this appreciation of depth is also associated with the experience of the world as a living whole, as opposed to merely having an idea, or representation of it as a whole.

These two points enable us to unravel a tendency to confuse deconstructive postmodernism with the Romantic tradition of thought.¹⁴ These postmodernists do invoke ideas developed by critics of the Enlightenment, including ideas from Nietzsche, on the limits of rationality. However, with the exception of Jean-François

¹⁴ Constructive postmodernism associated with process philosophy is a development of the Romantic tradition, and is antithetical to deconstructive postmodernism. See for instance, *Spirituality and Society: Postmodern Visions*, David Ray Griffin (ed.), SUNY Press, 1988.

Lyotard and those influenced by him, this is not associated with any questioning of instrumental rationality and the mechanistic view of the world, but a cynical acceptance of what techno-science delivers without any interest in questioning or justifying it. It is a pseudo-radicalism claiming to be the ultimate in tolerance by debunking the notion of truth, which thereby neutralizes any genuine critique of injustice. What is lacking in postmodernists is depth, and everything associated with it. It is this that McGilchrist has revealed in his study of the significance of the loss of depth in most modern and nearly all postmodern art. With this lack of depth, there is no value placed on art, except perhaps to challenge people who are bored, if they can still be challenged out of their boredom. Far from postmodernism being a recovery of the forms of experience associated with the right hemisphere that characterized Romanticism and those they influenced, what McGilchrist has shown is that postmodernism manifests the complete suppression of the right hemisphere. The skepticism about rationality takes on a different meaning in this context. It is the acceptance of what instrumental reason delivers without any commitment to it. As McGilchrist characterized postmodernism in the concluding paragraph of his book:

Post-modern indeterminacy affirms not that there is a reality, towards which we must carefully, tentatively, patiently struggle; it does not posit a truth which is nonetheless real because it defies the determinacy imposed on it by the self-conscious left-hemisphere interpreter (and the only structures available to it). On the contrary, it affirms that there *is* no reality, no truth to interpret or determine. (p.427).

Against the background of the history of European civilization, and particularly its most creative periods, and the relationship between these creative periods and the balanced development of the frontal lobes of the brain, we can now see that this nihilistic conclusion is not the wisdom of people with superior intelligence. It is the mindless drifting among fragments combined with shallow optimism of people with malfunctioning brains. And where will it lead us? McGilchrist concluded 'if I am right, that the story of the Western world is one of increasing left-hemisphere domination, we would not expect insight to be the key note. Instead we would expect a sort of insouciant optimism, the sleepwalker whistling a happy tune as he ambles towards the abyss' (p.237).

NIHILISM, PHILOSOPHY AND DECADENCE

How are we to evaluate such a work as this? McGilchrist transcends almost all the disciplinary boundaries and offers penetrating insights into a whole range of historical, philosophical, cultural and scientific issues. It is based on an enormous amount of

research, disguised somewhat by the book having a select bibliography of only five pages. On McGilchrist's website there is a 68 page bibliography, obviously having been prepared to be published in the book. This is clearly the most scholarly and inclusive book of the study of brain lateralization and its significance yet written, and makes an extremely strong case for the importance of this research for virtually every field of the humanities and human sciences. What I have described in this essay in no way does justice to the breadth and complexity of this book. Yet even with this massive amount of research, with the vast scope of the enterprise it is inevitable that scholars, experts and technocrats will find things to disagree with. But without such a broad scope it is impossible to demonstrate the importance of the research on brain lateralization being undertaken.

From the beginning I have examined this book from the perspective of its contribution to understanding and overcoming the nihilistic state of our culture. This brings into focus the problematic state of the arts, of disciplines within the humanities and the human sciences and of science generally, and underlies all the major problems currently facing civilization. In doing so, I have evaluated this book as a major contribution to philosophy, irrespective of the intentions of the author. That is, I have evaluated McGilchrist as, to use Nietzsche's characterization of philosophers, a 'physician of culture'. As such, it is incumbent on him to transcend every discipline and every institution, and the opposition between elites and people in everyday life. Philosophy is not one discipline among others but the form of inquiry that not only puts all other disciplines in perspective but all intellectual inquiry in relation to life generally. It is the discipline that above all must counter the tendency towards fragmentation, including the fragmentation of intellectual inquiry into different disciplines and sub-disciplines and between scholars, experts and technocrats. It is only a book of the scope of *The Master and his Emissary* that can hope to provide the kind of perspective on the current state of civilization and what is required to overcome its diseased state, and it is in terms of its achievements and failures in this regard that it should be judged.

To begin with, McGilchrist has provided an up to date account of brain research on lateralization, on the difference between the two hemispheres, and how mental development, in fostering the development of the frontal lobes, can lead to domination by the left hemisphere which results in suppression of the right hemisphere. While there is a growing body of literature on the often surprising effects of brain damage, McGilchrist has shown both the conditions for civilization and convincingly that there is a certain kind of brain malfunction that undermines civilization. It is a malfunction that has not yet been recognized as such because the people with this malfunction now dominate society. This claim would be easier to dismiss if comparative studies by

Richard Nisbett, referred to by McGilchrist, of East Asians, Europeans and Americans, had not revealed the uniqueness of brain functioning of Anglophones, and to a lesser extent, other Europeans.¹⁵ Furthermore, McGilchrist has made a very convincing case that this defect is an affliction. It is associated with an inability to appreciate context, to empathise, to appreciate the importance of symbols, metaphors and narratives. It is associated with meaning being drained from life along with blindness to one's own limitations and to broader threats facing one, combined with a facile optimism. Such people are like birds with defective right hemispheres which can peck extremely well because their tunnel vision means they can ignore all distractions, but are no longer capable of bonding socially or appreciating the threats posed by predators.

McGilchrist's work on this is really a contribution to philosophical anthropology, a field that must draw on developments of all the particular sciences and all other forms of enquiry, but must integrate these to reveal the potentialities of humans in the context of and in relation to the rest of society, humanity and nature. However, with a background in the study of literature and the arts, and more recently, psychiatry and neuroscience, he has not characterized his work in this way. And despite being clearly aligned with a particular tradition of philosophy (which includes Merleau-Ponty, Heidegger, Wittgenstein, Dewey, Whitehead and Bergson and can be traced back through Nietzsche, Schelling and Bruno to Heraclitus and Anaximander),¹⁶ and despite quoting with approval Plato's claim that 'the sense of wonder... is the mark of the philosopher' (p.177), in places he is highly critical of philosophy as such, characterizing it as reflection, and commending Vico for having referred to the 'barbarism of reflection' (p.451) and Wittgenstein and Heidegger for wanting to surrender philosophy to poetry (p.155). In one place he characterized philosophy as a 'disease ... for which it purports to be a cure' (p.451). But to defend the arts and poetry in particular requires philosophical argument of precisely the kind that McGilchrist provides.

McGilchrist's target is really mainstream Western philosophy with its abstract, decontextualized, linear thinking (p.137), and it does appear that this is a disease for which it purports to be a cure. He has pointed to a solution to this tendency to exacerbate the disease of value inversion both in his own characterization of what philosophy should be (on p.178) and in following Hegel's study of the 'Unhappy

¹⁵ Further research on this has been published in Richard E. Nisbett, *The Geography of Thought: How Asians and Westerners Think Differently ... and Why*, New York: Free Press, 2003.

¹⁶ See Arran Gare, 'From Kant to Schelling to Process Metaphysics: On the Way to Ecological Civilization', *Cosmos & History*, 7(2), 2011: 64f.

Consciousness' from *Phenomenology of Spirit*. Here he argues that to be completed, philosophical reflection (inspired by wonder) must be reintegrated and returned to the integrative way of experiencing the world of the right hemisphere. As McGilchrist put it, 'What is offered by the right hemisphere to the left hemisphere is offered back again and taken up into a synthesis involving both hemispheres' (p.206). To use the language of Michael Polanyi, what is required is that the achievements of reflective, abstract thought be embraced to become personal knowledge, dwelt within so that we are reoriented, becoming aware of new possibilities and able to participate in the world in a new way. As Polanyi (and his collaborator) put it, capturing what is involved in abstract thinking being re-appropriated by the right hemisphere, to appropriate theory '[y]ou dwell in it as you dwell in your own body and in the tools by which you amplify the powers of your body.'¹⁷

McGilchrist's philosophical anthropology clarifies what civilization is and thereby what should be aspired to, and what distinguishes it from barbarity and decadence. It is this clarification that, more than anything else, can help us to find our way out of the hall of mirrors in which we presently appear to be trapped. The study shows how the left hemisphere takes over from the right and explains how 'the assertive, predicative, definitional, classificatory idiom of Western metaphysics and that will to rational-technological mastery over life' (p.158) inverts and destroys values. It shows how what is portrayed as progress is really an assault on life. This pseudo-progress drains people of their vitality and is destroys the conditions for terrestrial life. McGilchrist provides a new insight into the decadence of modernity, a decadence that is culminating in the devitalized postmodern world characterized by boredom and an insatiable quest for novelty, a quest that requires more and more money and is never satisfied. The way out involves a recovery of depth of experience by overcoming the suppression of and reviving the right hemisphere and its world. It involves drawing back from the world, a defining characteristic of civilization, not to objectify it but to wonder at it, to experience its life and to be inspired to participate in this life.

Through his research on the world of the right hemisphere, McGilchrist has defended Scheler's hierarchy of values. Here, the lowest values are associated with usefulness, the means to pleasure. Above these are the "values of life" or vitality: associated with 'what is noble or admirable, such as courage, bravery, readiness to sacrifice, daring, magnanimity, loyalty, humility, and so on', as opposed to 'what is mean (*gemein*), such as cowardice, pusillanimity, self-seeking, small-mindedness, treachery and arrogance' (p.160). Above these come the values of the intellect: justice,

¹⁷ Michael Polanyi and Harry Prosch, *Meaning*, Chicago: The University of Chicago Press, 1975, p.37.

beauty and truth with their opposites. The highest values are holy values. The higher values depend on the right hemisphere and require affective or moral engagement with a living world; if pursued for their utility, as means to making money for instance, or to happiness, they vanish into nothing. Happiness is a side effect of pursuing higher ends and cannot be successfully pursued as such. But all the higher values, unless they can be reduced to utility, are vehemently rejected by the world that is brought into being by the left-hemisphere as an affront to its 'will-to-power'.

McGilchrist makes no claim to explaining the relationship between the evolution of culture and the development of malfunctioning brains, acknowledging the immense complexity of this. However, his work can illuminate the tendency to decadence in societies and civilizations, something that has challenged philosophers since antiquity. To extend McGilchrist's insights it is necessary to examine separately the impact on individuals and society of this brain malfunction (although it is a simplifying abstraction to separate the two). It appears that unless they are checked, once a relatively stable order has been achieved people with greater left hemisphere dominance are likely to be more successful than people with healthy brains. With their manipulative, instrumental thinking and calculating, exploitative attitudes, they become successful parasites on others and on public institutions. The most problematic and damaging are those who strive for power, the careerists, and McGilchrist has revealed how different careerists are from healthy people, and what is their agenda. He has also pointed to one of the most disturbing aspects of such people, their suspiciousness of anyone who is not a predictable cog in the machine and consequent propensity to straightjacket others in regulations, their tendency to define their goals in abstractions, oblivious to real individuals and their particular situations, and their almost unlimited capacity to deceive themselves. McGilchrist quotes Alexis de Tocqueville to characterize the resultant servitude which

covers the surface of society with a network of small complicated rules, through which the most original minds and the most energetic characters cannot penetrate ... it does not tyrannize but it compresses, enervates, extinguishes, and stupefies a people, till each nation is reduced to nothing better than a clock of timid and industrious animals, of which government is the shepherd (p.346).¹⁸

Nietzsche complained of the Egyptianism of philosophers, that they mummify everything they purport to uphold: 'nothing actual has escaped their hands alive.'

¹⁸ De Tocqueville was writing about USA in the Nineteenth Century, but this is a good description of what happened in the Roman Empire and with what is happening today with the fusion of managerialism and markets. On the decadence of the Romans, see Charles M. Radding, *A World Made by Men: Cognition and Society, 400-1200*, Chappel Hill: Uni. of North Carolina Press, 1985, p.37ff.

They kill, they stuff, when they worship, these conceptual idolaters - they become a mortal danger to everything when they worship.¹⁹ Similarly, careerists with malfunctioning brains, with their penchant for rules and quantification and intolerance for spontaneity and individual initiative, become a mortal danger to every institution they colonize and every cause they take up, often deluding themselves about what they are doing, and commonly producing the opposite effect to the goals they proclaim.

To understand this and the impact of such people it is important to appreciate the asymmetry in the conflict between people with developed, healthy brains and those with left hemisphere dominance. Those with right hemisphere dominance do not see their relationship with those extolling values coming from the left hemisphere as oppositional but as complementary and are constantly striving for integration transcending the opposition. Those with malfunctioning brains, however, cannot understand the contribution made by their own, let alone anyone else's right hemispheres and can only think in terms of conflict. The dominance of the mechanistic metaphor is generated by the left hemisphere, which then not only blinds people to the source of metaphors in the right hemisphere, but to the pervasiveness of this mechanistic metaphor, its questionability and the possibility of replacing it. Caught in a world of abstractions, people with malfunctioning brains also are pathologically unable to properly appreciate the conditions of their own existence. The left hemisphere thinks in terms of power, and since it can only support a mechanistic view of the world, sees the right hemisphere 'as purely incompatible, antagonistic, as a threat to its dominion' (p.206). Furthermore, all the thinking of those dominated by their left hemisphere focuses on how to manipulate and control. They have no sense of their own limitations and the limitations of this way of thinking, and are self-assured in a way that people with healthily functioning brains, who are prone to self-doubt and melancholia, can never be.²⁰ Consequently, except in crisis situations, people with malfunctioning brains, unless they have a complete mental breakdown, tend to succeed in their careers and prevail over those with healthy brains, people who do appreciate broader contexts and thereby the conditions of their existence, do recognize bigger problems, are concerned to uphold the processes of

¹⁹ Friedrich Nietzsche, *Twilight of the Idols* [1889], tr. R.J. Hollingdale, Penguin Books: Harmondsworth, 1968, p.35.

²⁰ This accounts for the Dunning-Kruger effect where unskilled people have an illusory sense of superiority, whereas those with genuine competence underestimate their abilities. Unskilled people then tend to succeed in their careers at the expense of the competent. See Justin Kruger and David Dunning, 'Unskilled and Unaware of It: How Difficulties in Recognizing One's Own Incompetence Lead to Inflated Self-Assessments' *Journal of Personality and Social Psychology* 77 (6), 1999: 1121-34.

nature and the traditions and ideals of the institutions in which they are participating and on which they are dependent, and do have an appreciation of their own limitations.

McGilchrist shows why people with malfunctioning brains will not be satisfied with the power they have gained, and will try to exploit, transform and reduce to instruments (predictable cogs) or get rid of those whose brains are functioning properly. To extend their control with their left-brain abilities, they believe everything must be standardized and quantified, which is inimical to the commitment to quality of genuine workers. As McGilchrist noted:

The power-hungry will always aim to substitute explicit for intuitive understanding. Intuitive understanding is not under control, and therefore cannot be trusted by those who wish to manipulate and dominate the way we think; for them it is vital that such contexts, with their hidden powerful meanings that have accrued through sometimes millennia of experience, are eradicated (p.319).

In the process they transform social and physical environments so that they embody and constrain how people live, thereby reproducing their own instrumentalist thinking in society generally. That is, they produce and reproduce a social, political and economic order that produces and reproduces people with malfunctioning brains.

For people with left hemisphere dominance, symbols and narratives, including historical narratives, are irrelevant, except as camouflage to hide their real agendas. And such people have little capacity for empathy and therefore no scruples about using people and then casting them aside. It is therefore useless to appeal to them for an appreciation of the historical significance of the ideals on which their institutions are based or for justice. It is not just that they have lost the plot and failed to understand the story that was being lived out and the ideals being upheld by the institutions they have taken over; their malfunctioning brains make it impossible for them to appreciate such stories or ideals. Because of their tunnel vision and inability to appreciate broader contexts and the spontaneity of real life, combined with an inability to appreciate their own limitations, they then undermine and eventually destroy the institutions and organizations they have taken over, and blame others for the failures and destruction they have wrought.

EDUCATION AGAINST NIHILISM: REVIVING THE RIGHT HEMISPHERE

This is a schematic account of a recurring pattern that can be found in organizations of all types and at all scales, from civilizations, nations, churches, business organizations and political parties (see for instance Robert Michels on the Iron Law of

Oligarchy), and accounts for the recurring failure of political and social reformers. Those who have recognized this problem have tended to take more indirect routes to overcoming the ills of society. Very often, they have focused on education, hoping in this way to foster the development of better people, protect institutions and foster a healthier society. In this, they have often been successful, although their achievements in this regard are not properly acknowledged in a culture in which left-hemisphere values dominate. If we are to understand and overcome the advanced nihilism of postmodern culture, then, we need to look at the implications of McGilchrist's work for understanding education generally and the present state of education, and what can be done about it.

Institutions of education, the institutions through which culture has been developed and passed on from generation to generation, have been central to the rise and fall of societies and civilizations. Generally, although not always, they have fostered the development of the modes of experience associated with the right hemisphere, countering the tendency for brains to malfunction. *Paideia*, a public system of education, was central to Greek civilization, exemplified this, and as Werner Jaeger showed in *Paideia: the Ideals of Greek Culture* and *Early Christianity and Greek Paideia*, had an enormous influence on later civilizations. Inspired by the Greeks (although not reaching their heights), the Romans developed the system of the *artes liberalis* (Liberal Arts), a term coined by Cicero to characterize the education suitable for free people, as opposed to the specialized education suitable for slaves.²¹ While this education degenerated in Rome, the *artes liberalis* became the foundation for education in the medieval universities. In the Renaissance, in reaction to the increasing preoccupation with abstractions of medieval scholastics, a new form of education was developed by Petrarch to uphold what Cicero called *humanitas* – humanity, reviving again a right-hemisphere world. This was the origin of the humanities. The University of Berlin established in 1810 under the influence of Romantic philosophy, placed the Arts Faculty, which included the humanities, the sciences and mathematics, with philosophy being required to integrate all these, at its centre. It was assumed that with the development of *Naturphilosophie*, science and mathematics would be reconciled with the humanities. Wilhelm von Humboldt, manifesting the values and sensitivities of a healthily functioning brain, characterized the function of higher institutions as 'places where learning in the deepest and widest sense of the word may be cultivated'.

²¹ See Aubrey Gwynn, *Roman Education: From Cicero to Quintilian*, Oxford: Clarendon Press, 1926, p.84ff. Falling short of the Greeks, the Romans gave no place to music or poetry, although Cicero famously defended the arts in his defence of the poet Aulus Lucinius Archia, who had been accused of not being a Roman citizen, in *Pro Archia*.

Rejecting the idea that universities should be utilitarian organizations run as instruments of governments, he wrote that if they are to deliver what governments want,

... the inward organization of these institutions must produce and maintain an uninterrupted cooperative spirit, one which again and again inspires its members, but inspires without forcing them and without specific intent to inspire. ... It is a further characteristic of higher institutions of learning that they treat all knowledge as a not yet wholly solved problem and are therefore never done with investigation and research. This ... totally changes the relationship between teacher and student from what it was when the student still attended school. In the higher institutions, the teacher no longer exists for the sake of the student; both exist for the sake of learning. Therefore the teacher's occupation depends on the presence of his students. ... The government, when it establishes such an institution must:

- 1) Maintain the activities of learning in their most lively and vigorous form and
- 2) Not permit them to deteriorate, but maintain the separation of the higher institutions from the schools ... particularly from the various practical ones.²²

The Humboldtian form of the university, because of its success, became the reference point for judging what universities should be until the third quarter of the Twentieth Century and the values they upheld permeated not only education, but the whole of society. Despite the sciences embracing scientific materialism and hiving off from Arts faculties, this model of the university continued the tradition of supporting the values of the right hemisphere, including giving a place to curiosity driven research. It was protected from careerists by the relatively low pay of its staff and the hard work required to gain appointments and to participate in teaching and research.

The civilizing role of universities has now been reversed. People are simultaneously losing the ability to empathize, a right hemisphere ability, and to think abstractly, a left hemisphere ability. Society is being de-civilized, with people losing the ability to stand back from their immediate situations. What happened? The Humboldtian model of the university has been abandoned, arts faculties have been downsized or even abolished, science has been reduced to techno-science, and the ideal of education fostering people with higher values has been eliminated with education reconceived as mere investments to increase earning power. The whole nature of academia has changed. As Carl Boggs noted, 'the traditional intellectual ... has been replaced by the technocratic intellectual whose work is organically connected

²² Wilhelm von Humboldt, *Humanist Without Portfolio*, Detroit, Wayne State University Press, 1963, p.132f.

to the knowledge industry, to the economy, state, and military.²³ Consequently, curiosity among students has almost disappeared ('wonder' disappeared a long time ago), with the amount time students spend studying having fallen from forty hours per week in the 1960s to twenty five hours per week today, with an almost complete elimination of self-directed study.²⁴ Without the inspiration that comes from the right hemisphere, the left hemisphere fails to develop.

Through McGilchrist's work, we can now better understand this transformation. Universities were effectively taken over by people with malfunctioning brains. As universities became increasingly important for the functioning of the economy, an increasing number of academics were appointed with purely utilitarian interests. This provided an environment in which people with left hemisphere dominated brains could flourish and then dominate universities. Techno-scientists largely eliminated fundamental research inspired by the quest to understand the world, along with scientists inspired by this quest, thereby almost crippling efforts to develop a post-mechanistic science. It was not only engineering and the sciences that were affected, however. As universities expanded, arts faculties also were colonized by people with malfunctioning brains who then fragmented inquiry and inverted the values of their disciplines. Rejecting the anti-nihilist tradition that McGilchrist has embraced, most philosophy departments in Anglophone countries, and following them in continental Europe, were taken over by people who transformed philosophy into academic parlour games. Literature departments were taken over by people who debunked the very idea of literature. The humanities generally came to be dominated by postmodernists who rejected the quest to inspire people with higher values (as described by Scheler) as elitist. They called for permanent revolution – of high-tech commodities, thereby serving the transnational high-tech corporations who produce these commodities. Then, at a time when the globalization of the economy began to undermine democracy and the global ecological crisis began to threaten the conditions for humanity's continued existence,²⁵ careerist managers, with the support of politicians and backed by business corporations, took control of universities, transforming them from public institutions into transnational corporations, imposing

²³ Carl Boggs, *Intellectuals and the Crisis of Modernity*, New York: SUNY Press, 1993.

²⁴ Richard Arum and Josipa Roksa, *Academically Adrift: Limited Learning on College Campuses*, London: University of Chicago Press, 2011, ch.2.

²⁵ Something else that people with left-brain dominance appear to be unable to take in. See Hans Joachim Schellnhuber, 'Global Warming: Stop worrying, start panicking?' PNAS, 105(37), Sept.16, 2008: 14239-14240. (<http://www.pnas.org/content/105/38/14239.full>.)

their left hemisphere values in the process.²⁶

The consequences of this inversion of values were entirely predictable. Academic staff have been redefined as human resources, all aspects of academic life are now monitored, measured and quantified by managers in order to improve efficiency and profitability, and funding for research is now based on the assumption that outputs must be predictable and serve predictable interests. Success in resource management means that in the United States, tenured and tenure track teachers now make up only 35 per cent of the workforce, and the number is steadily falling, while senior management is getting bigger and more highly paid. Typically, between 1993 and 2007 management staffs at the University of California increased by 259 percent, total employees by 24 percent, and fulltime faculty by 1 percent.²⁷

Nothing more clearly demonstrated that people's brains were malfunctioning than academics failing to see what was coming and then failing to achieve any solidarity to defend themselves and their universities against managerialism, with academics in the humanities in this environment debunking their own disciplines on which their livelihoods depended. Basically, such academics could not even begin to defend the humanities, the quest to understand nature or uphold what universities were supposed to stand for because, deep down, they were already nihilists. Their failure paved the way for the rise of business faculties and the mass production of more managers.

Clearly, there is no easy solution to this. However, there is ample evidence that not only has this transformation of universities failed to deliver a more educated and productive workforce, the mass production of people with malfunctioning brains has begun to impact on virtually every facet of society, including the economy. This failure brings home the point that the left hemisphere to function requires what only the right hemisphere can deliver. People with healthy brains need to appreciate not only the threat of people with malfunctioning brains, but their own potential. As McGilchrist suggests, the most important ability of humans is their capacity for imitation. Through imitation 'we can choose who we become, in a process that can move surprisingly quickly.' ... We can 'escape the "cheerless gloom of necessity"' (p.253). A series of renaissances of civilization in Europe were built on this capacity. People picked themselves up from the ruins of the Dark Ages by looking back to the achievements of people in the Ancient World of Greece and Rome at their best, and imitating them, developed new education systems, new cultural and institutional forms and created a

²⁶ For a history of this, see Christopher Newfield, *Unmaking the Public University: The Forty-Year Assault on the Middle Class*, Cambridge, Mass.: Harvard University Press, 2008.

²⁷ Chris Hedges, *Empire of Illusion: The End of Literacy and the Triumph of Spectacle*. New York: Nation Books, p.110 & 94.

new civilization. In the ruins of the education system and the broader culture and society being created by people with malfunctioning brains it is time for a new renaissance, wiser than all previous renaissances because of what we can learn from their achievements and subsequent decay, and from what we can now learn from other civilizations, their inspiring figures and renaissances. As Slavov Žižek wrote in an entirely different context, it is necessary to ‘follow the unsurpassed model of Pascal and ask the difficult question: how are we to remain faithful to the old in the new conditions? Only in this way can we generate something effectively new.’²⁸ Hopefully, with this wisdom from the past we will be able to avoid a new Dark Age. McGilchrist’s book, providing new insights into the minds and modes of operation of those who undermine civilizations and a clearer idea of what constitutes healthy culture and the flourishing of civilization, is a major contribution to this wisdom.

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²⁸ Slavov Žižek, ‘A Plea for Leninist Intolerance’, *Critical Inquiry*, 28, Winter 2002: 542-566, 547.