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✠ **SCHOLARLY PAPER** ✠

Nursing, art and science: Revisiting the Two Cultures

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Nursing, art and science: Revisiting the Two Cultures

I begin this paper by setting out the importance of the Two Cultures debate, given that many nurse authors would agree with Closs's position that the art versus science debate should be closed finally. I suggest that issues are every bit as present and urgent in our current era as they were in the past. A brief tracing of the history of the Two Cultures debate highlights the relevance of the central features of the debate for nursing. I then focus on nursing's current understanding of science and art and attempt to defend science from some of the accusations levelled at it, while also questioning some of the claims made on behalf of the arts. In the latter sections of the paper, I make a case for the development of 'nursing humanities' and argue the vital importance of overcoming the Two Cultures divide for the everyday practices of nurses and midwives.

Key words: art, nursing, science, Two Cultures.

THE HISTORY OF THE TWO CULTURES DEBATE

Although there had been an interesting and notably civil and scholarly debate on the arts–science divide between TH Huxley and Mathew Arnold in the early 1880s,[1] the Two Cultures debate flared up in earnest in 1959 when the prominent novelist and former research scientist CP Snow delivered the annual Rede Lecture at Cambridge.[2] His topic was the relationship and understanding (or the lack of it) between what he called the two cultures of the 'literary intellectuals' and the 'natural scientists'.

This may seem an innocuous enough subject matter but the ensuing debate, more akin at times to tribal warfare, showed that Snow had not only entered the mouth of 'The Academy', but that he had rubbed a huge wad of silver paper into its fillings. The seismic impact of his questions about the value and legitimacy of these two modes of intellectual inquiry and their resultant knowledge were felt across every academic discipline and had an immediate resonance for every aspect of personal, social, and political life. I am mindful here that talk of 'The Two Cultures' might suggest that these are the only or most important considerations in life. Clearly the Two Cultures are intersected by numerous other considerations, such as class, race and gender; however, for the purpose of this paper, I focus on the perceived art–science divide.

Snow's lecture generated considerable comment and discussion but debate soon became almost open warfare with the publication of FR Leavis's Richmond Lecture in 1962.[3] Leavis delivered an embittered and vitriolic *ad homenium* on Snow which, if published today, would possibly lead to libel lawyers performing a 'radical

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remunerectomy' upon Leavis and his publisher. Leavis's attack succeeded in turning the Two Cultures debate into the Two Cultures battle, where the adoption and defence of entrenched positions seemed more important than the exchange and questioning of ideas.

Leavis's diatribe was directed not only at Snow personally but less directly, though equally clearly, at science and its value. Leavis was in absolutely no doubt that English and the Humanities were the central discipline of any University worthy of the name. This was the heart of what he called in his Richmond Lecture, the 'essential Cambridge'. Presumably, as Tallis[1] caustically observed, this was in contrast to the less or non-essential scientific Cambridge of the same era, which could only boast of such minor achievements as the discovery of the structure of DNA.

For the purpose of this paper, Leavis's importance is not in the quality of his response to Snow, for there was precious little of that. It is that he functions now as a kind of paradigm case of the knee-jerk opposition that the very mention of the word 'science' can evoke among some nurses and nurse scholars. This must be a matter of real concern in our present era where rapid scientific and technical change are as much a part of our everyday lives as are political and social changes. Judy Parker reminds us, just in case anyone has been asleep for the past two decades:

> *Within health care, the influence of global information systems and advances in medical and surgical technologies are resulting in a transformation of the nature of work. Notions such as reduced length of stay, seamless care and hospitals without boundaries, which each imply changed understandings of time and space, are becoming commonplace in our culture of extraordinary technological riches.*[4]

Nurses simply cannot afford to switch off, metaphorically, one half of their brain and opt out of understanding something of the nature, state and major debates in contemporary science. Nor can nurses afford to take or maintain the precious and exclusively oppositional stance in relation to technology and machinery in health care which sees these as just another manifestation of some medico-scientistic conspiracy that threatens to make automatons of us all.

In his peerless book *Zen and the Art of Motorcycle Maintenance*, which takes the reader on the most enlightening of literary, metaphorical and philosophical journeys, Robert Pirsig describes the narrator Phaedrus's frustration at his travelling companions, John (a musician) and Sylvia, who have no understanding of the workings of their motorcycle and have no wish to gain such knowledge.[5] Their unwillingness stems from their revulsion at the demeaning idea of any kind of engagement with technology and of mechanics. Phaedrus relates how:

> *John and Sylvia are not mass people and neither are most of the others going their way. It is against being a mass person that they seem to be revolting. And they feel that technology has got a lot to do with the forces that are trying to turn them into mass people and they don't like it. . . . What we have here is a conflict of visions of reality. The world as you see it right here, right now is reality, regardless of what the scientists say it might be. That's the way John sees it. But the world as revealed by its scientific discoveries is also reality, regardless of how it may appear, and people in John's dimension are going to have to do more than just ignore it if they want to hang on to their vision of reality. John will discover this if his points burn out. . . . What you've got here, really are two realities, one of immediate artistic appearance and one of underlying scientific explanation, and they don't fit and they don't really have much of anything to do with one another. That's quite a situation. You might say there's a little problem here.*[5]

It would be heartening to think that in the years following the Snow–Leavis conflagration, that there had been some rapprochement, some increased understanding between the humanities and the sciences, but in nursing's case, as in others, this may be more of a fond hope than a demonstrable state. In much of contemporary nursing scholarship, there is a tendency to distance nursing from science because of science's perceived shortcomings and oppressive connotations. Nursing has sought this separation from traditional science while simultaneously showing a deeply felt need to keep hold of 'science' as an intellectual security blanket. The solution has been to realign nursing, not with the allegedly malevolent and objectifying 'natural sciences' but with the more accommodating and accepting 'human sciences'. (I will quickly pass over the irony of nursing's new discursive sensibility which seems capable of discovering the darkest of dark forces at play in words such as 'patient' and 'task', while remaining oblivious to the linguistic sleight of 'human sciences' which instantly relegates traditional science to the realm of the non-human or possibly the inhuman.)

OF SCIENCE AND TECHNOPHOBIA

I now examine some misconceptions which seem inherent in many critiques of science.

'Science is responsible for, or even synonymous with, misapplied and malevolent technology.' This is a popular misconception which holds science responsible for particular aspects of technology of which science's critics disapprove. In health care, this can take the form of critics decrying the use of any 'high-tech' equipment which is perceived to violate the sacredness of the body rather than helping to liberate it from the malfunction which threatens it. There is an unfortunate side effect of this particular strain of anti-science or technophobic thought which colours others' perceptions of nurses who work in areas such as ICU, for these nurses may be taken to be as technological and machine-like as the equipment that they work with. Thus, these nurses cannot possibly be humane and humanistic practitioners in the way that, for example, a psychiatric nurse or a birthing-centre midwife can. I return to this point later, but even a cursory reading of, for example, the work of Patricia Benner and her co-researchers into the nature of clinical and ethical expertise in critical care units will show that the best of critical care nurses are as far from being mere technicians or machine-minders as it is possible to imagine.[6]

Science is surely no more responsible for poorly applied technology than aesthetics is responsible for the television programmes 'Neighbours' or 'Baywatch'. Closs gives a good example here of the laser beam,[7] which, as a scientific discovery, can have few moral connotations one way or another. The development and application of laser technology is another matter, though, for there can certainly be moral distinctions between using lasers in ophthalmic surgery and between using lasers in a *Star Wars* weapons system of mass destruction.

This does not mean, however, that contemporary science is neutral in the sense that it operates in a sociopolitical vacuum. Scientific knowledge itself has become more and more of a commodity to be guarded, protected and exploited through marketplace devices such as patents and intellectual property rights. The romantic notion of pure scientific knowledge being generated and selflessly shared with the world in the name of scholarship is now hard to sustain.

'Science claims to produce absolute truth and is concerned only with hard facts.' This is an enduring myth which, if true, would certainly entitle nursing to be very wary of embracing such a 'Gradgrindingly' barren science. (Dickens' novel *Hard Times* contains the archetypal hard-nosed scientistic character of Thomas Gradgrind the schoolmaster, whose worldview, at least at the outset of the novel, sees only 'facts').[8] Nursing should have no problem at all with the idea of the existence of facts that do not require a critic to insert inverted commas around them, or with the idea that some truths in respect of health care and the human condition are, for all practical purposes, absolute. If a nurse miscalculates a diamorphine dosage and gives a baby 100 times the prescribed dose, the baby will die. Few patients enjoy the experience of being in excruciating pain. It is a good idea for nurses to help patients to alleviate their distress and discomfort. Many people live without art and literature. No one lives without food and water.

That science seeks absolute and timeless truths seems so patently absurd a claim that it is surprising this claim has become an accepted reason for rejecting science as a worthy enterprise and valuable element of nursing.

As Bauer notes:

> *No general claim to certainty made globally in the name of science can be sustained. Even those who hold 'scientific' to be the highest accolade are wont to cite, as one of science's admirable qualities, that scientific theories change whenever the evidence requires it.*[9]

Science aims to provide better explanations of things, and more workable solutions to problems and, as such, it is always *en route* to clearer understandings. No serious scientist would embarrass themselves by claiming to have discovered all there is to know, or to have pronounced the last word on a particular phenomenon.

'Science is simply a social construct, merely one of many forms of knowledge discourse.' For nurses who believe that we should shun science for its supposed omniscience, it is often only a short hop to the rewardingly radical position that science and scientific inquiry are merely particular manifestations of linguistic, power, gender, social and epistemological relations. Here, science is just the practice of persuasion by the powerful and what counts in science is not 'objective fact' but what is determined by a dominant ideology and discourse. Feyerabend put this more bluntly than most, when he argued that:

> *. . . there is no 'scientific methodology' that can be used to separate science from the rest. Science is just one of the many ideologies that propel society and it should be treated as such* (this statement applies even to the most progressive and most dialectical sections of science) [author's emphasis].[10]

That such a leap in thinking is considered possible is puzzling, that any nurse scholars might wish to make a

similar leap would be worrying. Perhaps now is the time for nurses to 'locate' or 'situate' ideas less and think them through more. That science is subject to the same forces and influences as any other human endeavour would be readily acceptable. What is harder to accept is the vacuous relativism which refuses to acknowledge that the scientific and technological advances of the last century simply could not have happened if science were not a good deal more than just a very successful rhetorical device. The scale and speed of the progression of science and its success are easy for we moderns to overlook, but in Smith's memorable illustration:

> *If a two hour film were made of vertebrate evolution, tool making man would appear in the last minute; and the period between the invention of the steam engine and the use of nuclear power would take less than a hundredth of a second.*[11, in 1]

On a recent flight from Australia to the UK, I flew in a Boeing 747. I had no one sitting beside me, but 35 000 feet above the earth would have been a good place to ask a social constructionist to explain the exact nature of the social forces, discursive devices, conceptual commitments and power–gender relations that were keeping us airborne and heading accurately towards our destination. At 35 000 feet in the air, personally, I drew more comfort from the notion that I was safe, thanks to the sciences of physics, aerodynamics and electronic telecommunications. The 'science as a social construct' proponents may believe that science 'works' because of ideology, prejudices and political relations, but they surely cannot believe that a Rolls Royce engine does.[1]

SCIENCE IS ANTITHETICAL TO ARTISTRY AND CREATIVITY

A further popular caricature of science is that it is a semi-robotic activity, performed by cold-hearted rationalists enslaved by numbers and measurement. For 'dark satanic mills' read, 'dark satanic labs, rats and stats', and a total absence of an understanding of real people, or in health care, real patients or clients, and in the background hovers the ghost of Dickens's Thomas Gradgrind, on the importance of 'nothing but Facts, sir; nothing but Facts!'.[8]

The relationship of the best of science to artistry and creativity is, of course, light years from this. I do not presume a detailed knowledge of the history of science but other writers have detailed the aesthetic sensibilities which drove many of the early pioneers of science, from Copernicus, through Newton, Curie, Einstein and many others. In much contemporary science and science writing it is clear that science and scientific inquiry is not characterized merely by mindless measurement but, rather, by inquiry involving vision, creativity, risk, challenge, and imagination. Wander into any book shop and you will see shelves and display stands full of contemporary science writing, from Paul Davies, Stephen Jay Gould, James Gleik, Stephen Hawkings, Richard Feynman and many others, which simply refuses to fit such a mechanistic stereotype.

As Collini notes in his introduction to the reprint of Snow's book *The Two Cultures*:

> *The very nature of the revolutionary work in theoretical physics, astronomy and cosmology has helped to challenge the model of scientific thinking which represented it as proceeding by a combination of rigorous deduction and controlled inferences from empirical observation. The role of imagination, of metaphor and analogy, of category-transforming speculation and off-beat intuitions has come to the fore much more (some would argue that these had always had their place in the actual processes of 'scientific method') As a result, more now tends to be heard about the similarity rather than the difference of mental operations across the science/humanities divide . . .*[12]

However, while science certainly needs and has its fair share of creativity, imagination and even a strong aesthetic sense, these alone are not enough for successful science, because the test of practical application hangs like the Sword of Damocles over even the most beautiful and elegant theory. 'Does it actually work?' is a tough evaluative criteria.

Returning to back on board my Qantas jumbo jet; the 747 which flew me from London to Singapore was the specially painted 'Aboriginal dreaming' jet that is covered with Aboriginal art and looked absolutely spectacular among the other rather mundane jets at the airport. However, regardless of the quality of the artwork and its aesthetic appeal, if this particular jet had been designed with its wings pointing backwards, it would have attempted take-off with at least one less passenger.

To summarize: so far I have tried to make the case that science is too important for nursing and for humanity as a whole to be rejected as if this were some kind of lifestyle choice. I have argued that some of the reasons behind the rejection of science are as groundless now as they were in 1962 when Leavis was proposing them. I further contend

that although some of the more recent critiques of science may be more articulately formulated and politely delivered, they may be no more accurate.

THE SALVATION OF ARTS AND HUMANITIES?

What then of the other side of the Two Cultures debate—art and nursing?

I want to question some of the ways in which arts and literature have been proposed as useful for nursing and to suggest other, more valuable ways of viewing and incorporating arts and literature into nursing praxis. And here I think of praxis in its Aristotelian sense suggested by Katims where nursing praxis embodies the notion of the skilful accomplishment of an action or activity, and excellence in conduct which is imbued with a sense of the moral good.[13]

The claim that nursing is an art as well as a science is not new. Florence Nightingale herself proclaimed famously in 1867 that:

> *Nursing is an art; and if it is to be made an art, it requires an exclusive devotion, as hard a preparation, as any painter's or sculptor's work; for what is the having to do with dead canvas or cold marble, compared with having to do with the living body—the temple of God's spirit? It is one of the Fine arts; I had almost said the finest of the Fine arts.*[14]

But, as we know, Miss Nightingale was no mere aesthete. She was also a statistician, demographer, and epidemiologist among her other talents.

The claim that nursing is both an art and a science has been made repeatedly since Miss Nightingale's time, but often in a way which poses arts and literature as some kind of antidote or countermeasure against an overly prevalent scientific emphasis, or simply as the unconnected 'half circle' of a rounded education. Curriculum Theorist Em Bevis has articulated just such a divide when she proposed that science gives us the tools for cure—art gives us the tools for care.[15] I once believed this to be a helpful distinction, but now I regard it as more of a divisive polarity which does little to undermine in any significant way the Two Cultures divide within nursing.

A third approach to arts and literature that seems equally bankrupt, is the fragmented 'example-ism' that suggests we urge nurses to read literature as if it were discrete chunks of readily assimilable wisdom; the arts equivalent of the procedure manual. Read the Book of Job in the *Old Testament* for suffering, Tolstoy's *Ivan Illych*[21] for dying, Sylvia Plath's *The Bell Jar* for mental breakdown, watch the film *My Left Foot* for disability, and so forth.

The first proposition, that arts and literature can somehow palliate the effects or influence of too much science, operates from the assumption that science is inhuman or inhumane and requires such remediation through art. Firstly, it is highly doubtful that any amount of exposure to arts or literature could humanize the truly inhumane practitioner, or that the genuinely malevolent science or technology. We know that the Nazi guards in the concentration camps enjoyed listening to Beethoven while bodies burned. It is equally doubtful that the rich artistic and cultural traditions of Europe and Africa could have been focused with sufficient concentration in any way that would have prevented Serbs and Croats or Tutsis and Hutus from massacring each other.

The second assumption, that arts and literature are a simple complement to science, seems an equally unlikely strategy to overcome the unhelpful divide between art and science. This approach, particularly in nursing education, proposes that nursing needs arts and literature in order to provide mere balance. The thinking here seems to be that providing more opportunity to study arts and literature will produce what Ehrhart and Furlong[16] call, without a hint of self-consciousness, 'The Renaissance nurse'.

There are at least two problems inherent in this approach. The first is the weakness of the assumption that linking two things, such as nursing science and nursing art, with the conjunction 'and' produces an important new entity (an argument seemingly endorsed by Kitson[17]). The second problem is that, once again, mere coexistence is sought and no attempt is made to undercut or question fundamentally the very dichotomy between art and science.

In practical terms, the mere addition of elements of arts and literature into a nursing curriculum is, unfortunately, no guarantee that more humane and sensitive nurses will be nurtured (in the same way, including research methods courses within nurse education programs does not guarantee the production of passionate nurse researchers). While some nurse educators have sought creative and challenging ways to integrate arts and humanities into nursing curricula, others have operated from what seems ironically to be the most reductionist and dated of scientific notions—that their students are akin to empty buckets or *tabula rasae*, to be filled with anything approximating 'the Humanities'.

This model of progressive or cumulative enrichment is popular among some educators, for we cherish the notion that arts and literature are such 'good things' *per se*, that we can only be better people for our increasing exposure to them. When it comes to art and literature, the more the merrier. Ehrhart and Furlong conclude their paper by describing this nadir:

> *After teaching content on international public health problems and the role of the nurse in problem solving, the authors used both visual and auditory signals of closure at the end of the class. The quote: 'No man is an island, entire of itself; every man is a piece of the continent, a part of the main . . . any man's death diminishes me, because I am involved in Mankind; and therefore never send to know for whom the bell tolls; it tolls for thee' . . . written by John Donne is shown on the overhead screen while students listen to the song* We Are The World.[16]

Somehow, further comment on this sorry spectacle seems superfluous.

THE POSSIBILITIES OF NURSING HUMANITIES

I do not suggest that nursing owns or has colonized the humanities. The term is adapted from the more established, but still comparatively new discipline of 'medical humanities', since medicine cannot own the humanities either. Art and literature can help nurses examine nursing, and patients' and clients' experiences of health, illness, injury, disability, fear, pain, hope, hopelessness, recovery or dying in ways that are catalytically valuable, and in ways that reading more biomedical or psychosocial accounts of such phenomena cannot be.

This other way of seeing is no new phenomenon, no trendy, transient speculation. William Carlos Williams, the American poet and doctor, spoke of the need for the novelist's angle of vision. He explained (and of course his explanation was not just for doctors):

> *The abstract, categorical mind can be wonderful—the glory of the intellect at work, coming to its great big (and big-deal!) conclusions. But we've got to keep a close check on that—the head running away with itself. The doctor treating a patient out there on the front line falls back on himself, his own manner of being with people—and he has to come to terms with not only a disease but a particular person; this patient, not patienthood, not lungs in general, or kidneys or hearts in general, but one guy, one gal, one kid who has some trouble and is handling it in a way that may be different than anyone else's way! [William Carlos Williams, cited in Coles]*[18]

Similarly, in 1810, Fanny d'Arbly, the most famous woman novelist of her time, was living in Paris and facing the early stages of a diagnosis of breast cancer which would lead her to write the most searingly painful account of undergoing a radical mastectomy without anaesthetic. Her surgeon was Napoleon's favourite doctor, Dominique-Jean Larry. Fanny noted in her diary that, '. . . he was the most singularly excellent of men, endowed with real genius in his profession'.[18] But once again, the novelist's angle of vision caught something. Selzer describes how d'Arbly felt that:

> *. . . he was ignorant of the world and its usages . . . his attention having been turned exclusively in one way, he is hardly awake in any other.*[19]

Just as it is absurd for nursing to be unconscious of science, it would be a bereft and shallow nursing that was dead to the power of literature and other arts to awaken us to the awesome responsibility of being alert and responsive to what it means to be a particular human being, living in a world of illness, suffering or fear—being aware of one's situation, and of being that much more acutely aware of one's own vulnerability and mortality.

The notion of arts and literature as a catalyst to thinking is important here, for nurses and midwives do not require to be literary critics. What is significant about developing nursing humanities is that nurses' thinking is challenged in ways which may not have occurred previously during their education or career. The sustained study and interpretation of texts such as poems, short stories or novels is difficult and challenging, which is absolutely as it *should* be, lest we are reduced to simply trying to work out the author's meaning or offering merely general impressions of the text. The interpretive work of opening up, rather than closing down, a poem or story can reveal multiple meanings and possible interpretations which are always focused back on the text itself. An 'anything goes' relativism has as little place in humanities as it does in science. Such a critical and sustained engagement with art and literature helps us develop the humility that comes from realizing that while generalized knowledge and universal laws are valuable in some instances, they do not explain away the complexity and unpredictability of the individual, and of the individuals who look to us for help.

Arts and literature are rich sources, not only of illustration but also of illumination. It is widely accepted that traditional textbooks can tell us a great deal about aspects of science, psychology, sociology and nursing which are beneficial. What they have been much less successful in doing is giving us a deeper insight into the more existential elements of patients', families', clients' and even nurses' experiences. As Richard Selzer notes, 'art is a means of acquiring experiences that one never had'.[19] Through the eyes of a sensitive and creative writer or artist, we can learn something of what it means to be ill, or in pain, or anguished, or dying. And, similarly, through those instances where the artist is a practising doctor, nurse or midwife, even the often turgid language of the clinical realm can be made magical and revelatory. Let me share some examples which illustrate this.

Richard Selzer was a Professor of Surgery at Yale University, prior to retiring to write full time. Selzer writes of the body in a way that few writers can equal in descriptive power, insight and genuine awe for human capabilities. One short passage of Selzer's is a typically superb illustration of an encounter where the divisions between science and art, omnipotence and powerlessness and professional and personal seem to dissolve into a moment of almost magical caring praxis. Selzer writes:

> *I stand by the bed where a young woman lies, her face postoperative, her mouth twisted in palsy, clownish. A tiny twig of the facial nerve, the one to the muscles of her mouth has been severed. She will be thus from now on. The surgeon had followed with religious fervour the curve of her flesh; I promise you that. Nevertheless, to remove the tumour in her cheek, I had cut the little nerve.*
>
> *Her young husband is in the room. He stands on the opposite side of the bed, and together they seem to dwell in the evening lamplight, isolated from me, private. Who are they, I ask myself, he and this wry-mouth I have made, who gaze at and touch each other so generously, greedily? The young woman speaks.*
>
> *Will my mouth always be like this? she asks.*
>
> *Yes, I say, it will. It is because the nerve was cut.*
>
> *She nods, and is silent. But the young man smiles.*
>
> *I like it, he says. It is kind of cute.*
>
> *All at once I know who he is. I understand, and I lower my gaze. One is not bold in an encounter with a god. Unmindful, he bends to kiss her crooked mouth, and I so close I can see how he twists his own lips to accommodate to hers, to show her that their kiss still works. I remember that the gods appeared in ancient Greece as mortals, and I hold my breath and let the wonder in.*[20]

Although Selzer is a surgeon, he has also written of his experiences 'on the other side of the table' as it were.[20] In 1991, Selzer collapsed and was rushed in a comatose state to an ICU where he stayed for over three weeks, having been diagnosed with Legionnaires' disease. He floated in and out of hallucinations and, at one point, suffered a cardiac arrest and almost died. Why *Raising the Dead* is particularly revealing for nurses, is because of Selzer's remembrances of the power of his nurses' caring practices and their profound meaning for his recovery and, indeed, for his cure. Here again is further refutation of the notions that intensive care nurses are essentially technicians and that care and cure are separate entities. Selzer described his first meeting with Patrick:

> *He awakens to the smell of lilac and rubbing alcohol. The lilacs sit in a urine specimen jar on the sink; the rubbing alcohol is being spilled onto the small of his back, then spread by a hand with the consistency of pumice. A man speaks with an Irish brogue. I'm Patrick, your nurse. I'll be lookin' after ye from three o'clock to midnight every day. I've messed the bed. I'm sorry. We don't care about that here, Patrick replies. Besides, you don't have diarrhoea, it's just incontinence. When you get stronger, it will take care of itself. So that is Patrick, with his talent for forgiveness of the flesh. He is the sort of nurse who can draw the pus out of a carbuncle with his gaze alone and turn it into a jewel.*[20]

Selzer's other nurses are similarly sensitive to the need to minimize the assault of incontinence on their patient's dignity and self-respect. Selzer describes how, often after being changed and bathed:

> *Now and then it happens that even before they have finished, he soils the clean linen and they must do it all again. This they do without the least murmur, although he is in an agony of shame and self-disgust. Long after they have left the room he feels the warmth of their thighs, biceps and breasts.*[19]

There is a fascinating parallel here to trace between Selzer's accounts of the care given to him by Patrick and Gerassim, Ivan Illich's carer in Tolstoy's emblematic story of the desperate and despairing dying of the barrister who suffers at the hands of his scientistic doctors and uncaring family.[21] Both Patrick and Gerassim show the transformative power of skilled caring praxis which at once embod-

ies more than either aesthetic or technological understanding alone. Ivan Illich's carer, Gerassim, also has the skills and sensitivities for 'forgiveness of the flesh'. As Ivan's condition worsens:

> *Special arrangements too had to be made to assist his evacuations, and this was a continual misery to him: misery from the uncleanliness, the unseemliness and the smell, and from knowing that another person had to assist in it.*[21]

But Ivan draws comfort from the presence and caring practices of Gerassim. 'This must be very disagreeable for you. You must forgive me. I can't help it', says Ivan as Gerassim helps him to and from his commode. But Gerassim responds, 'Oh, why, sir' (and Gerassim's eyes shone and he showed his white young teeth in a smile.) What's a little trouble? It's a case of illness with you sir.'[21] And the flesh was forgiven.

Similarly, in *Cry of the Damaged Man*, surgeon Tony Moore understands that the finest caring praxis is far more than mere technical competence as he recalls the artistry of the nurses who cared for him in ICU following his major road traffic accident:

> *Two other nurses joined her and one whispered, 'Time for a wash'. They worked like a ballet corps in slow motion, softly moving me forwards, to the side, sponging, touching, towelling with clean tenderness, and when one gently washed my genitals I felt nothing but the compassion of her care in knowing what a humiliating ordeal this whole mess was for me. Perhaps she sensed what I was to face in the months ahead because her responses seemed to show that she knew an accident could both smash open a body and break open a life.*[22]

There are no such things as 'little things' in nursing. We can see the essence of nursing as a caring praxis in the smallest, most routine and seemingly most ordinary of its practices, as well as in the most dramatic. Nursing had a further significance for Selzer. Five months after his admission, he struggled to remember many of the details of his stay in ICU. But there is something and someone that he could not forget:

> *I lie back, thinking of Patrick. How, dipping a plastic urinal, he poured water over my head, then palmed the cake of soap and worked it into a lather. When I get t'rough wit' ye . . . The Irishman's face, ruddy and shining from the humidity . . . It is months later and still my thoughts return to it as to a sacrament.*[19]

Art and literature are essential to help us deal with and live within a world transformed by science and technology. These technologies will continue to transform our everyday world and the world of health care radically. They will affect how we relate as human beings, at work, in love, and in sickness and health. However, technological prowess without the transformative influence of aesthetic and moral sensibility and a caring, involved stance will be more akin to torture than treatment. As Phaedrus remarks in relation to his motorcycle:

> *I just think that the flight from and hatred of technology is self-defeating. The Buddha, the Godhead, resides quite as comfortably in the circuits of a digital computer or the gears of a cycle transmission as he does at the top of a mountain or in the petals of a flower. To think otherwise is to demean the Buddha—which is to demean oneself.*[5]

In her recent research into the nature of expertise in critical care nursing, Benner shows that expert nurses manage, rather than reject, technology; they render it safe and less fearful, judge when it may be harmful or futile and work to set limits on its dominance of the patient.[6]

A nurse researcher in the UK recently discussed with me his current research into the caring practices of psychiatric and intensive care nurses. One intensive care nurse described to him how she always tried to keep one of her multiply injured patient's arms free from the 'Ivac' forest—clear of tubes and lines and needles. She would watch over her patient's arm like a lioness with a cub, intervening to persuade doctors and phlebotomists to use another site. Her thinking was that this was the 'family's arm'. This was a part of her patient that his wife or parents could sit by the bed and be encouraged to hold or stroke.

This nurse had understood that, while the technology of intensive care was vital, her patient's arm held more significance than as an access site for instrumentation. Her patient's arm was her means of reconnecting the patient's family with their loved one. In preserving the arm she had helped the family edge closer to their relative, despite the repellent horror of multiple injury and ICU technology. This is another example of caring praxis, where a technological, aesthetic, and moral sensibility integrate to make a significant impact in preserving personhood and family.

I have argued in this paper that science and technology are not necessarily our enemies, either in our world at

large or in health care. What is more dangerous, however, is the technological understanding of being, which sees everything in our world (including health-care staff and patients) as being no more than a 'resource' to be used. As Dreyfus has noted:

> *We experience everything, including ourselves as resources to be enhanced, transformed and ordered, simply for the sake of greater and greater efficiency.*[23]

A rampant and unchecked technical rationality poses a threat to nursing or any practice discipline because it can quickly become a totalizing and enframing orthodoxy, a template to be squeezed down on top of all thought and practice until uniformity is achieved. This is what George Ritzer has described so memorably as 'The MacDonaldization of society'.[24] When technical rationality is ascendant it often becomes assumed that any alternative must by definition be irrational and who among us would care to be thought of as that? It is surely as damaging and impoverishing to truly humane health care to encourage the reduction of thinking, decision making and practice to matters that can be counted and measured as it would be to imagine that nothing at all can be thought of in this way. One of the benefits of integrating an arts and literature perspective into nursing is that this holds open the possibility of other forms of knowledge and understanding for nursing. It is, thankfully, difficult to appreciate and understand a poem or novel effectively and efficiently, or a set of benchmarked outcome standards.

As this paper is a revisiting of the Two Cultures debate, it is fitting that the last word should go to CP Snow, who closed his 1959 address with a warning that speaks to nursing and all of health care:

> *Closing the gap between our cultures is a necessity in the most abstract intellectual sense, as well as in the most practical. When these two senses have grown apart, then no society is going to be able to think with wisdom.*[2]

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