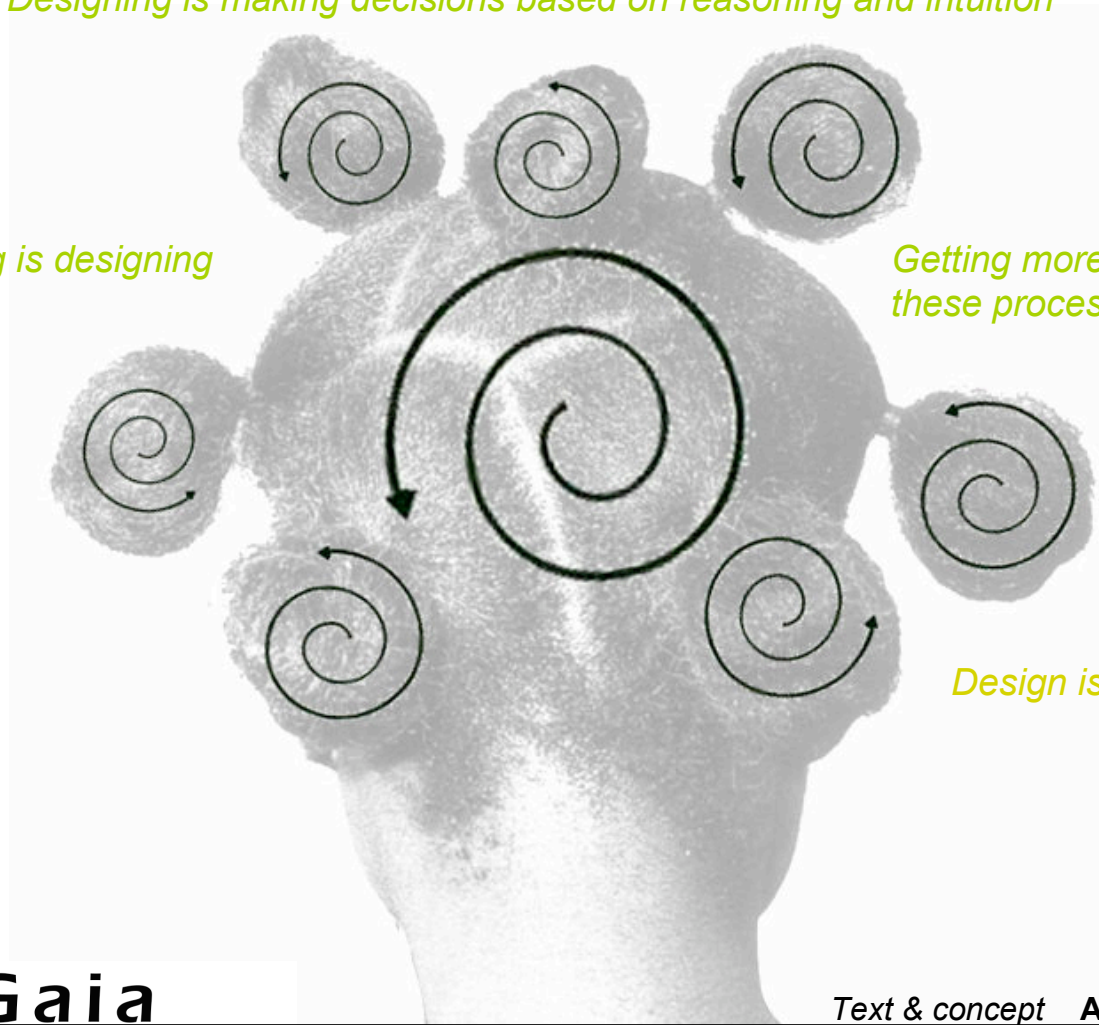# Design Cycle

Integrative EcoSocial Design

MANUAL

Designing is making decisions based on reasoning and intuition

Living is designing

Getting more conscious and experienced in these processes is the aim of the exercise

Design is an ongoing process in our mind

Gaia University International

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Design Cycle
Integrative EcoSocial Design

M A N U A L

Design Cycles

A **Introduction**

Here is a manual intended to help you work out what is expected of you as you work through your apprenticeship as an Integrative Eco-Social Designer. It is focussed on how to make designs, which are the means whereby you document your own development as an apprentice IESD and showcase the outcomes of your work in the world.

**B** **10 designs spirals over 2 years - a useful guideline**

This little guideline formula arises from the early permaculture days (1980's) and it has stood the test of time very well. Experience over the past 25 years shows that an apprentice designer readily progresses to a place of confident competence in their designing after working through a design spiral approximately 10 times.

**1** **What is a design spiral?** *using SADIE as an example*

In our field, IESD, we describe a design spiral using two levels of structure. Firstly there are **the macro level**, bird's eye view structures of a design spiral called a 'framework' or 'design space'. The framework/space guides the overall process. These typically describe a series of major steps or phases that are evident in a full and thorough design spiral. Examples of these 'design frameworks' are many and varied although they mostly follow a consistent pattern.

Examples are **SADIE** (the first letters of Survey, Analysis, Design, Implement and Evaluate) and, generated by permaculture designers in the UK, the more fulsome **OBREDIMET** (the first letters of Observe, explore Boundaries, Record useful data, Examine this for clues, Design solutions, Install these, Maintain them, Evaluate the results and subsequently Tweak systems for improvements).

Secondly there are 'design methods' suited to each of the phases. For example, using the SADIE framework in a land-use situation I could use the following 'design methods' (this is a 'lite' description for illustrative purposes).

MANUAL

Design Cycles
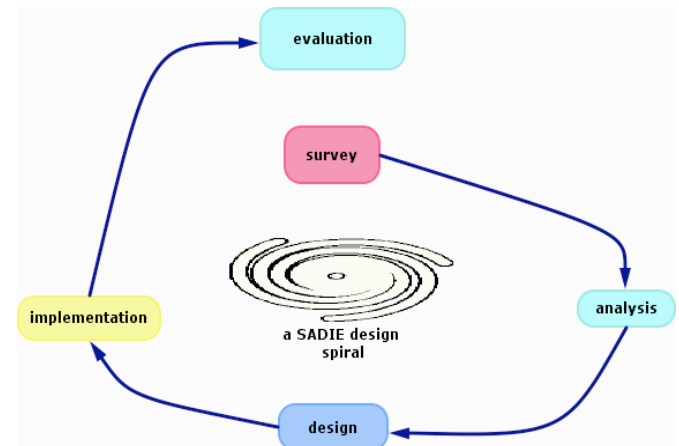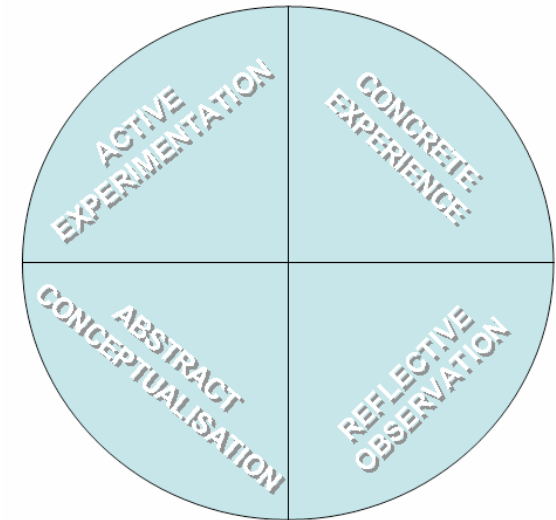
S — SURVEY
What makes you wonder?
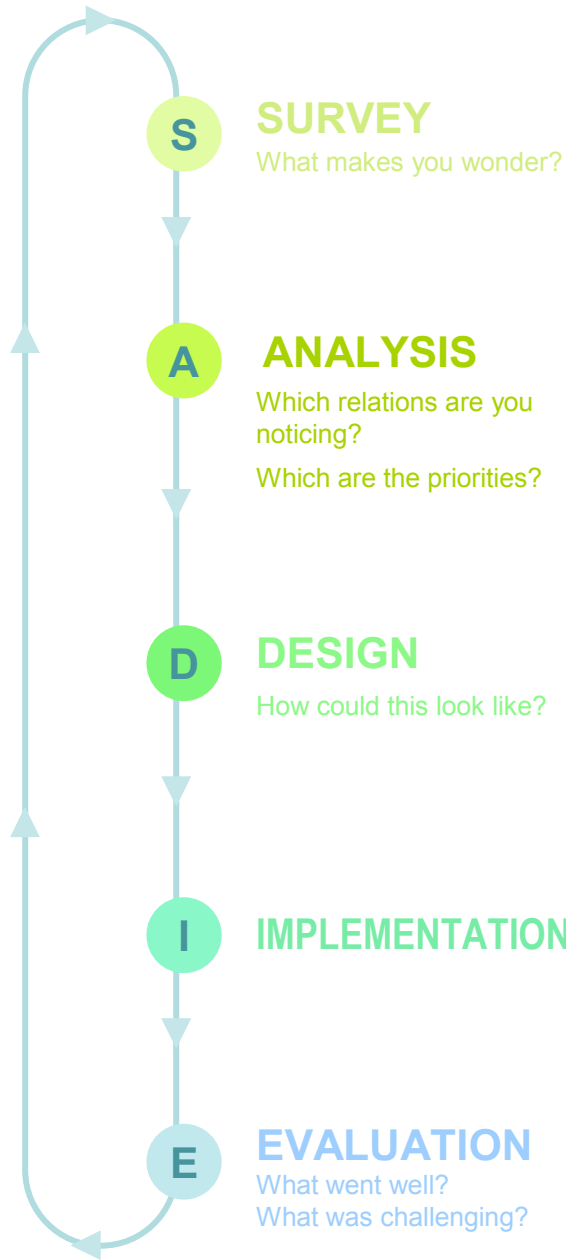
Survey by, for example, making or gathering together topographical maps of the site
- taking soil samples
- mapping existing vegetation
- walking the boundaries of the land
- sitting quietly in any places that I feel drawn to and simply observing
- mapping sun/wind/fire sectors
- looking at existing zoning
- checking likely water movement across the land
- noticing micro-climates and so on.......

A — ANALYSIS
Which relations are you noticing?

Which are the priorities?

Analyze by, for example, marking up maps with a series of overlays to show: -
- deepest top soils, most fertile areas and thinnest topsoils, least fertile areas with
- most sunshine and most shade and
- wettest, driest
- Looking at existing zoning decisions (some of these will be to do with where the buildings/roads/water/gardens/forests systems are in relation to each other) and analysing for type one mistakes (not serious, can be Tweaked into better functionality without major re-investment) and type two mistakes (serious, causing all sorts of critical downstream problems, much better not to start from here, let's rework this completely).

D — DESIGN
How could this look like?

Design by, for example, removal of limiting factors,
• by application of principles, by analysis of random juxtapositions, by theme using layers suggested by relative permanence thinking,
• by meditationaly-derived inspiration,
• by drawing possibilities (for me the very act of drawing up a proposal generates new thinking - much of it to do with realising that some of my ideas just don't work out on paper, let alone on the ground),
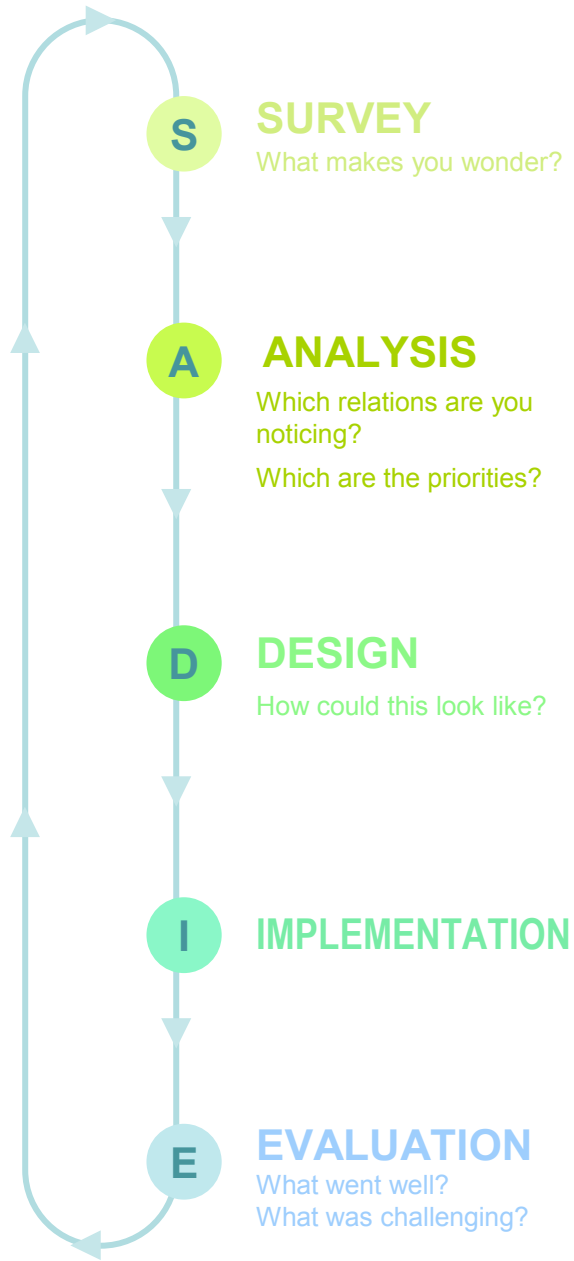• by marking the landscape with sticks and so on.......

I — IMPLEMENTATION

Implement by
• preparing a time-line diagram that shows a suggested order of implementation that suits the cash flow available,
• by detailing the expected streaming of yield and outputs,
• by looking at the maintenance implications of installing the design and so on ....

E — EVALUATION
What went well?
What was challenging?

Evaluate by noting outcomes to do with: -
(1) your own process (what went well, what could be different next time....)
(2) how well the design met the needs of the client including the expected costs and yields
(3) what the prognosis is as regards how well your design(s) will work (you might need to ask other people what they think)
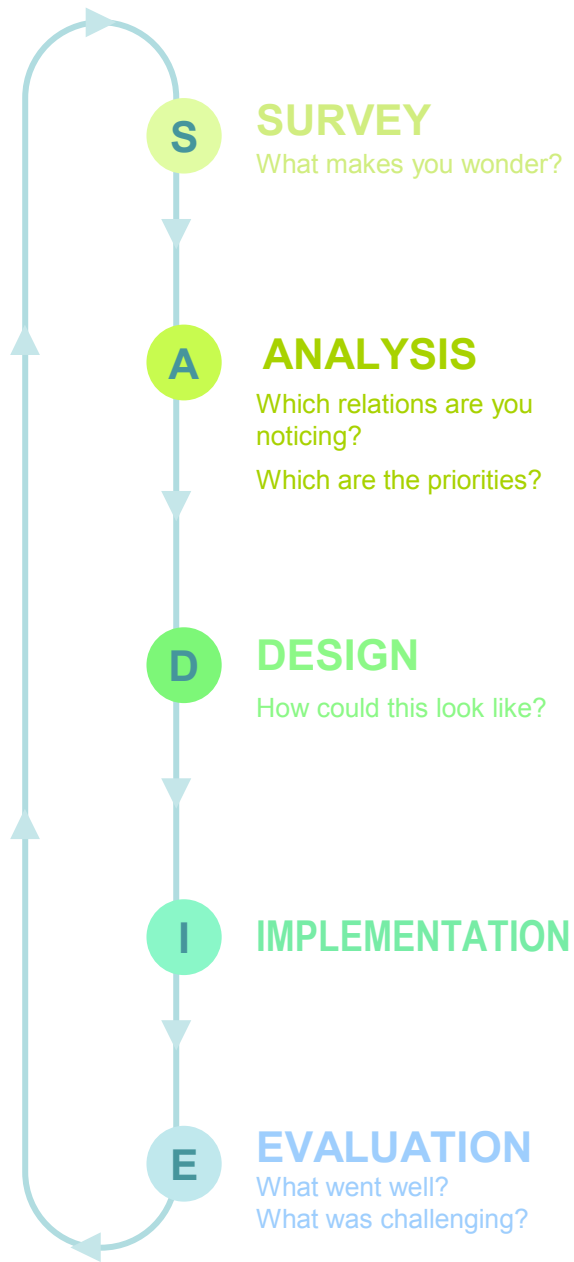
Design Cycles

S SURVEY
What makes you wonder?

A ANALYSIS
Which relations are you noticing?
Which are the priorities?

D DESIGN
How could this look like?

I IMPLEMENTATION

E EVALUATION
What went well?
What was challenging?

Design Cycles

ABSTRACT EXAMPLE

S **SURVEY**
What makes you wonder?

A **ANALYSIS**
Which relations are you noticing?
Which are the priorities?

D **DESIGN**
How could this look like?

I **IMPLEMENTATION**

E **EVALUATION**
What went well?
What was challenging?

Design Cycles

2 **Choosing design frameworks and methods**

You are welcome to use any design frameworks and any design methods that you think are suited to the situations you choose to design in. Indeed you are encouraged to invent your own, especially when working in fields without a history of conscious design. For your outputs and to most benefit your learning the key is to describe (articulate) the choices you make about frameworks and methods you use and to evaluate these choices both as you go along (being prepared to abandon methods that are not working, going back to do more research when you are unsure about what to do*) and when you have completed a spiral.

Useful saying from Jane Hera - **"Don't know what to do? This is a good indicator that more research (survey, analysis, design possibilities) is needed."**

One of the excitements for me with design spirals is to know that design professionals from many and diverse fields (process engineering, software design, architecture, landscaping, permaculture and ecovillage design, local and regional planning, boot and shoe design........) use very similar ways of proceeding through a design spiral even if they use quite different names for the steps and phases.

And another excitement is that new spirals, with new languaging are being generated - witness the Appreciative Inquiry approach, Discover, Dream, Design, Deliver available at **www.aileadership.com**

overview of design methods:

SADIE (the first letters of Survey, Analysis, Design, Implement and Evaluate)

OBREDIMET (the first letters of Observe, explore Boundaries, Record useful data, Examine this for clues, Design solutions, Install these, Maintain them, Evaluate the results and subsequently Tweak systems for improvements).
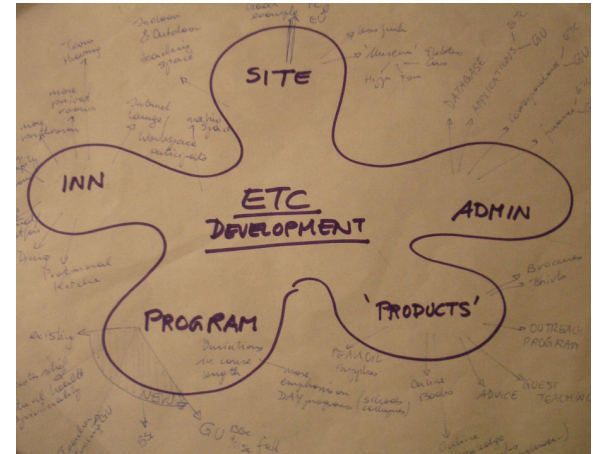
Design Cycles

Mind map – handmade

3 Your learning progression

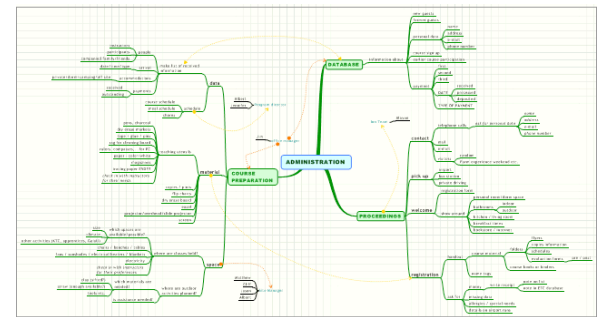### A Quality and detail of reports increase over time

Early design spiral reporting may well be quite simple and light. Indeed, in your early days as a designer, you are encouraged to focus on creating a complete suite of reports, however simple and rudimentary these might be, and to avoid focussing on any individual part at the expense of the whole. Thus gather together, for example, legible images* of the following: -

*.jpegs of less than 1MB per image - this is what your digital camera/camera phone/scanner is for).
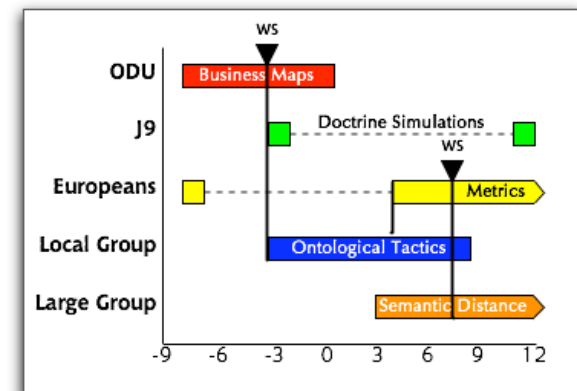

Mind map – made in mind manager

1.   hand drawn maps and charts of your all-aspect (see AQ notes below) yet lightly researched survey data plus
2.   mind maps of your quick and dirty analyses processes plus
3.   rough sketches of a couple of concept design proposals with side bars showing modest details of elements for clarity and some estimates of costs and yields plus
4.   a crude Gantt chart showing a proposed implementation sequence of and costs associated with a few main elements in the project plus
5.   a single page hand made evaluation mind map of things that worked well and things that could have been different for all the processes above plus
6.   a mind map commentary of: -
7.   what you learned during this design spiral and how you learned it
8.   and what learning goals have arisen as a result and how, when, where, with whom might you meet these.


Gantt chart

Design Cycles

This catalogue of reports is a whole (a 'holon' as the new language of holarchy would have it) and practising producing the complete suite, starting with crude simplicity at first and going on to develop more depth, breadth, artistry, presentational psatz and professionalism, is a significant part of your action learning pathway.

Each turn around spiral will reveal to you that it is important to develop certain skills and resources, for example; better abilities to draw maps, draw cross-sections, draw outlines of trees in plan view, prepare flow charts, time-lines, take better photos, catalogue explanational drawings of common elements used in designs, research species and micro-climates, map group interactions, draw decision trees..........

Now you can see that 10 times around this process is bound to significantly develop your design skills.

Note that **writing reports** is a time intensive activity. For example in land use situations a survey visit of 3 hours to a modest scale site can generate the need for 3 or 4 days worth of report writing and drawing table work. Try to keep such reporting to a minimum and seek methods that allow you to work fast and light - sketches rather than technical drawings, take photos on site that you can trace over later to make quick and credible sketches, use mind-maps a good deal (learning how to use these with ease and flow is a great investment). More design practice and less writing is a good goal.

sketch

plan

building

M A N U A L
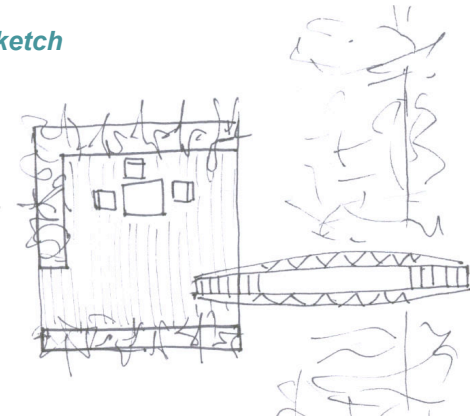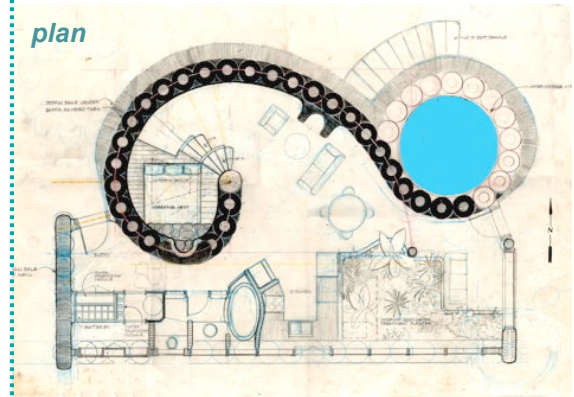
Design Cycles

B **Complexity and effectiveness of designs increase over time**

Your early designs need to focus on small projects with only a few elements. Try some classics like a herb spiral, choosing the right type of toilet system for a given situation, putting together a design for an hour long business meeting of half a dozen people. This limits the complexity to more manageable levels and, if your designs are not too effective, the fallout from mistakes is limited too.

A key part of your learning here is to know what level of complexity you can handle. Feeling overwhelmed? Then reduce the range of elements in your practice designs. Having said that, one of the key learnings for me during my early permaculture design career was to put aside any feelings of being overwhelmed and, instead, take enough time to remember how to use my knowledge of design frameworks and design methods to allow me to work next step by next step. After some time I would 'get a handle' on complex situations that had previously.

Feel free, of course, to leap into far more complexity and effectiveness than I describe here when you are ready.

Feedback from more experienced designers and your Specialist Adviser will help you evaluate the effectiveness of your designs - what will likely work, what is inspirational, what could be different.

C **Learning from mistakes is thorough, happy and productive ??**

I subscribe to the thinking that if I am not making mistakes then I am not taking enough risks and, if I am not taking enough risks my chances of changing the world are slim indeed. And, also, my mistakes are great opportunities for learning just so long as I can readily notice them.

The FEAR of making mistakes (often arising from attempting to avoid feeling the (old) bad feelings bought on by the disapproval we might have attracted when we made mistakes in an earlier, 'punitive/perfectionist' climate of oppression) is often one of the factors that most limits our capacity to innovate, to create, to think outside of the box and to get things done. Working at unlearning this pattern is vital to world change progress.

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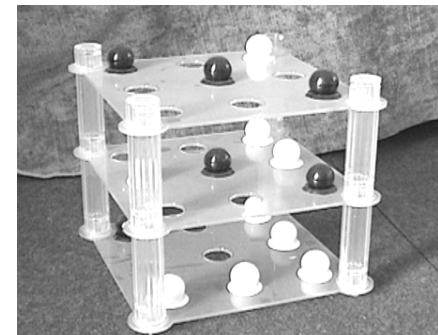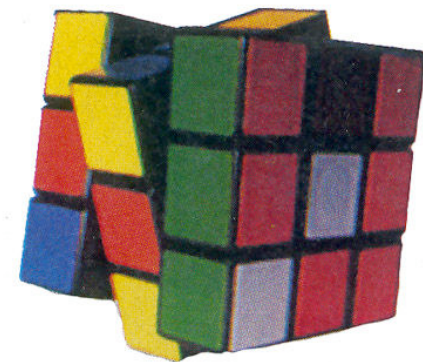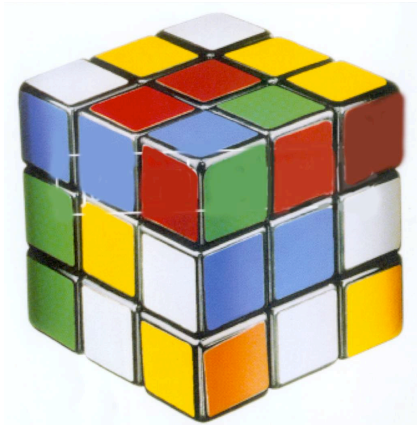
Design Cycles

And, here's one of Bill Mollison's recommendations - **'make your mistakes on paper rather than on the ground'**

It is a common experience for novice designers to make all sorts of proposals that just won't work - the very act of drawing up a design, to scale, helps you to notice when you have over or under dimensioned pathways, beds, places for compost heaps and so on.

I like to go one stage further and layout my land use designs on the ground using small pegs, sticks and lengths of string - sometimes I leave these draft designs in place for a while so the client has a chance to 'use' and review my proposals. This way dimensioning gets taken care off and new design ideas emerge in the meantime.

Do you have a picture Andy?

D **Your autonomy as a designer grows**

I am being quite careful about finding words to say this - this is because I don't subscribe to the idea that the sign of a professional is to be able to work without support which is what autonomous might be taken to mean. **My view is that gathering good support at all times is the mark of a mature and skilled operator and isolated, solo work styles are much less effective.**

Autonomy is better described as the capacity to function in a very self-motivated and proactive way that clearly shows that you are learning in leaps and bounds through your design career and that your use of support climbs up the level ladder as you go. With increasing levels of autonomy your support networks take on a significant quality of mutuality - you are as equally able to give support as use it with other, experienced designers.

It is an increasing absence of dependency, a developing willingness to explore challenging situations in depth before reaching for help so that, when you ask for technical assistance, your questions are informed, to the point, respectful of the time of your mentors and advisers.

Design Cycles

4 **Land use designs essential.**

Choose to work on permaculture land use designs early on in your career. This is for a couple of reasons.

Firstly the **permaculture design approach** using **principles** such as 'least effort for most effect','the problem is the solution', 'optimise edge', 'zoning for attention and effort' and so on is a very functional approach to creating good, ecosocial designs. This is one of the brilliances of the Bill Mollison, David Holmgren insight, the use of design principles. It is rare, even in other design fields. The presence of these well articulated principles greatly accelerates your capacity to learn how to design well.
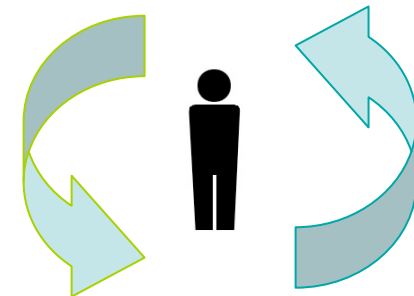
macro

Secondly you need to know about to design **human activities that work with nature, not against** - this is an essential foundation layer of knowing that a significant numbers of humans need to connect with, rapidly, as a matter of survival and self-actualisation. At least 6% of us need to be able to judge whether or not our actions and the actions of others (current and proposed) will increase soil fertility and soil volume, increase availability of fresh water, increase habitat for other species, bring human population and consumption levels to within the carrying capacity of the planet, ameliorate strong climatic energies and restore ecosystems. From this knowing we can develop an ecosocially-centric leadership to create sound policy for the continuation of human life on earth.

micro

It is this ecological prioritisation that clearly distinguishes the permaculture and Gaia U approaches - the insight is that restoring the ecological systems of the world to full diversity and resilience is how we express our true intelligence and spirit as humans and a restored, ecologically functioning planet is necessary for humans to live to their full potential.
Subsequently you may move your design focus towards less directly ecological work AND, because of your foundation work in soils, water, forests, species, climate and so on you will be able to design all other types of interventions in such a way as to support efforts in these fields.

M A N U A L

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Design Cycles

7 **How to analyse whether your designs are integrative - the AQ model**

For this I use my own version of a model for integration originally proposed by Ken Wilber in his book 'Integral Psychology' (2000, Shambhala Publications, www.shambhala.com). Wilber's model 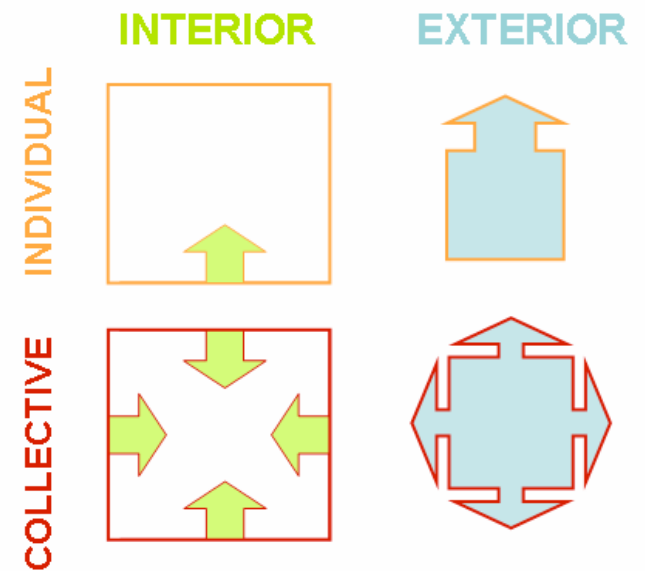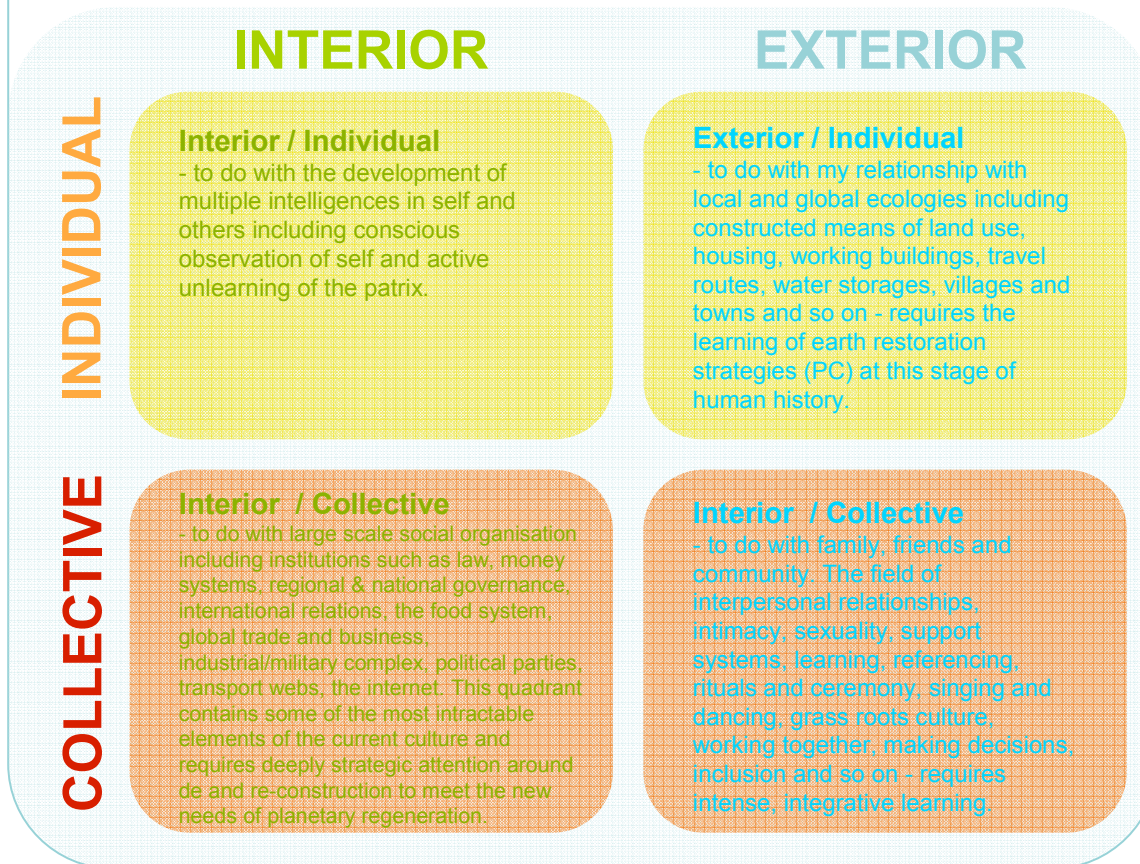has 4 quadrants being upper left and lower left and upper right and lower right. The upper quadrants represents the individual and differentiate between interior matters on the left and exterior matters on the right. The lower quadrants represent the communal or collective again differentiated between interior matters on the left and exterior matters on the right. **My model is essentially the same although now the quadrants have the following representations:**

	INTERIOR	EXTERIOR
INDIVIDUAL	**Interior / Individual** - to do with the development of multiple intelligences in self and others including conscious observation of self and active unlearning of the patrix.	**Exterior / Individual** - to do with my relationship with local and global ecologies including constructed means of land use, housing, working buildings, travel routes, water storages, villages and towns and so on - requires the learning of earth restoration strategies (PC) at this stage of human history.
COLLECTIVE	**Interior / Collective** - to do with large scale social organisation including institutions such as law, money systems, regional & national governance, international relations, the food system, global trade and business, industrial/military complex, political parties, transport webs, the internet. This quadrant contains some of the most intractable elements of the current culture and requires deeply strategic attention around de and re-construction to meet the new needs of planetary regeneration.	**Interior / Collective** - to do with family, friends and community. The field of interpersonal relationships, intimacy, sexuality, support systems, learning, referencing, rituals and ceremony, singing and dancing, grass roots culture, working together, making decisions, inclusion and so on - requires intense, integrative learning.

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An integrative design will pay some level of attention to all of the quadrants and could thus be described as an all quadrant (AQ) design. This is the meaning of Integrative EcoSocial Design.

Use the AQ model as a mask to analyse each of your designs with regard to the quadrants you have paid conscious attention to in your work. Analyse too the incidental impact your design work has on each quadrant in order to seek out the less obvious connections and linkages.

As you work to complete your suite of 10 designs apply the AQ analysis method to the complete suite to ensure that your choice of design projects causes you to cover a range of fields.

Ask these questions (and others you invent):

Does my intended suite of designs contain:

1.   enough self and other personal development attention (UL) to ensure development of good patrix awareness and unlearning intelligence

2.   enough land use, buildings, villages, products (UR) to ensure development of good earth restoration intelligence

3.   enough group and community development to ensure development of social cohesion intelligence (LL)

4.   enough attention to external institutional connection and influence (LR) to ensure development of capacities to:

     •   recognise and work with good enabling institutions
     •   recognise and avoid disabling institutions
     •   recognise and assist in the modification of institutions seeking to be enablers and without the requisite skills

The Barbapapa family - After searching for a home, they decide to built their own – now each family member has a small but perfectly fitting space for him/herself -