



FIGURE 6.1
TREES IN A WHOLE SYSTEM

The tree itself is a cooperative, depends on a guild, is a member of a

family of like species, and is involved in the creation of complex molecules from inorganic and organic elements - a transformer, or translator, of gases, liquids, and solids.

DESIGN WHEEL

Permaculture Principles

What can we learn from natural systems evolved to our site over centuries?

Observe & Replicate Nature Patterns

How can our design grow over time?
How do the elements or layers benefit each other?

Succession & Stacking

How can we attract more diversity?

Incorporate Diversity & Edge

What can our challenges teach us?
How can a problem become a solution?

Attitude Matters

Start Small

What is a realistic scale?

Empowering

How can our design & implementation process be supportive to the individual & community?

Location & Connection

What does each element of the site offer?
How are they related?

Multiple Functions

How can we do more with less to support our energy systems?
How can each element be used?

Redundancy

How many different ways can we support this function?

Energy Cycling

How can we use our waste for "want"?

Appropriate Technology

What is the true lifetime cost of this technology?

Use Biological Resources

What is local? Alive?

Zones, Sectors, Elevations

What is the most efficient placement/groupings of functions?

Design Frameworks and Methods

Frameworks: (examples of)

- ☆ the **BREDIMET** model - **B**oundaries and resources, **R**ecording of data, **E**xamination and analysis of data, **D**esign - strategies chosen, **I**mplementation guide, **M**aintenance requirements of proposed systems and later **E**valuation and **T**weaking
- ☆ the **SADI** model - **S**urvey, **A**nalysis, **D**esign and **I**mplementation (same idea as BREDIMET)

Methods: (a selected list - novel situations may require you to invent your own)

- ☆ building a **Pattern Language** of potential elements with the client to create a generative design guide - using a **PASE** sheet is a simple example of this approach
- ☆ **Planning for Real or Participatory Learning for Action** (formerly PRA, RRA) both used in order to open the design process to wide groups of stakeholders with an interest in a large site
- ☆ **Futures Histories, Future Searches and Action Searches** and other methods designed to access visionary materials from large group clients
- ☆ **Analytical Design** - design by listing the inputs, outputs, intrinsic characteristics and predators of elements and arranging the design to provide a web of functional connections
- ☆ **Observation** - design by expanding on direct observations of a site - what's working well, what's difficult, what goes well together, what's antagonistic (the problem is the solution)
- ☆ **Deduction from nature** - design by adopting lessons from nature eg. stacking arrangements
- ☆ **Options and decisions** - design as a selection of options or pathways based on decisions
- ☆ **Data Overlay** - design by map overlays and exclusion zones
- ☆ **Random Assembly** - design by assessing the viability of random assemblies
- ☆ **Flow diagrams** - design by paper testing of flows of resources in assemblies
- ☆ **Zone and Sector analysis** - design by use of master patterns
- ☆ **Incremental or rolling design methods** - designing least disruption strategies
- ☆ **Design by application of principles** - especially every element should function in many ways and every essential function should be supported by many elements
- ☆ **Creating guilds** - design by establishing synergistic (or antagonistic) assemblies

Can you:

- ☆ make appropriate and useful choices?
- ☆ design fresh methods to cover new situations?