Futures Dialogue Session 11
Thoughtpiece Theme: Action Based Learning for Constant Change

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11) **Adapting Action Learning for Constant Change!** – Paul Wildman, Brisbane, Australia, works in Kids and Adult Learning www.kalgrove.com , through his family company KALGROVE Pty Ltd. He is (2004-present) node chair of the United Nation's University's Millennium Project for Australia. www.stateofthefuture.org

"The concept of learning is changing from an emphasis on cognitive learning only to one of linking learning styles, seeing connections in dissimilar ideas, and applying new knowledge in new ways. This group will dialogue about how learning can meet the needs of the present through hands-on action, and, at the same time in parallel, focus on creating new knowledge for the future."

Session on Monday 5th will be concurrent and go all day - 9-4 then 9-12 on Tuesday. The following the basis for an 8 pg summary of my presentation.

Paul Wildman +61 7 32667570 paul@kalgrove.com comm. 06-01-2007 No 6 4500 words

Introduction

Today we see convoluted and complex change all around us, in our personal lives, communities, countries and globally. And this change doesn't sit on its hands. Yet what do we do? Today the throw away line in 'Miss Congenial' when asked what she wanted for the future somewhat glibly said 'world peace'. Today everyone I know takes this challenge seriously. We all want to contribute - actually to do something.

Great but 'do' what? And then how do we do it? With what steps and what actions and who does these actions?

Its one thing to 'think' about something it's a totally other thing actually to 'do' it. Somehow over the years the two parts of the social action cycle have become separated. And let me tell you 'thinking' won the day!! Policy makers get paid more, much more, than hands on janitor.

Yet in the schools and Social Sciences 'learning' has become almost exclusively 'education' in the use of ones cognitive facilities. I call this text based learning and it has become a sort of concrete over older traditions and modern alternatives in learning. I argue that such text based learning sits on much more dominant and entrenched distinction that between thinking and doing. In our cultures thinking and indeed philosophy itself, first is conceived as a purely cognitive activity then it is separated from doing which is seen as a purely operational activity. Next thinking is elevated in status and payment while doing is depreciated to lower payed 'operative' status. Tragically both conceive doing as just 'executing orders' especially in a bureaucracy, where the 'policy developers' develop policy the board or cabinet endorses it and the bureaucracy simply operationalises it. Today policy goes about as far as the 'strategic plan' but not as far as its deployment (and we don't even have a name for this unlike the Japanese - hoshin kanri) let alone learning from hoshin kanri - which is in effect 'action based learning for constant change'.

Hold it there!! Look around.

This separation of thinking and doing, isn't working any more is it?

Why????? & How could it work better?

May I strongly urge all of us to ask the same question over the next two days.

In this workshop we will explore some of the reasons for why 'things aren't working and we aren't learning the way we used to and indeed how they could, given the dire needs of today's Global Problematique'.

So when we look around at the urgent needs in our world we see the need for recognising the vastly different ways people learn, acting from the ground up, and applying this knowledge in practical ways through what we call here 'action based learning' and we can see in for instance what I call exemplar &/or demonstration &/or second enlightenment projects. We can this way re-link thinking and doing. In times of constant change we simply don't have time to think long and hard about for instance how to address the megatrends - we have 'don't just sit there - do something!!' - we have to develop action based learning abilities to address constant change through modelling solutions.

Today we will explore some of these abilities, challenges and trends while *identifying and developing a couple of new ideas that can be used in local communities to seed innovative capacities for transformation.*

Workshop Process

The workshop will be a highly participative one with this thoughtpiece available to each attendee prior to the workshop commencement. Further the workshop includes asking and collectively discussion several questions that like a ladder hopefully will take us from the personal to the organisational and back, in seeking a response to our futures dialogue session theme.

This thoughtpiece is organised from the ground up that it's the general background is presented last whereas the actual attributes of what we will be discussing and exploring are presented first.

For an overview of the concept and a background to the materials and how they relate to Adult Learning, as well as my background please see the end of this document, and www.kalgrove.com click on 'adults learning' on the left hand side.

Each discussion topic will take around ½ hr.

Workshop Outline

Day 1 - a. setting the stage

Key Themes for the workshop

Day 1 Theme - Individual ~ Identifying and exploring attributes of XXXX required for individual thrival in an environment calling for action based learning for constant change

Day 2 Theme - Corporate, NGO, IO etc. ~ Exploring the value, and attributes, of XXXX for corporate thrival in an environment calling for action based learning for constant change

Agreeing on terms

Lets take this very serious subject and have the participants in the group come up with a term that would supplement the term 'Bush Mechanics'. If you considered the 'Bush's Mechanics' the way I have explained it and you have understood it, that you know of over say the past five years in the U.S., what term would you use. A term that we will use in the workshop identify and connote a new way of action learning that will provide leaders not only with a transformed context of thinking but a methodology of decision making appropriate to constant change.

Alternative name to Bush Mechanic

Question 1: Now that we have discussed the type of person or initiative that fits under the artificer /Australian Bush Mechanic label who typify 'acting ahead wisely' what is an American version of the name? **[see *Organising Principle 12: Futures Generative /enactive Dialogue - acting ahead wisely - (Molecular Society)*]**
Activity 1: Feedback and collective decision (whyte board write up).

Day 1 - b. workshop discussion

Expanding the Workshop focus:

"The concept of learning is changing from an emphasis on cognitive learning only to one of linking learning styles, seeing connections in dissimilar ideas, and applying new knowledge in new ways - in short **Action Based Learning For Constant Change.** This group will dialogue about how organising principles can assist in learning that can meet the needs of the present day through (1) hands-on action (viz. 1.a acting ahead wisely; 1.b PIDIL; 1.c artificing ~ individual and corporate, 1.d the singing tool), and, at the same time in parallel, focus on (2) creating (2.a creactivating) (3) new knowledge (3.a individually and collectively - 3.b governance; 3.c educations role) (4) through (4) heterotechnic co-operation) for (5) the megatrends of the today for our children's future (5.a look at megatrends inc. singularity; 5.b answer the question 'how then should we live together today for a better world tomorrow for our children's children)'.

(1) Hands on action:

1.a Acting Ahead Wisely

When we look around today at the urgent needs in our world we see the clear need to 'act ahead wisely', yet everywhere we see the act bring only for today with no though for our children's children. Even worse the systems of governance and representative democracy [1]seem unable to take care and concern for the practical future of Gaia into account. When we look into 'acting ahead wisely' and chart just how much effort it takes to 'act' we see that the actual enactment of the forward looking wisdom takes for instance around 10 times the amount of time taken for design of the action and at least 30 times for the idea on what to do in the first place.

[1] Mega trend 2 - The limits to traditional representative democracy are appearing because of the increasingly complexity of society, the overwhelming amount of information of real time media, and need for big money to be re-elected.

Q2: What are some of the attributes of 'acting ahead wisely' that you see? Reflect and write.
A2: Feedback and collect key contributions.
Do you know we don't have a word for this [Prohairesis is the nearest - a Greek word meaning 'choosing ahead wisely'; Phronesis - wise action is also a related word]

1.b IDI

Stands for a design process we use whenever we do some practical project - first we have the idea then we design an outcome from that idea then we implement it that is Idea | Design | Implement or IDI ratio of 1 | 3 | 30. Yet our Universities and schools obsess about this front end feature, no more than 3% of getting the job done, that it's the cognitive thought and little about designing an efficacious action let about actually enacting it.

Q3: Now we have an understanding of the I-D-I cycle please reflect for a few minutes individually write down this division in a project you have personally recently been involved with what was the ratio there?
A3: Feedback and record key points.

Q4: How important in today's world where we seem to have heaps of ideas but little new being implemented, especially as far as social innovation is concerned, is it to have folks like this XXXX? What are they to be called?
A4: Reflect for a few minutes on this we don't have an occupation category for XXXX.

We can now expand IDI a step further with an up front prioritisation stage that is among all the ideas jumbling for my action attention how to I choose the one to go with because although we can have several ideas at once we cant do several actions/projects at once . Plus at the end of the now PIDI cycle we need to reflect and learn so we have the - Prioritise | Idea | Design | Implement | Learn cycle. I call this the 'D'esign cycle. Our universities and schools obsess about Idea and that's that yet it takes say 30 times the time it does to think of it in the first place, for instance to implement something even basic like a campa-trailer modification.

Today we will chart some of these 'design-lines towards action'.

1.c Artificing ~ individual and corporate)

Bush Mechanic/Artificer in the narrow sense is *'someone who uses their ingenuity and technical knowledge to improvise unique solutions to field challenges'*.
This narrow sense is where this workshop starts and then hopefully over the next two days we drill down into and across this definition towards a deeper understanding of this 'endangered species' - us. Who, in developing their ***action based learning strategies for adapting to constant change***, can play I argue a vital role in a positive future for our children. I believe we all can. It is possible to see deeper and broader meanings behind the commonly understood characteristics of the bush mechanic XXXX, echoes of the popular past, and days of future passed, whispers from a disappearing present, as well as harbingers of a possible future.

Artificer/Bush Mechanic in the broader and deeper sense as used in this book is *'an adult learner who is broadly and deeply technically skilled both in a participative and reflexively orientated manners with normative (ethically) and instrumental (technical-strategic) capabilities and who seeks to address key dimensions of the global problematique through prototypes by prioritisation, choice, design and implementation all aimed at acting ahead wisely towards a world transformed'*. [Wildman (2004c:1) updated Wildman (2007) - this document, see also Wildman (2005a, b, c, d)]. Clearly the Artificer/Bush mechanic as a citizen seeks to contribute to the wider society through continuous innovation. ***[See Megatrend 8 the need for leadership for citizen based continuous innovation] [see also Organising Principle13: Truth and (self) discovery co-exist - Concept of Applied Appropriateness - embedded, embodied and emboldened, appropriate technology - the artificer - (Molecular Society)]***

The four principles of artificing: (1) the exemplar project, (2) social holon, (3) global problematique, (4) action based learning. Explain the development of these principles using grounded theory. An extension here is that when addressing the mega trends an exemplar project could be considered a Second Enlightenment Exemplar Project (SEEP). **[see *Organising Principle11: Truth and (self) discovery co-exist - Exemplar Project - (Molecular Society)*].** A crucial attribute of this process is interface: the fit between sub-systems and the larger system, between and within sub systems themselves, then the system and the user and finally with the external environment. A good artificer has what I call 'interface agency' that is she can rove around a project seeing how

one system (plumbing) fits with another (carpentry) and then with the customers need and fix any inconsistencies. [see ***Organising Principle10: Elegance in Complexity - Interface - (Molecular Society)***]

Q5: What are the dimensions/examples of the artificer's role in (1) your day to day live, (2) work life and (3) public life - has this situation changed since your grandparent's era? How?
A5: In the discussion try to identify pockets where the XXXX's still live, work and have their being - what are these - [Blokes and their Sheds etc.]

Q6: Outline some of the types of interface you have come across. Contrast vertical and horizontal types.
A6: Discuss

Q7: What are the four principles of this version of action based learning?
A7: Discussion and feedback.

Of course we can extend the artificers XXXX role to the corporation and NGO this is how we can get leverage for these troubled times. This will be our theme for tomorrow.

1.d The Singing Tool

Difference between techne and technical

Gregory of Nyssa, a church father, died in 396AD, and maintained that 'if the body had no hands, how then would the articulate voice be formed in it? Hewes (1993:22). In this chapter we explore the importance of manual and mental dexterity to the evolution of the human hand and what is called in this book - hand knowledge. Indeed one could postulate that Nature is the broader canvass on which artifice is written - with evolution being a form of artifice even and thus the bush mechanic has but taken this energy/ inspiration within and applied it in the human dimension or as I say here the social holon. In this broad context it may be argued that manual dexterity and artificing with hand knowledge can play a powerful part in potentiating other human abilities such as intellectual, physical and psychological, so that the tool and the user sing a duet.

Further Aristotle took the view that **human beings are mimetic beings**, feeling an urge to understand reality through the use poiesis as a sort of 'action as theory creation' to internally model reality and to explicate this in the creation of texts, art, poetry and actions that reflect on, represent, and seek to change that reality.

Escape from the planet of the domesticated mind through re-engaging the savage mind, our ancestor's visual language with the progress via. video games to a forcestor visual language. Our textual language emphasises thinking whereas a visual language emphasises doing i.e. it draws from experience i.e. the lived life. Again we see the difference between a priori and a posteriori knowledges.

Q8: Think of something really important and then try to tell your neighbour while sitting on your hands.
A8: Discuss in the group as the tie into gross motor skills, the singing tool and a possible visual language.

(2) creating:

2.a creactivating new knowledge

Generally today knowledge and learning are not generated in support of ones lived life rather they are generated by applying a particular theory. And as ***Organising Principle 4: Creativity- Creactivity - (Molecular Society)*** shows today this lived life is under constant change. So that creativity in out lived life, not that of the classroom, is constantly called forth for survival, I call it thrival, in time of constant change. Here creativity is inseparable from activity i.e. its enactment, so that enactment (concrete) is the basis of learning not the theory (abstract), thus the word 'creactivity'. Creactivity includes for instance: inspiration, design, enactment, shaping, agency and so forth.

Now we can see that creactivity is in fact Action Based Learning (ABL) ideally suited to times of Constant Change (CC). ABL for CC is another way of viewing Artificer Learning so that XXXX can be seen as a crucial way to address today's times of constant change.

Either that or we all become like lemmings or end up in a gulag.

Q9: Identify something you have 'creactivated' how can this contribute to a better world tomorrow for your grandchildren?
A9: Share, discuss and celebrate.

(3) new knowledge for constant change:

3.a Individually and collectively

Conventionally we have an education system aimed at 'teaching' the same thing from the same book, at the same time, to the same aged children all forced to attend, in the same egg-box room, with the same teacher, who has the same political control over all her students, in all schools. This is 'enforced' symmetrotechnic co-operation.

Yet historically this is the antithesis of how humans learn. What distresses folks in this business is this compulsory forced compliance in age-cohort deserts? In Australia for instance workshop and cookingshop have been eliminated for years and now play equipment is being removed from child care centres for legal reasons (so there go the gross motor skills for workshop and cooking shop to build on). Indigenous learning systems are vertical, experiential, mentor rich, profoundly engage the lived life of the 'student' for instance in seven layers of initiations for Australian Aborigines till they are in their mid 30's (intriguingly much the same age Jesuits study to).

In our business we have sought to integrate vertical and horizontal learning thus 'kids and adults learning'. E.G. http://www.lefca.org/ ; http://www.ccednet-rcdec.ca/en/docs/pccdln/LEF_profile-E.pdf

The only terms left that reflect this sort of learning that I can find inc. lifelong learning, social learning, Adult and Community Education and Learning Enrichment. Vocational Education prior to the mid 80's in Australia also did this.

Q10: Think about the differences between individual learning as per school and collective learning as per the exemplar project.
A10: Discuss and assess these differences.

3.b Governance;

If we look deeply at our 'Global Problematique' we see that the underlying issue is one of 'governance' how and who we decide collectively to respond to the question (if our politicians even hear it). For instance how then should we live today for a better world tomorrow for our children?' Our systems of democracy just aren't working we need a new model one that at the absolutely root level deeply respects human rights yes each human has rights. This achievement seems beyond us it's like we are in a giant freeze frame where the innovations in representation were made a couple of hundred years ago and since then zippo or even worse backsliding. Artificers recognise the need for collective actions that can 'socialise' their prototypes however getting a model for such socialisation is most challenging. One such model is sociocracy the step beyond democracy. http://www.sociocratie.nl/ shows us a start and click the American Flag for English (interesting twist of history!!)

Q11: What are some ways we can look at the cause of the problems we see in the Global Problematique and not only focus on the symptoms? How important is governance in this deeper look?
A11: Outline and discuss some of these attributes of this 'new governance'.

3.c Education's Role

When we look around at the urgent needs in our world we don't see classical education playing much of a role. Much learning today comes from computer games, web based searching, self-help and self-learn books and so forth. While learning has become 'absorbed' into 'education' which in turn has become a 'business' and still sees its role as it has for hundreds of years as a large scale system that focuses on getting 'bums on seats' with that is each individual student looking at the same page at the same time with the same problems i.e. symmetrotechnic not hetrotechnic learning. Not only this in Vocational Education we see the re-emergence of Taylorism in 'Competency Based Training' (CBT) the way competencies are conceived and taught as isolated basic simple skills which are then measured as 'behaviours'. Well there we see in modern parlance the real meaning of the classic saying 'monkey see monkey do'.

Today we will look beyond conventional education and in particular beyond CBT for Vocational Education. Of all the 'educations' Vocational Education offered so much to the person of practical mind yet has delivered so little delivering instead a dumbing down with whole trade areas reduced to a set of 'competencies' not 'understandings' or even 'problem solving' and nothing on 'synthesising' or 'linking/interfacing' with other trade areas.

Q12: Thinking about Vocational Education - what are some of the key changes you consider are needed to help us techneally address a future of constant change? How could heterotechnic co-operation be included here?
A12: List and discuss with the group and with your colleagues - this, to my mind, is an oft overlooked crucial part of our children's future.

(4) through:

4.a Heterotechnic co-operation

Heterotechnic co-operation (HTC)*[2] is where different activities are undertaken by different members of the team/clan/workgroup/family. Although still profoundly common in the lived life this phenomena is almost unheard of in conventional education where it is all about 'bums on seats' all doing the same lesson at the same time in the same way on the same day.

For instance in indigenous terms crafts undertaken at artisan level by different individuals simultaneously co-evolving a group tool/product e.g. manufacturing a canoe or hut or bow and arrow, and accomplished in what is called a Heterotechnic Face To Face Task Group. I argue strongly that this is the original conception behind androgogy i.e. Adult and Community Education (ACE) and is in a sense a form of community artificing which, for children could be called simply 'structured play', whereas symmetrotechnic co-operation of the compulsory type has been used by all pedagogy i.e. all children in a given class sitting at identical tables with identical books doing identical curriculum material. For instance Reynolds (1993) calls symmetrotechnic/symmetric co-operation (STC) where all participants do the same thing at the same time in order to facilitate a common goal e.g. tug of war, typical school class/pedagogy.

Their ideas were the result of constant dialogue as a part of nightly gatherings at home and in pubs in Edinburgh where oysters and radical thinking were the most popular menu items. This is the basis of the Adult Action Learning Circle. What we are facing is nothing less that a Second Enlightenment. With this in mind, a Second Enlightenment Conference (SEC) is announced in the spirit of the original dialogues or "coteries" of the original Scottish Enlightenment. [from conference website] Added 28-01-2007

Q13: What are a few examples of heterotechnic co-operation you have been involved with?
A13: Discuss, how effective these were and how 'enjoyable'?

(5) addressing the Megatrends of today for our children's future:

5.a Artificial Intelligence and the Singularity

Furthermore of great concern to us today on the cusp of an absolute ballooning in AI that is the cusp of the singularity, where machines will know more than people (by 2050 I argue by 2030). **[see Megatrend 7 - the singularity]** Yet we still organise our learning as if we were entering a time machine focused on the Industrial Revolution when for the first time in large scale human systems humans operated the machines that their hands had given birth to they/we no longer provide the underlying physical energy for them to run. For instance the concept of the grand plant i.e. economic organisations of for instance TransNational Corporations what I call corpor'n'ations with its centralised methods of operation and innovation are now much larger and numerous than most nation states. So some how with the on rush of intelligent technology with its incipient 'singularity' and the passion for the big we miss out on what for millennia have served us well that is the small node and with its

[2] Several dimensions of HTC can be identified such as: (1) degree of agentic volition – is the participation at the discretion of the agent e.g. a victim at a cannibal HTC could be described as being able to express a low degree of agentic volition; (2) formal or informal – not that these are mutually exclusive rather that levels of structuralism and formality vary for instance compare the spontaneous manufacture by a group of a canoe V's a school working bee V's a council rubbish pick up.

connection to other similar nodes we can have a resilient and innovative cultural network - the mutual aid action learning circle. These dominant approaches are not participative they do not act as artificers they act as manufacturers of the artificial. **[see Megatrend 12 - impact of this on what it is to be human]**

Its like in Bell's 2003 article where he argues that when the rate of change gets to a certain point where it equals or exceeds the speed of response (response loop/time) everything goes silent (and if I may add - into slow motion) the silent scream announces the arrival of The Singularity. Modis (2003:31) goes further and maintains that by 2025 we will be witnessing the equivalent of all the twentieth- century milestones of major change in a week. He argues that the silent scream started with the completion of the human geonome. Modis (2003: 30 Figure C).
Added 28-01-2007

Again this is where an Artificer[3] approach to learning can assist.
Q14: What is the difference between an artificer approach and an artificial approach to non-human intelligence?
A14: Discuss with timelines.

5.b Now we should be able to move a little closer to answering the question 'how then should we live together today for a better world tomorrow for our children's children'.

For me this is 'T'he question of the times that all the others above point to, and in effect needs no introduction.

Q15: Review and discuss the action dimensions of this question
A15a: What role can you see the individual Artificer XXXX playing in positively and concretely addressing this challenge? Discuss.
A15b: What other roles do you see the Artificer XXXX concept playing in amplifying and accelerating the role and relevance of XXXX to society? XXXX as individual, XXXX Corporation, XXXX NGO, XXXX Intermediary Organisation, XXXX, XXXX internet clearing house, XXXX festival/hall of fame, XXXX TV program. Others**? [in the introduction to megatrends the conference organisers speak of the role of 'second enlightenment clubs' thus; to build complexity by connecting networks of small nodes, and need to create together new knowledge for the future]**

Day 2

Theme: Today is one of broadening the application of the concept. Consequently no new material is presented or discussed rather new applications and their implementation in our personal, corporate and community lives.

Reviewing the XXXX

Q1: Having explored the concept yesterday and reflected on this in (y)our homework last night what are some of its applications in (1) every day life, (2) your futures work?
A1: Vocalise and discuss.

Amplifying and broadening the XXXX and her impact

Q2: Let's think about extending the XXXX into the organisational world.
Q2a: What are some of the key attributes of a XXXX corporation?
Q2b: How else can XXXX contribute to organisations? NGO, IO, TV program, Hall of Frame etc.
Q2c: What are some of the organising principles necessary for this to happen?
A2: List individually and discuss.

Q3: List some ways that XXXX can contribute to Communities Of The Future? **A3:** Discuss.

Q4: Having explored XXXX learning what are some useful attributes that could be applied today (a) in our conventional learning systems, and (b) our vocational education systems? **A4:** List and discuss.

Q5: How does all this contribute to action based learning for constant change?
Q5a: How can this contribute to the Second Enlightenment Exemplar Projects (SEEP) in (y)our lives (personal, business, community)?

[3] In conventional sense artificer (expert generalist) may be seen as the step after artisan (expert specialist) which is the step after tradesman which is the step after apprentice.

Q5b: What are some of the megatrends that such a SEEP would SEEK to undertake (K-knowledge)
Q5c: How → What → When → Where??? **A5:** List and discuss.
End of Day 2 Organisational Artifice component

Wrap up for whole Futures Dialogue Session

Q6: List a few personal and organisational impacts of our discussions for you from the past 2days
Q6a: Choose at least one of these new ideas/impacts that can be used in your local community to seed innovative capacities for transformation.
A6: List and discuss.

Thanks for attending and thanks for your contributions

Close

Background

One response

The response I wish to advocate to you today and tomorrow as you can see is a development on from Action Learning called Artificer learning. A common term for this in Australia is *bush mechanic* - someone who can fix a car (or anything else for that matter), cook a great meal using whatever he or she has around. Such folk are often extremely highly skilled technically and can see the big picture in which they are searching for a small part solution.

Personal journey

In 2000 after a career as a senior bureaucrat in vocational training and academic in the social sciences, in my early 50's I set myself two tasks, *one* of answering the question 'if I could design an ideal learning system what would it look like?', and the *second* of setting up a family business in this arena that of kids and adults learning, www.kalgrove.com , that could operationalise these learnings. Any such a system would need to have a response to the challenge of this conference*: since the concept of learning is changing from an emphasis on cognitive learning only to one of linking learning styles, seeing connections in dissimilar ideas, and applying new knowledge in new ways.* In developing this system I had cause to do various web searches etc and one such search netted the name 'Rick Smyre' RLSMYRE@aol.com and for the past five years we have been communicating and co-operating and have not met till this conference. There is a strong link between Communities Of The Future (COTF) and Artificer learning and extending this to the second enlightenment.

After about a years work I developed the concept of artificer learning the step beyond the artisan. Grounded theory research indicated there were four key principles to such learning (1) the exemplar project (2) the social holon (3) the global problematique and (4) learning from the lived life.

Uncovering the Antiquity and Propinquity of the Artificer - the visual linguist

I then sought to put this into practice by engaging in direct experience in an artificer learning process (11-2003 to 01-2007) in which I understood the construction of my own exemplar project with in the middle of this I made the discovery that a process which shared several of the key attributes of the artificer was in place in the Middle Ages indeed in 1563 the Statute of Artificers was proclaimed in London. Parallel to this we find philosophers such as Aristotle, Epicurus, discoursed on the concept of Active Practical Wisdom and Phronesis right action and prohairesis - choosing ahead wisely, Arendt (1963) on the need to re-link or re-ligio thinking and doing **[see *Organising Principle3:Synthesis and Generation - combining thinking and doing (Molecular Society)*]** as the challenge of modernity, Nussbaum (1994) on the therapy of desire as developed in Hellenistic philosophy of the demos and emotion embedded in an approach to human health, and discipline based authors such as Levi-Strauss (1996) who looks at the Savage Mind of ancient and some current indigenous cultures, and Edwards (1995) who in advocating creativity identifies several authors such as Nemrov (1980), Marcel Proust who alluded to an ancient Neolithic visual language e.g. Stonehenge, and the Grange Ireland, based on a posteriori rather than a priori knowledge. This suggests that there is an inner relevance even urge or drive to enact for instance to prosume i.e. to shape and produce what we consume. In this way the exemplar project (external) reflects an (inner) drive to concretise personally (Individual) actions and projects that can benefit society (social) - the four Wilberian quadrants. Indeed Wilber's (1995) vision logic has some strong connections to this Neolithic past although he would most likely abhor such a possibility esp. since this requires validating the physiosphere cp. noosphere.

Table 1: Megatrends: Linking Artificer Learning with the 12 Megatrends of The Second Enlightenment from http://www.2enlightenment.com/sessions.htm

The Concept of Second Enlightenment Clubs: Nature adapts to change and works to build complexity by connecting networks of small node. This same principle undergirds the foundation of the network of Second Enlightenment Clubs that are evolving throughout the US and other countries. The following are twelve megatrends that we think key to understanding the future. Each SEClub will determine the interactive impact of these megatrends and others that will form an emergent context for our 21st century societies. Contact Rick Smyre at rlsmyre@aol.com if you would like to have the material that is provided for each SEClub to begin an initial dialogue.

Megatrend 1 Oil Production will peak within ten to thirty years, requiring a shift to complete new energy methods.
Megatrend 2 The limits to traditional representative democracy are appearing because of the increasingly complexity of society, the overwhelming amount of information of real time media, and need for big money to be re-elected.
Megatrend 3 The increasing symptoms of global warming are becoming obvious in many different ways.
Megatrend 4 Unknown viruses and resistant bacteria are emerging that are untouched by existing medicines.
Megatrend 5 Conflict between the trends of aging in the developed world and the increasing numbers of youth in the developing world creates an economic and social time bomb.
Megatrend 6 There is an ongoing severe reduction in biodiversity throughout the world.
Megatrend 7 We are approaching a moment of "technological singularity" when runaway advances outstrip human comprehension and all our knowledge and experience becomes useless as a guidepost to the future.
Megatrend 8 The future vitality and sustainability of the economy and society will be dependent on the ability of leadership to develop cognitive complexity and continuous innovation in the capacities of the citizens.
Megatrend 9 There will be an increasing clash of civilizations and rise of terrorism.
Megatrend 10 There are three economies in churn at the same time: a) Last stages of the Industrial Economy b) Twenty year transition stage called the Creative Knowledge Economy. c) The early stages of a Web/Networked/molecular Economy
Megatrend 11 National borders increasingly will be seamless.
Megatrend 12 Artificial intelligence is emerging which, when combined with biotechnology and nanotechnology, may very well transform the concept of what it means to be human.

Table 2: Linking Artificer Learning with the 14 Organising Principles of Communities of the Future from http://www.2enlightenment.com/sessions.htm

Molecular Society	
1. Systemic	8..Generative Development
2..Concomitant Good	9..Parallel Strategic and Ecological Planning
3..Synthesis & Generation - combining thinking & doing	10..Elegance in Complexity - Interface
4..Dynamic Adaptability & Creactive evolvability	11..Truth and (self) Discovery Coexistent - exemplar project
5..Connective Analysis	12. Futures Generative /enactive Dialogue - acting ahead wisely
6..Transformative Learning	13. Concept of Applied Appropriateness - embedded, embodied and emboldened, appropriate tech - artificer
7..Balance of Values	14. Knowledge Democracy

The Millennium Project of the UN Uni - 15 Global Challenges for policy makers to 2030 www.stateofthefuture.org

The challenges are aimed at organisational (corporate, NGO) planners so relevant actions are also included.
GC 1: How can sustainable development be achieved for all? **GC 2:** How can everyone have sufficient water without conflict?
GC 3: How can global population and resources be brought into balance? **GC 4:** How can genuine democracy emerge from authoritarian regimes? **GC 5:** How can policy making be made more sensitive to global long-term perspectives?
GC 6: How can the global convergence of information and communications technologies work for everyone?
GC 7: How can ethical market economies be encouraged to help reduce the gap between rich and poor?
GC 8: How can the threat of new and re-emerging diseases and immune micro-organisms be reduced?
GC 9: How can the capacity to decide be improved as the nature of work and institutions change? GC 10: How can shared values and new security strategies reduce ethnic conflicts, terrorism, and the use of weapons of mass destruction?
GC 11: How can the changing status of women help improve the human condition?
GC 12: How can trans-national organized crime networks be stopped from becoming more powerful and sophisticated global enterprises? **GC 13:** How can energy demands be met safely and efficiently?
GC 14: How can scientific and technological breakthroughs be accelerated to improve the human condition?
GC 15: How can ethical considerations become more routinely incorporated into global decisions?

About the facilitator

Dr. Paul Wildman

Paul has an extensive track record in the areas of, Project design and development, Artificer Learning (Bush Mechanics), Anticipatory Action Learning, Strategic Planning, Futures Studies, Business and Organisational Development and Action Learning. Presently (2001-present) he works in Kids and Adult Learning, through his family company KALGROVE Pty Ltd, which specialises in Child Care, and Adult Learning Development areas in the private sector, undertaking strategic, and catchment analysis in the companies business niche [www.kalgrove.com]. He also runs a niche publishing business Prosperity Press – publishing in futures related areas. From 1989-2001 he worked in the Adult and Vocational Educational area concentrating in Apprenticeships and Traineeships – ultimately as Deputy Commissioner for Training and Director Employment Directorate (Queensland Government), and from 1994-97 as lecturer at Southern Cross University (SCU) where he developed, and lectured in, Futures Studies (FS) then the only on line Masters specialisation in Futures Studies in the world. He is (2004-present) node chair of the United Nation's University's Millennium Project for Australasia. www.stateofthefuture.org & http://www.acunu.org/millennium/nodes.html .

He has published four CD-ROMs, contributed 10 chapters and some 45 articles in these and related areas. Interests include bike riding, squash, healthy diet, grandchildren minding and spending the past three years on building his own bush mechanic exemplar project in the marine services industry as well as developing a theoretical and practical understanding of this specific type of advanced Anticipatory Action Learning called Artificer Learning which, in Australia is called Bush Mechanics, and publishing therein. Artificers are the step beyond Artisan and are expert generalists in a number of related fields. They bring a methodical and ingenuous approach to solving everyday dilemmas with an eye to assisting today the development of a better world tomorrow for our children.

Overseas experience: in management development and futures includes Tonga, India, Malaysia, Africa and Singapore and Papua New Guinea.
Qualifications : 2001 Cert IV in Workplace Assessment and Training, 1997 Doctorate in Management (Community Economy Futures), 1985 Masters Social Administration (Social welfare planning), 1975 BA Econ (Hons – Regional Economics).
Contacts: paul@kalgrove.com +61 7 32667570 (@ 01/2007) PO 273 Northgate 4013 Brisbane Queensland Australia

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1. Wildman, P. and E. Hadkins. (2005). Bush Mechanics - artificing a future we can live with*. Journal of Futures Studies*. **10**(1): p. 91-100.
2. Wildman, P. (2007) How *Futuring Bush Mechanics seek to transform the world. Futures*. **Forthcoming**: p. 14.
3. Wildman, P. (2005). *Bush Mechanics: futuring the Australian way.* Future News, (September - page 7): p. 1.
4. Wildman, P. (2005). *Futuring and the Artifice of Ingenuity.* Futures Bulletin - World Futures Studies Federation. **30**(2&3): p. 10-11, 21-23.
5. Wildman, P. (2005). *The Corporate Bush Mechanic (CBM) - possibility or absurdity: An exploration of the potential and design for the installation of a CBM system in The Flight Centre (TFC)*. Kalgrove Pty Ltd: Brisbane. p. 20.

Other Artificer related articles

Alexander, C. (2005). *The Nature of Order - an Essay on the Art of Building and the Nature of the Universe - three book series. This ref to Book 3 - A vision of a Living World. This Chapter - Chapt. 15 in Book 3 - How Living Process Generates the Process of Construction - All Building as Making*. UK: Centre for Environmental Structure. 700pgs. [Obviously a classic though a tome indeed - Alexander's pattern language which can be seen as a metaphor for visual savage mind language of Edwards and Levi-Strauss - brings in the 'D' into design]

Arendt, H. (1963). *On Revolution*. London: Penguin. 350 pgs. [Philosophical call to re-link or 'religo' thinking and action]

Bell, J. (2003).*Exploring the 'Singularity'.* The Futurist. **37**(3): p. 18-25.

Dick, B. and P. Wildman. (2005). *Critical Futures Praxis: futures, action research and change.* Unpublished, p. 28pgs.

Edwards, B. (1995). *Drawing on the Artist Within: how to release your hidden creativity*. London: HarperCollins. [Using drawing as a language as a Right Brain mode counterpart to text/word based Left Brain Mode languages - intriguing - well worth a look]

Florida, R. (2003). *The Rise of the Creative Class - and how its transforming work, leisure, community and everyday life*. Melbourne: Pluto Press. 400pgs. [If one reads creative as creactive then F's work is a thorough exploration of the importance of creactive (bush mechanic type) work in economic development - well worth a look]

Gardiner, W. (2003). *The Encyclopaedia of Sewing Techniques - A step-by-step visual directory, with an inspirational gallery of finished works*. East Rosevlille, Australia: Simon & Schuster. 160pgs. [Great use of exemplar projects as inspiration]

Gibson, K. and T. Ingold, eds. (1993). *Tools, Language and Cognition in Human Evolution*. Cambridge University Press: Cambridge. 480pgs. [what can I say this is the bible end of story - a must wade for anyone interested in this arena inc. alternative forms of vocational education]

Hase, S. and C. Kenyon. (2000). *From Androgogy to Heutagogy.* [a step to a retroductive action learning based method of learning] http://ultibase.rmit.edu.au/Articles/dec00/hase2.htm#heutagony

Hewes, Gordon. (1993). A history of speculation on the relation between tools and language. 1993. pgs 20-32 in Gibson, K. and Ingold, T. eds. *Tools, Language and Cognition in Human Evolution*. Cambridge University Press: Cambridge. 480pgs.

[**Ingold**'s work is worthy of much greater attention in this field it is simply to my mind brilliant and insightful - the following titles say it all - well worth a sabbatical]
. Ingold, T. (1993a). *Tool-use, sociality and intelligence*, in *Tools, Language and Cognition in Human Evolution. 480pgs.*, K. Gibson and T. Ingold, Editors. Cambridge University Press: Cambridge. p. 429-445.
. Ingold, T. (1993b). *Tools Techniques and Technology*, in *Tools, Language and Cognition in Human Evolution. 480pgs.*, K. Gibson and T. Ingold, Editors. Cambridge University Press: Cambridge. p. 337-345.
. Ingold, T. (1993c). *Epilogue: Technology, language, intelligence: a reconsideration of basic concepts*, in *Tools, Language and Cognition in Human Evolution. 480pgs.*, K. Gibson and T. Ingold, Editors. Cambridge University Press: Cambridge. p. 449-472.
. Ingold, T. (1993d). *Introduction to part 1: Relations between visual-gestural and vocal-auditory modalities of communication*, in *Tools, Language and Cognition in Human Evolution. 480pgs.*, K. Gibson and T. Ingold, Editors. Cambridge University Press: Cambridge. p. 35-42.
. Ingold, T. (1993e). *Epilogue: Technology, language, intelligence: a reconsideration of basic concepts*, in *Tools, Language and Cognition in Human Evolution. 480pgs.*, K. Gibson and T. Ingold, Editors. Cambridge University Press: Cambridge. p. 449-472.

Laszlo, E. (2004). *Science and the Akashic Field - an Integral Theory of Everything*. 2004, Rochester, Vermont: Inner Traditions. 200pgs.

Levi-Strauss, C. (1996). *The Savage Mind*. Chicago: The University of Chicago Press. 300pgs. [This book is almost uncategorisable (and in some parts unreadable) and simultaneously a classic, discusses the possibility of a 'savage' or indigenous mind cp. today's 'domesticated minds'. The former is a practical person shaping and making things using visual not textual language]

Maturana, H. (1970). *Autopoiesis, Structural Coupling and Cognition: A history of these and other notions in the biology of cognition*. University of Illinois: Urbana. 30pgs. [great piece on the ability of organisms to self- organise and synergise - an analogy for the bush mechanic system of value adding interface and netweaving]

Modis, T. (2003). *The Limits of Complexity and Change.* The Futurist. **37**(3): p. 26-32.

Nussbaum, M. (1994). *The Therapy of Desire: Theory and Practice in Hellenistic Ethics*. Princeton New Jersey: Princeton University Press. 560pgs. [Arguably one of the worlds greatest living philosophers and the best woman philosopher - brilliant exposition of Hellenism and esp. for our interests here Active Practical Wisdom - read Artificing and the Hellenists]

Nemerov, Howard. (1980) On poetry, Painting, and Music, in *The Language of Vision* by Mitchell. ed. Chicago University of Chicago Press.

Otto, L. (1999). *Forgotten Technology and Conversion Charts*. Brisbane: Author printed by Watson Ferguson. 90pgs [written by a genuine bushy now dead, this work speaks of the importance of handing down the practical wisdom of the ages to following generations and laments how the vocational education system is failing to do this - basically a compilation of difficult to find conversion etc. type charts]

Reynolds, Peter. (1993). The complementation theory of language and tool use. pgs 407-428 in Gibson, K. and Ingold, T. eds. *Tools, Language and Cognition in Human Evolution*. Cambridge University Press: Cambridge. 480pgs.

Sternberg, R. (1997) *Successful Intelligence - How Practical and Creative Intelligence Determine Success in Life*. New York: Plume. 300pgs [A step towards Creactive Intelligence also called Artificer Intelligence, well written]

Thomson, M. (1995). *The Complete Blokes and Sheds; including stories from the shed*. 1995, Sydney: Angus & Robertson. 280pgs. [populist ethnographic study carried out by a true artisan into bush mechanics, their exemplar projects and the sheds they live in]

Thomson, M. (2002). *Rare Trades*. 2002, Sydney: HarperCollins Publishers. 230pgs. [another treat from T - take a look soon because many of these trades wont be around by 2010, they will just like the Bush Mechanic gone the way of the Dinosaur]

Turnbull, D. (2003). *Masons, Tricksters and Cartographers*. London: Routledge. 260pgs. [thoroughgoing discussion on the history of SSK - the Sociology of Scientific Knowledge]

Wilber, K. (1995). *Sex, Ecology, Spirituality: The Spirit of Evolution*. Boston: Shambhala. 830.

Wildman, P. (1976). *Meaning in Technology*. Griffith University: Brisbane. p. 20pgs. [Early piece indicating a search for a deeper understanding of technology and technique seen here in this book in some places quite prescient]

Wildman, P. (2000). Life Futures: An Initial Taxonomy of Terrestrial and Non-Terrestrial Forms of Life*. Journal of Futures Studies*, **4**(2): p. 93-108. [self-explanatory]

Wildman, P. (2004). *Pangogical Learning - Artificer, and Experiential Learning Views and Proposal to Establish an Artificer Learning Centre*. Kalgrove Pty Ltd: Brisbane. p. 30. [An extension of Hase and Kenyon's idea of Heutagogical learning and its application to Artificer learning]

Wildman, P. (2005). *'Othering' Action - The Origins of the Separation of Thinking and Doing*. Kids and Adults Learning Pty Ltd - the Bush Mechanics Institute Report No.2: Brisbane. p. 6. [A passion of mine for years now seeking to see how and when this separation, which is totalising especially in Social Sciences, arose]

Wildman, P. and I. Miller. (2004). *Artificer Learning through the Demiurgic Field of Dreams*. [Web publication from Iona Press and Prosperity Press, Brisbane -web publication] Available from: http://creativity.chaosmagic.com/whats_new.html [This article looks at an esoteric dimension of the Artificer also seen in some mason's works]

Wilson, F. (1995). *The Hand - How its use shapes the brain, language, and human culture*. New York: Vintage Books. 400pgs. [Brilliant and path-breaking exploration of the importance of our hand and manual dexterity and its representation in the brain]

Bush Mechanic - Web resources (accessed 02-2007)

As sourced particularly in Appendix D and:

http://www.fbo.com.au/movie.asp?ID=10187 - Indigenous Bush Mechanics web site
http://www.abc.net.au/message/archive/bushmechanic/ Indigenous Bush Mechanic TV series by episode
http://www.bushmechanics.com/pages/bush_mecanics/body_bm.htm - more general information on indigenous bush mechanics
www.hotfutures.net.au/bushie - hot futures bush mechanic blog
http://geolib.pair.com/smith.adam/won1-10.html Adam Smith on Artificers
http://www.yorkriteofcalifornia.org/royalarch/raeduc007.htm The link between Masons and Artificers
http://people.umass.edu/dkscott/CILA%20Institute/projects.htm an attempt to apply Wilber's integral learning at several co-operating academic institutions in the US – CILA the Community for Integrative Learning Action
http://zhurnal.lib.ru/k/korolew_p_m/pw2005.shtml The Artifice of Ingenuity