



# Work in Progress Report on the Relevance of Rediscovering the Australian Bush Mechanic as a Credible Chiro-pedagogical Modality of Critical Futures Praxis

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## Introduction

In the context of critical futures praxis (CFP) as outlined in Dick and Wildman (2011) and with the spotlight on sustainability, globally and nationally, now is a key time to report on the development of a re-new-ed approach to critical futures praxis or ‘futuring’. This approach explores the uniquely Australian futuring concept of the ‘bush mechanic’. I have been researching this idea and associated phenomenon in the field and in the library since 2000, through an independent action research program.

Drawing learning insights from field notes made over a four year period working alongside several bush mechanics was a key part of this action research. Then, under the ‘wing’ of Bob Dick, I applied grounded theory in order to identify commonalities—in terms of key categories or principles **in process**—between the bush mechanics participating. The research resulted in six principles, listed below, as well as various publications and the development of a public domain website where this research is available. The ‘bush mechanic’, or artificer approach to futuring is one that this research indicates has immediate practical relevance and outcomes for practitioners, their work and children, in individual, family, organisational and community environments.

## Overview

In this paper the meaning of the term ‘bush mechanic’ is explored both historically and in terms of its modern-day relevance and potential contribution to CFP and our children’s children’s futures. I then touch on some possible historical drivers of the poor current standing of the phenomenon and explore aspects of the state of pedagogy in Australia. As noted above, a key aspect discussed in this article is the use of grounded theory to elicit commonalities in praxis between the four artificers with whom I worked. I argue that in our uncertain times such a reinstatement of the chiro in pedagogy is long overdue and that the reaffirmation of the chiro, as a form of CFP, is crucial as our children’s world faces many challenges.

## Backgrounding the Bushy

*In Australia there is a term for someone who links thinking and doing, and uses their hands to act forward wisely by crafting projects that solve problems with what is available while developing innovations in the field that respond to broader needs ~ a Bush mechanic. (Wildman, 2005, p.1)*

The bushy, especially those in Indigenous communities, is often seen pejoratively. I strongly suggest that the Aussie bush mechanic, though a dying breed, has not only a deep and ancient heritage but also a lot to offer our children's children—if they could ever be permitted to leave their cottonwool cocoons and light a match, or pick up a spanner, fork or needle, and act (Batty, 2001; WMA, 2002).<sup>1</sup>

Our era is one of profound civil resistance to the status quo: we see a plethora of genuinely third sector NGOs in the areas of peak oil, powerdown, the resiliency movement, bioneering,<sup>2</sup> transition towns, Permaculture, men's sheds, eco/survivalist-villages, downshifting, greenchanging, GFC (Global Financial Crisis), GWC<sup>2</sup> (Global Warming Crisis and Global Warring Crisis), food and water wars, tent cities in the US, Natural Step, carbon footprint (or, as I would say, carbon handshake), massive cutbacks in European social programs as seen in PIIGS (Portugal, Italy, Ireland, Germany, Spain and more recently Britain), and so forth. Given these eventualities, I submit that now is the most challenging time for our species and for the planet as a whole. Further, the challenges of CFP and planetary issues of sustainability may be paired, and a role identified for the bushy. This is especially so in the practice of repair and reuse through the application of 'bush ingenuity'. Rather than the automatic process of use and recycle after planned obsolescence kicks in, the possibility exists for the reuse or adaptation of embodied energy.

I call this 'chiro', or hand oriented, action learning, and argue that it offers the opportunity of developing a body of expertise that can stand us in good stead as we head towards what many see as an onrushing post-apocalyptic world.<sup>3</sup> Present indications are that our grandchildren *will* face this post-apocalyptic world. I submit that such a world, if we are to survive, will have to be in large part 'made by hand' (Kunstler, 2008; McCarthy, 2006). Even Wikipedia and US and UK television have programs like *Apocalypse Man*, *Burning Man*, *Garbage Warrior*, *Escape from Experiment Island* and *Junkyard Wars*, all of which examine versions of the 'bush mechanic' ways to survive in a damaged future. While at the start of this century, when this research commenced, few of the future threatening issues and NGO responses were in the public domain, and little, if any, relevance was seen in this work, the world is rapidly 'warming' to the concept.

## Another view of Newton

It was Plato who introduced 'the division between those who know and do not act and those who act and do not know' (Wildman, 2005, p.94); subsequently in the West we have doggedly followed a staunchly dualistic, Cartesian and mechanistic, view of the world and thus of education. This view, often identified with Newton, can be summarised as: 'The universe is a mechanical one whose order is maintained by a distant God'. [Newton in fact wrote more on alchemy than mathematics: he saw the universe tintured and vivified by emotion and love and spent years working

personally and with his own hands on alchemic experiments (Wildman, 2005, pp. 94-5). These ‘alchemic’ works remain largely unknown.]

The results of this split are readily seen today in terms of the separation of thinking and doing: the specialisation of skills, the separation in higher education of academia from vocational training as well as the Cartesian separation of thinking from doing, of academia from actual social change projects, of spectators from actors: ‘spect actors’. In the broader sense I submit that Western, and in particular Anglophone US based praxis, will now not even acknowledge alternative praxes such as the Confucian, and therefore allows itself few strategic options other than the triumphalism of yet another American Century. In reality, it is yet another Confucian or Indigenous Australian millennia; I hope that the artificer may, in some limited way, be such a strategic opportunity.

Yet another separation exists: that of producing from consuming. We have long moved away from being ‘prosumers’ where we produce for our own consuming. And there is a separation between the praxis of having our own gardens, making our own clothes, food, car repairs and other bush mechanic type activities, and recycling, which in many ways is a great expression of ‘greenwashing’ and represents, to my mind, the final betrayal of anyone’s green credentials. Yet recycling is often the first recourse of those that would continue the status quo and revel in disempowered consumers. We also see this separation, I submit, in the penchant for the abstract, virtual world exemplified in derivatives and other abstruse financial ‘instruments’, the manipulation of which in large part led to the recent Global Financial Crisis. Here we see the valorisation of the abstract *financial economy* and the scorning of the concrete *physical economy* of the bush mechanic/artificer (Wildman, 2009).

Hannah Arendt claims that the challenge for modernity is to *re-braid* thinking and doing. As she says, ‘the human mind will obsess with concepts if it can’t get experience’ (Arendt, 1963, pp.177, 220), and I submit that’s exactly what has become of higher education today. Extracting ourselves from this pedagogical quagmire will require nothing short of a third path for pedagogy: a *learning* path between *education* in conventional schools and universities and *training* in technical schools and institutions (in Australia, TAFE colleges). There is, however, a third path that accepts Arendt’s challenge, seeks to re-braid thinking and doing, and cannot be used as a loophole for the Business As Usual model presently operating in both higher education and vocational training.

The bush mechanic or artificer is, implicitly or explicitly, one approach committed to such re-braiding via self-reliance, experience and excellence at task. For example, bodgers (itinerant woodworkers;<sup>4</sup> knavers (itinerant apprentices in Germanic tradition – still practiced today;<sup>5</sup> WWOOFers (Willing Workers On Organic Farms;<sup>6</sup> **many** First Australian (Indigenous) groups<sup>7</sup> and Instructibles (for DIY folk;<sup>8</sup> are, I argue, all forms of the bush mechanic, harking back to the medieval journeypersons and fording to the post postmodern artificer. These are not to be confused with our modern interpretation of the ‘backyard mechanic’ or their shoddy, botched or bodgey work. This whole stream of re-braided, peer based, lived life, chiro-oriented experiential learning has all but disappeared into the monster that today is called ‘consumerist pedagogy’ with its Cartesian/Newtonian pejorative distinction between the noospheric higher education and the physiospheric and behaviourally based vocational training, all moulding disempowered citizens as consumers.<sup>9</sup>

## The challenging state, and challenging the state, of pedagogy in Australia

As you can see, I argue that we need to be deeply concerned about the separation of learning and practice that has taken place in Western education systems in recent years. In Australia, this is manifested in the academically-focused, one-size-and-one-time fits all new national curriculum—even for little humans that have been with us for as few as 48 months.

Yes, that's right, four year olds. Here, and in the instigation of national school 'league tables' via NAPLAN results (and the 'Myschool' site: we see the tragic conflation of *pedagogy* (a deficit model of education based on IQ testing and the like, and that sees, in a pre-enlightenment fashion, the child as a small adult)<sup>10</sup> and *pedagogy* (bringing, through play, a love of learning out of a child *as a child*).

Think for a moment that if kids' play is DIY chiro play, and we look at play from the perspective of the artificer, then we see a wholesale evacuation of chiro from our society (in this regard, see *Lost Adventures of Play in Childhood and the Exemplar Projects*, below).<sup>11</sup> The third path, that of the bush mechanic, allows us a fresh, and for me, ultra clear view on this loss and its knock-on effect of dependence on technology and consumerism. Today it's all about 'drawing between the lines'—staying on the straight and narrow, set down path—in school, play and sport with parental supervision, prescriptive schooling and training as dependent consumers.

This separation (and 'othering' of the chiro) seems almost unique to the Anglophone nations of the UK, Australia, New Zealand, the US and some also present in Canada. It seems in pedagogical matters it's the UK which Australia follows, though with a 15 year lag. It can, however, be argued, from a macro-historical perspective, that Anglophone culture globally is in decline and can now offer little other than corporatism as pedagogy (Alexander, 2001; Abbott & MacTaggart, 2002, pp.182, 250);<sup>12</sup> notice here that Early childhood and TAFE are included on this page);<sup>13</sup> It is perhaps with a somewhat ironic sigh of relief that we can note the absence of Life Long Learning, Adult and Community Learning or action learning, and so forth from this list.<sup>14</sup> Yet from a postmodern perspective this indicates that, as in the UK, nothing beyond the official pedagogical gaze is acceptable; all must be structured, articulated and accredited against the statist norm. Pedagogical reform, especially in the UK and now Australia, is creating a school culture of surveillance, uniformity, subservience and dependence (Foucault's panopticon has arrived; pedagogy and ultimately democracy, I submit, have been subverted). And the silence of us pedagogical lambs is deafening (for a critique of the directions of Australian pedagogy in both early childhood and higher education, see Wildman & Wildman-Cunado, 2010).<sup>15</sup>

Abbot and MacTaggart (2010, pp.183, 250) comment on the continuing decline of Anglophone countries as revealed in UNICEF (2007) statistics on child poverty. They note that Anglophone countries cluster towards the bottom in most categories of developed countries, but stand out in terms of educational achievement as being at or near the bottom. In other words, we are coming last. And this list includes Ireland and Canada. Abbot and MacTaggart (2010) go on to maintain that England—the country that has spent billions upon billions of pounds in the past generation on

creating a complex centralised, statistics-focused and top-down system of schooling and national curricula with inspectorates and so forth (a model that Australia is dutifully following)—has slipped in four years from seventh to seventeenth place in reading levels and from twelfth place to twenty-fourth in mathematics.

Further, the UNICEF report shows that the UK and many other Anglophone countries score at the bottom in terms of family relationships. Alexander (2001), in his *magnus opus* comparing primary schooling in France, Russia, India, the USA and England, echoes Abbot and MacTaggart's sentiments on the English speaking world, especially the US. Alexander quotes a significant pedagogical study that found nearly half of all elementary school students were being raised by their grandparents (2001, p.204). He also notes that many Anglophone countries, unlike the others in his study, do not have national oracy programs. Another illustrious, and recently arrested, author who points out the decline and decline in Anglophone pedagogy is Hedges (2009, chapter 5).

I believe that Alexander almost singlehandedly achieves the near impossible in that he objectively critiques Anglophone pedagogy from within. In this regard another civilisational vantage point, that of Confucianism, has a deep concurrence with Hedges's analysis. Reg Little, one of the few genuinely independent Confucian scholars in Australia, and Vice President of the International Confucian Association, reviewed (2010) Hedges's analysis and was highly critical of Western, and in particular Anglophone, pedagogy.

Notwithstanding ongoing triumphalist Anglophone sociodicy (vindication of the one view of society), which includes what I call pedagogicy (vindication of, and in, the one view of education), in the above short overview I have sought to show that all is not well, pedagogically speaking, in our kindred countries.

### **What to do about it?**

So what can be done about this sociodicy and pedagogicy? What alternative pedagogies and creative curricula can be proposed? Matheson (2008, p. 274) details ways to analyse and engage the future of pedagogy in a particular country. And Peters and Freeman-Moir (2006) explore what they call 'edutopias' in some detail. In a key essay, Milojević (2006, p. 40) argues that there will always be subjugated forms of power/knowledge/praxis and that these can and need to be used to resist prevailing and hegemonic forms of pedagogy and lead to 'practical journeys of hope'. Possibly just as this edition of *JFS* seeks to explore CFP, and as I am seeking to do with Artificer Learning in this piece, these forms of praxis and pedagogy can lead to 'practical journeys of hope'. While further discussion of these topics will need to wait for a future paper, extensive resources are provided on our website.<sup>16</sup>

### **Enter Stage Left—CFP: A Bush Mechanic Response**

The 'bush mechanic' approach to futuring proposes the inclusion of a third path between education and training—a re-braiding of ideas and action, in projects aimed at demonstrating that a better world is possible for our children. In effect, this re-braiding is a post-industrial form of what in medieval times was called 'artificing'—a role now taken by technicians. The artificer is like the general physician (cp. general practitioner), a specialist generalist, whereas the artisan is an expert in a particular craft area, much like say a medical specialist, for example, an oncologist

(Wildman & Hadkins, 2005).

In this scenario, placing futures within the context of practical work (as in CFP), we can start the needed re-braiding, picking up the pieces to try to put Humpty back together again through a practical approach to innovation. Ideally the learning that takes place in such practical approaches will be captured, not in a collection of text on a screen accessible through the conventional academic hierarchy, but rather in a collection of ‘exemplar projects’, equivalent to the artificer’s ‘master piece’ or the ‘journeyman’s piece’ from the middle ages, with peer accessibility via social media like the blogosphere, YouTube and Facebook (Wildman, 2002).

My field notes indicate that, in conventional social innovations, up to 90% of our energy is absorbed in implementation and compliance rather than design or conceptualisation. This is reversed in conventional pedagogy with up to 90% of the energy expended in the conventional education process as conceptualisation codified as text. From the perspective of this essay, much more pedagogical effort needs to be directed at what I call ‘the delicacy and robustness of action’. This functional–structural mismatch in education (action-less conception and concept-less action) has been amplified by globalisation with its view of education as a commodity and training as an extension of the industrialised system—and both thus an adjunct to the market. I submit this is a direct result of separating thinking and doing and then valorising the former and scorning the latter.

## Emergent Grounded Theory and Principal Categories

This work in progress report seeks to show how the concept of bush mechanics—an inheritor of an ancient and venerable approach to learning—can help create a better tomorrow, a future our children can live with. Another powerful concept applied in this research is grounded theory (Dick, 2000, 2007; Glaser, 1995). Grounded theory differs from more conventional research methodologies because it works from the bottom up. Grounded theory does not test a hypothesis; it sets out to find what theory accounts for the research situation observed in the field. Like action research, grounded theory is a framework for understanding reality and inter-relationships, and for revealing the theory implicit in the data.

In seeking to understand the bush mechanic phenomenon, four exemplar projects were observed over a decade (commencing in 2001). Grounded research methodology was applied (under the supervision of Bob Dick), to my various action research field experiences, codified in field notes, working with the four bush mechanics on their projects:

- (1) Designing and building a large trailer boat—bushy/artificer Don Miller;
- (2) Assisting in building a large rock house in a rural area in northern NSW—bushy/artificer Robert Pope;
- (3) Assisting a colleague reshape her house and life after a severe brain injury—bushy/artificer Meriel Stanger; and
- (4) Using her ‘polyglot’ skills, as a creative artisan bushy, for making props and producing theatre presentations—bushy/artificer Clairi Laurence.

At the start of this project, I posed four interrelated questions:

- (1) What, if any, is the learning system embedded in the ways of disparate bush mechanics and their ostensibly practical processes?

- (2) Can these processes re-braid thinking and doing?
- (3) Are there processes common to, and underlying, these discrete areas of practice: what is the 'common way of going about doing business'? and
- (4) How relevant are these processes today?

Grounded theory enabled some answers to be identified: (1) The embedded learning system is 'artificer learning'; (2) Artificer learning can re-braid thinking and doing; (3) Six principles underlie the artificer way of working; and (4) These principles are highly relevant today. In summary, the revealed learning system is a 'third path' of learning not education and not training. Further, such an (action) learning system bespeaks, I suggest, a deeper philosophy, that may be called chirosophy: a philosophy that includes pedagogy of the hands. The six key categories/principles common to each these bushies are listed below.<sup>17</sup>

## **The Six Emergent Grounded Theory Principle Categories of Bush Mechanics**

### **Exemplar project principle**

The bush mechanics' 'learning from the doing' is captured and codified in their 'exemplar projects'; these are the equivalent of the 'journey(person's) piece' of medieval times, and are adjudged by peers. The bush mechanic's self-reliance textbook is learning enacted, individually or collectively. Thinking and doing are braided together in the exemplar project with an embodied input of up to 10,000 hours (Gladwell, 2008, chapter 2). Each project exists in the 'real' or physical world, not only in the abstract. It also often forms the basis of income generation for the bush mechanic, including service to his or her customers. Income, too, in this model differs from the familiar market model: the bush mechanic is seeking to maximise personal satisfaction rather than commercial profit. A bushy knows when 'enough is enough'. An exemplar project is 'best in class' designed, created and trialled in use by the bush mechanic. This includes, to varying extents, operating flexibly and 'under the radar'.

### **Inner world principle**

This principle sees the exemplar project as authentically 'walking one's talk'. Such walking includes what may be called being a 'psychonaut'—linking one's inner 'I' and outer 'that' realms of being. Such exploration can contribute to self-realisation, and even self-actualisation.

### **Social holon principle**

Bush mechanics regard their exemplar projects as examples of social holons: they help others via mutual aid, a self-organising nested system which is simultaneously part and whole, hierarchically situated yet autonomous, using fixed rules yet flexible strategies. Yet bush mechanics do not live in intentional communities of bush mechanics/artificers (possibly due to the shard/islet reality that confronts bush mechanics today)—theirs is a 'network' rather than a 'nodework'.

We can see elements of an artificers' community emerging in annual get-togethers or make-in's such as the Burning Man festival, Apocalypse Man as survivor, Permaculture projects and the Back-To-Earth festivals of old.

### **Global responsibility principle**

The bush mechanic sees herself as a global citizen responding locally, concretely, participatively, accountably and proactively to the global problematique. Her work blends internal and external ethics, for example, redefining psychological markers such as work, income, status, time and task, and so forth.

### **Harmonisation principle**

In the bush mechanic and his community, we have harmonisation of diversity rather than the centralisation of conformity, somewhat in the mould of mutual aid anarchism. All the various sub-systems involved in the exemplar project, including resources and its use and users, need to fit together and harmonise for the whole project to function efficaciously. This could also be called the interface or integral principle.

### **Deep learning principle**

What personal and group learnings have occurred through the actions of design, construction, establishment and operation of the exemplar project? There has been learning from and within the engagement involved in establishing the exemplar project and its place in the lived life of the artificer and her community. This is 'Life Deep Learning' and uses bench chats, kitchen cabinets and learning circles as methods of peer exchange.

I submit that these six categories can be applied to the bush mechanic/artificer; however they are not necessarily universal and remain provisional and partial. As well, these findings rely, and indeed are very much conditional on identifying a bushy prepared to come into the open long enough to be 'researched' (an earlier version of these findings was given at the *Artificer Learning – a workshop for and about bush mechanicing* seminar in 2005, jointly sponsored by ALARPM and the Brisbane Hot Futures Group. The workshop was organised by Bob Dick and me.)

### **Tinkering with tinkering: What use is that?**

Along with the artificer/bush mechanic and exemplar projects sits the smaller scale approach of tinkering. Tinkering has conjured up images of people wasting time working by themselves doing 'bodge' jobs in backyard workshops or home studios. But could tinkering also be seen as a way of solving some of the world's future challenges? I certainly think so. [Running parallel to the engagement with the four exemplar projects, for the past decade I have been exploring/tinkering/bricoleuring (the French term for third sector learning) and seeking to identify the principles behind this process. I have been tinkering with tinkering.<sup>18</sup>]

The artificer/bush mechanic/bricoleur is skilled in related areas and can assemble a whole systems solution to a particular problem by integrating components from related areas, so that, for example, an integrated 'whole boat' with motor/trailer/controls/cockpit design/electronics/accommodation/tow-truck/typical user/typical



use, etc., can be designed and created, with the design including the ergonomics of the skipper and crew and hull appropriate to the type of weather to be encountered in use. We can also see this 'related skill sets' of intent, design, fabrication, operation and learning from across broadly related skill sets in gardening, the work of seamstresses, cooking, and the iconic droving. One could term this '**depth multiskilling**', working well beyond vocational specialisations we see in TAFE today. In fact most of the skill areas that are in severe decline today are what I call chiro-trades or 'hands on', 'techne intense',<sup>19</sup> or rare trades (Thomson, 2002). These disappearing trades are marked by the use of heuristics cp. algorithms and the view that the tool is the extension of the hand rather than the hand being an extension of the tool.<sup>20</sup> While teaching and using these skills have disappeared from school curricula, and are no longer covered by apprenticeships, any realistic view of the skill sets and application heuristics required in our emergent Brave New World would see them as crucial. They need to be celebrated. In Tasmania at present there is a Museum of Old and New Art; I would love to see a Festival of 'Old and New Artifice' or a 'Bush Mechanics' Hall of Fame' or, as there is in France, a 'Museum of the Trades' and for instance 'Professors of Plumbing'.<sup>21</sup>

### **Conclusion: Works in progress**

This project is a work in progress. Several elements continue:

1. Working alongside the originator, Dolph Cooke, and getting before, during and after views of the exemplar project initiative, now called Australian BioChar<sup>22</sup> Industries, a not for profit social venture.
2. An ongoing exemplar project within BioChar in northern New South Wales called the Hill Of Abundance seeks to synergise bush mechanics and action learning circles.<sup>23</sup>
3. I am developing these Action Learning Circles in co-operation with Learning Circles Australia (see, Wildman & Schwencke, 2003; Wildman, 2011).<sup>24</sup> To date, there have been six action learning circle meetings with action and reading in the fortnight between each meeting, a total of about 35 hours of engagement. Final field results from this work in progress should be known in early 2012; early field results are most reassuring. Such outcomes are possible as the period between circle meetings is part of the circle process, allowing experiments and plantings to occur as needed. At the end of October 2011, in all six Action Learning Circle sessions had been over a three month period<sup>25</sup> and the group has been awarded a Millennium Project Node Award.<sup>26</sup>
4. The project has detailed the links between the Biochar Action Learning Circles and the MP's 15 Global Challenges. In particular, BioChar may have a role in addressing sustainability (GC1), acting as a 'coral reef' in gardens by attracting the 'best bugs' to its billions of micropores, and being used as a water filter. It may also help respond to the sustainable energy (GC13) challenge, with the gasses from its burning providing heat and driving motors. Finally, BioChar has a role in ethical markets (GC7) where it is being used in a pilot study to help provide the economic base for several 'right livelihood' small businesses/ social ventures.
5. Key further outcomes of the past decade spent in the action research project

have been the focusing of research outcomes through the revamping of the Biochar and Bush Mechanic websites with the inclusion of social networking technologies (see icons on the top right hand side of our Adult Learning website), the completion of eBook II on chiro-pedagogy, and a gradual migration to social networking technology via YouTube and a weekly blog.

6. The chiro-pedagogy path of low tech–high ingenuity is a form of—and represents a third path of—learning that may also contribute to the potential for braiding action learning, learning circles and sustainability, and possibly the emergence of KALGROVE as a functioning pedagogical institute.

This paper, and Dick and Wildman’s work (forthcoming), is a work in progress report demonstrating a particular interpretation of critical futures praxis. It is hoped that these two interpretations may elicit replication studies, which can in time become intrinsic to the field(s) of action learning, action research, bush mechanics and, perhaps most importantly, Biochar.

Note. Paul Wildman is collecting exemplar projects. Members of ALARA who would like their projects included are invited to contact him at paul@kalgrove.com. Progress in the research project can be viewed at <http://www.kal.net.au/> and in particular <http://www.kalgrove.com/adultlearning/>, <http://biocharproject.org/education-2/biochar-action-learning-circle/> and <http://biocharproject.org/community/biochar-learning-circles/>

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## Notes

- 1 See also <http://bushie.weebly.com/index.html>; and a humorous take on the BM: <http://www.youtube.com/watch?v=fwfdYnSj5Vg&feature=related>
- 2 See: <http://www.bioneers.org/>
- 3 Although it may seem to the reader that I am single minded in my seeming attribution of a near-miraculous capability to our hands (chiro), and their pedagogical relevance, I do so with some serious reservations. Our hands have helped us become human, indeed *homo habalis*, i.e. handy man, is not a misplaced appellation. However, that does not explain what it is to be human: our hands contributed to our ontology that alone cannot explain what is unique about our nature. I am *not* advocating a biologism here. Further, my sometimes vociferous advocacy for the reinstatement of chiro in pedagogy does *not* exclude the role of other forms of pedagogy, rather it is an attempt, albeit outside the confines of conventional academia, to engage in a small dose of ‘reverse discrimination’.  
**NB:** I only seek futuring oriented reinstatement of chiro pedagogy as an important

aspect of overall pedagogy. It is, I believe, a valuable and overlooked perspective. In this context the article seeks to contribute to the rediscovery of a very deep facet, nowadays largely pejoratively discarded and disregarded, that played a critical role in our evolution. I would submit that the hand represents a chreode in our evolution: the hand drove the head. In my view ‘chiro-work’ is about as important and fundamental to being human as breathing; in a nutshell Hand, Heart and Head. That is manuary techne, or skilled hand use including signing, tool use, feedback, caressing, even early verbal language led to increased brain capacity and not vice versa. [*Chreode* is a neologism coined by Waddington in the 1980s that describes the developmental path of the cell as holon as it grows to form part of a specialised organ and, secondly, the development and evolution of an organism (a group of cells) as it evolves. One common metaphor is of a ball placed on a landscape, where the shape of the landscape makes the ball more likely to follow certain channels and end up in certain places although the eventual outcome is not completely predetermined.]

4 See: <http://www.bodgershovel.com/barefoot.htm>; <http://www.bodgershovel.com/> and <http://en.wikipedia.org/wiki/Bodging>

5 See: <http://eskriver.dk/engsite.htm>

6 See: <http://www.woof.com.au/>

7 See, for example, <http://www.youtube.com/watch?v=WopdIgbG1dA>; and Warlpiri Media Association media site (WMA, 2002): <http://www.bushmechanics.com/>

8 See <http://www.instructables.com/>

9 I submit that, historically, we also see this in our ‘exemplary’ pejorative view of the Luddites in England in the early 1800s who principally had a chiro-oriented mutual aid social justice platform that resulted in distinct ‘actions’ of resisting and indeed attacking the capital intensive deskilling technology of power looms and stocking frames. Today, however, Luddites are seen as opponents of technological development—backward, laughable, with low or no skills, parochial, provincial, and just plain dumb, much as the bushy is scoffed at and lampooned today. An alternative title for this piece could have been *In praise of Luddism: the apparent folly of self-reliance, resiliency and activism in an age of mass consumerism and Global War(m)ing*.

10 See: [www.myschool.edu.au](http://www.myschool.edu.au)

11 See: [http://www.beyond.com.au/index.php?option=com\\_vcatalogue&task=view\\_details&vid=390&Itemid=21](http://www.beyond.com.au/index.php?option=com_vcatalogue&task=view_details&vid=390&Itemid=21)

12 See: <http://www.deewr.gov.au/HigherEducation/Policy/teqsa/Pages/Overview.aspx>

13 To my mind the CAEs (Colleges of Advanced Education) could, with significant adaption (e.g., Wildman & Dick, this publication), have played a crucial part in developing this third path. But in the late 1980s, globalisation gobbled them up into higher education and ‘the university’. Today no one under 40 has even heard of them (see: [http://en.wikipedia.org/wiki/College\\_of\\_Advanced\\_Education](http://en.wikipedia.org/wiki/College_of_Advanced_Education)). At that time, there was also an additional third path alternative posited by the National Advisory Group on Local Employment Initiatives (NAGLEI). As Director Labour Market, I was the Queensland State Government representative. We posited a pracademic CAE type leaning process along with employment and economic development strategies at the local level. This initiative was supported by State and federal governments and was presented to Federal Cabinet on in July, 1988. However, this too was trumped by the rationalisation of CAEs and universities in the context of various reports into

‘Australia’s International Competitiveness’ (Burrell, 1988, p. 3; NAGLEI, 1987). This is, in my view, is one, if not ‘The, greatest lost opportunity in Australia’s pedagogical history and now has disappeared into the silences of the victor’s history. This generated the precursor to National Higher Education and University curricula that we see today from TESQA, in the standardised behaviour based Competency Based Training system embedded in the National Qualification Framework of the late 1980s just as WTO was replacing GATT (what a coincidence?). Since then, billions of dollars have disappeared into this black hole with a lot of output yet little outcome accountability. As Deputy Commissioner for Training in Queensland at the time, I raised this issue on a number of occasions. Few, if any pedagogues, however, dare to challenge this aspect of our pedagogical status quo, just as few if any UK academics challenged the recent tripling of university fees thus rendering themselves, and academia generally, complicit in the ongoing pedagogical disenfranchisement of the poor.

- 14 See: [http://www.deewr.gov.au/HigherEducation/Policy/teqsa/Documents/HIEDArrangements\\_Diagram.pdf](http://www.deewr.gov.au/HigherEducation/Policy/teqsa/Documents/HIEDArrangements_Diagram.pdf) and <http://www.ofsted.gov.uk/>; (Alexander, 2001, p. 255); and <http://www.deewr.gov.au/Skills/Overview/Policy/NationalVETRegulator/Pages/Overview.aspx>.
- 15 Several pedagogical institutes or learning enrichment foundations embrace chiro oriented pedagogy—kids and adults learning. See examples at: <http://www.21learn.org/> Canada; <http://www.swaraj.org/whatisswaraj.htm> India, and possibly eventually [www.kal.net.au](http://www.kal.net.au) Australia (click on ‘Adult Learning’ or go direct <http://www.kalgrove.com/adultlearning/>).
- 16 See: <http://www.kal.net.au>
- 17 In the initial grounded research, four primary categories (1, 3, 4, and 6) emerged. However, in subsequent fieldwork two additional (sub)categories (2 and 5) have emerged from category 1 and are included here in order to complete this decade of independent research. While this list is exhaustive in terms of my research, it is not meant to be complete and other categories or even principles may emerge and other researchers could well have a different amalgam of, and perspective on, the key factors/categories. One should not, without due care, attention and humility, attempt to migrate or conflate phenomenological results (this grounded action research project) to empirical certainties or ontological significance. I sincerely hope I have not exceeded this stricture or my own ability.
- 18 Various aspects of this **third pedagogical path** are listed here: Artificer learning or chiro-pedagogy contains many, many intriguing yet seemingly unrelated islets, shards or largely forgotten and discredited memes, that are now seen as detritus all but submerged by our mass consumerism, but yet still pointing to a deep cultural resource crucial in our difficult times. For example: bush doctor, bush philosopher, bush lawyer, bush pilot, bush tucker, bush music etc. In Australia, ‘bush’ can be equated with the German sense of *handwerker* and *volk*; a bush mechanic is used in the sense of ‘hand worker and practical philosopher’. I submit that Humpty Dumpty-like, we need urgently to put them back (or more correctly forward) together again—a sort of futuring pedagogical anthropology. These islets/shards/detritus include: mentoring, practical personalised rate learning, mimesis with understanding (sit-by-Nellie), potlatch, K-sere biomimicry, detritus itself—see <http://detritus.net/>, Chirosohy/Chirophile (Gibson & Ingold, 1993), chiro-pedagogy, bespoke trades, manuary techne (viz. Tallis, 2003) and in evolution

(Wilson, 1998), *technique* cp. *technique*, polyglot *daiku*—the Japanese master carpenter, ‘*D*esign cp. design, a posteriori Local Theory, *Homo Faber* viz. Arendt (1995), the yin orientation of much of this informal structured learning (Eichler, 2008), Statute of Artificers—London (1563), Men’s Deep Shed Culture [http://www.ibys.org/shed/?page\\_id=17](http://www.ibys.org/shed/?page_id=17) , Volk Handwerker, European cathedral towns in the middle ages (Miller, 1996), and finally, saving Apollo13 required much deep bushy work, *Demiurge Craftsman*—Sennett (2008), Confucius as ‘Artificer of the Dao’ (Dao—doing things right and the right thing a form of CFP?) and the Confucian view of ‘eating ancient virtue’ and also the ancient Chinese process of ‘fixing the omen’ where we can also use what we do to change what we think through the use of praxis, symbols and rituals, *Garbage Warrior*, *Sauvage* (Fr.) as in direct and uncomplicated cp. *Savage* as in red in tooth and claw in English *Levi-Strauss* (1996), *bricoleur* (Fr.) cp. *Wastrel* in English, *futuribles* (futures possible), *Craft* origins of the *Masons*, *Bricoleur* and the French respect for the *Trades*, *Bodgers* comes down to us as *Bodgy*, *Bush mechanics* as in backyard mechanics viz. the *Dodgey Brothers*, *Knaving* as in *Skulduggery*—see <http://eskriver.dk/engsite.htm> traditionally *knavers* or *journeymen* had to journey around Europe for a minimum of three years and one day and during that time (s)he must not visit home and must not come nearer to it than 50 km, *Artificer* as in *Shyster*, literally hundreds of *ACE* courses of the early 1990’s and earlier—now completely eliminated by structured competency based economic rationalist *Taylorist TAFE* and *RTO* (*Registered Training Organisation*) training, *Disarmageddon*, *Slow Knowledge*—see <http://perspicaciousangel.wordpress.com/2008/11/18/david-orr-slow-knowledge/> , *Slow Learning*—where students and peers and elders have the time ‘handy’ to build f2f human relationships to mentor one-another personally so turn off face-book for the duration, *DIY–DIO* as unreliable and uninsurable, *Ecosophy* as opposed to common sense/the Volk, *Subversity* and *Pracademia* as the tertiary version of *Bush mechanics* and so on and so forth. From my perspective to have a positive future, the globe needs, among other things, to embrace these in the context of the *Third Pedagogical* approach embodied in some sort of deep ecology or *Ecosophy*, in short to get the pieces back together again and into survival mode. In short we *HAVE* to start going in a different direction. Such a direction I suggest would be *Eco’sophy* which needs must include *Futuro’sophy* (inc. *Futuring* i.e. *Critical Futures Praxis*) and thus I assert *Chiro’sophy* as seen in *Critical Futures Praxis* (as outlined in *Dick and Wildman* (2011) in this edition esp. Fig 1 and in particular the section ‘The need for informed and skilled action’). This *Action Research* arena, overlaps to some extent with *Social Anthropology*, *Ethnography* and *Volk and craft/art♦ifice* studies. **NB:** Detailed discussion of these shards/islets is beyond the scope of this *Work In Progress* piece. Further information and detail on these is available on our website [www.kal.net.au/portal/](http://www.kal.net.au/portal/) and <http://www.kalgrove.com/adultlearning/> (purple menu left hand side on ‘eBooks’), each eBook is around 300pgs and so may take a minute or so to load and open.

19 **Techné** , or **techné** is a counterpoint to our ‘technique’ and comes from the ancient Greek and is often translated as *craftsmanship*, *craft* , or *art* . It is the rational method involved in producing an object or accomplishing a goal or objective through the perspective of skilled handwork; tools are seen as extensions of the hands not vice versa. With technique, hands, and by corollary humans, are seen as extensions of

the machine. The means of techne is through art, craft and croft. Sadly today we see much of the ‘techne’ of the ‘Ancient Order of Mechanics’ so to speak embedded in computer war gaming e.g. Vanguard Crafting Community ties in computer gaming, crafting/artificering and shamanism! (see <http://www.tentonhammer.com/node/61905> and <http://vgplayers.station.sony.com/newsArchive.vm?id=810&section=News>). This does however show how cutting edge CIT can enhance chiro-pedagogy in deep simulations and so forth. The way that this third path has ‘gone subterranean’ and into computer gaming is explored in some detail in my eBook 2: *Education and the Bushy* on our website. This will require what I call ‘yin’ interface technologies that are today still emergent. Techne here resembles episteme in the implication of knowledge of principles, although techne differs from episteme in that its intent is making or doing, as opposed to ‘disinterested understanding’. The bush mechanic turn is not, I strongly submit, a naïve, escapist, reactionary or wistful Arcadian or Edenic myth revisited; post rational naivety maybe, a case of ‘back to the future’ certainly.

- 20 This is a basic expression of the difference between the ancient approach to skill as ‘manual techne’ and our modern equivalent as skill as ‘adjustments to the machine’. In the former the tool is designed to facilitate and build the users hand skills where as in the latter the aim is to eliminate such ‘craft labour i.e. handwork’ all together.
- 21 See: <http://detritus.net/>
- 22 BioChar is charcoal used for carbon sequestration and to increase soil fertility and thus improve soil productivity.
- 23 See: <http://biocharproject.org/charmasters-log/hill-of-abundance-update/>
- 24 Dr. Mark Brophy <http://studycircles.net.au/>, industry expert Dr Paul Taylor (2010) <http://biochar-books.com/TBRDetails>, and Biochar entrepreneur and CharMaster Dolph Cooke <http://biocharproject.org/>
- 25 See: <http://biocharproject.org/education-2/biochar-action-learning-circle/> and <http://biocharproject.org/community/biochar-learning-circles/>
- 26 See: <http://biocharproject.org/biochar-in-the-news/united-nations-millennium-award-biochar/>

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