



Principles of Design

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Guidance from principles:

Adopting principles is a way of guiding and orchestrating an approach to the design of a system. By analysis of patterns within outcomes, principles can be constructed that provide a predictable guide to expected outcomes based upon prior results. Over time these principles can be refined and simplified to provide benchmarks to guide actions to replicate those predictable outcomes. By combining outcomes, more assurances can be met and more precisions in expected outcomes. Undertaking this formal process will also help crystallize ideas, allow for patterns to be more clearly identified and allow for better improvements to be made.

Some examples of the application of principles can apply to life decisions, building or running a business or designing a landscape. In each context there are trends within patterns of outcomes that can be captured through the identification of principles that can more accurately predict the most desired outcomes.

Principles have most commonly been adopted within philosophy or religions as a way of aligning our actions to a particular value framework or moral compass. The principles then reinforced these values with well proven advice on how to act, such as love your neighbour, do no evil, do not lie. The application of these principles then resulted in the desired value system being aligned with in the majority of situations.

There is therefore a hierarchal system from values to vision to principles to actions, with the values providing direction, the vision providing focus on what, where and why to apply those values and the principles giving direction on how to execute upon that vision.

For example, in permaculture the value framework of permaculture as laid out by the founders was Earth care, people care and fair share. Two of these concepts (people care and fair share) highlight the importance of social structures in the design and operation of sustainable landscapes.

The vision of permaculture could be considered in the following context:

- Foster beneficial processes and interactions such as occur in natural ecosystems, thus encouraging internal stability rather than heavy reliance on external control measures.
- Reduce external control to the absolute minimum required for maintaining the chosen state of production. Inputs used aim to work as far as possible in conjunction with natural cycles, rather than trying to dominate such cycles.
- Achieve cycles/flows of nutrients and materials that have as few losses as possible. This requires the conservation and recycling of nutrients and organic material.
- Sustain and enhance the fertility and life-supporting ability of the production medium, including its biological, physical and chemical components.

Principles provide checks and balances against which you can gauge progress. David Holmgren formulated 12 principles to guide permaculture design which act as a useful framework and reference point for developing a permaculture design.

The principles of permaculture align strongly with best practices within businesses, and are organised around the following themes:

- Foster beneficial processes and interactions such as occur in natural ecosystems, thus encouraging internal stability rather than heavy reliance on external control measures.
- Reduce external control to the absolute minimum required for maintaining the chosen state of production. Inputs used aim to work as far as possible in conjunction with natural cycles, rather than trying to dominate such cycles.
- Achieve cycles/flows of nutrients and materials that have as few losses as possible. This requires the conservation and recycling of nutrients and organic material.
- Sustain and enhance the fertility and life-supporting ability of the production medium, including its biological, physical and chemical components. For land-based production systems great emphasis is placed on the importance of soil organic matter, and soil flora and fauna.

Permaculture principles:

The heart of permaculture as originally laid out by the founders was Earth care, people care and fair share. Two of these concepts (people care and fair share) highlight the importance of social structures in the design and operation of sustainable landscapes.

Following is a more detailed reflection on the application of David Holmgren's 12 permaculture principles to themes underlying the design of a regenerative-type business.

- **Observe and interact:** Slowing down to appreciate our surroundings and others. Observe the culture and social dynamics of a work place, how do decisions get made or people interact with each other? Good design requires careful observation and thoughtful interaction through continuous and reciprocal interaction with the subject. Reflective practices act as a lens we use to make sense of our perceptions of the world. Through growth we can reveal limitations of this perception and areas where we could improve our clarity through applying focus to those aspects of ourselves. By challenging the underlying assumptions, norms and objectives behind decision making processes. Attempts to understand and really engage with the situation we face should naturally lead to a deep reflection that allows us to deliver an appropriate response.
- **Catch and store energy:** Nothing can be achieved without energy, and nature develops complexity to make more efficient use of energy travelling through a system. This principle describes how energy can be stored for harvest, or be transferred to more useful active energies. For example, energy stored in the wood of trees is preserved until the time of harvest. Water in a dam can be stored high in a landscape and used to generate electricity of irrigate areas. Energy can also be captured, such as funnelling wind to cool a house, attracting wealth into a business, or living a lifestyle that generates good levels of energy, or utilising the energy of others to collaboratively achieve greater outputs. Sometimes, energy is high: celebrations, successes, summertime! Energy in social systems is stored when healthy, positive relations are fed with joy, supportiveness, and pleasure. It can be more

deeply rooted with rituals and formalized events that memorialize the experience. Later, when times are harder, these positive resonances can be drawn on to heal and sustain the social weave. Take time to relax to restore balance and energy, associate with those who bring positive energy and do things that bring joy and make you feel energized like running and learning.

- **Obtain a yield:** People need to feel compensated for their participation. This can be money, but it can also be food, services, or simple affirmation and appreciation. Observe what people currently consider a “yield” in their lives (a necessity that they do work to obtain), and find ways for your system to obtain it for them and you. In permaculture, this of course might mean planting in such a way that the most food is created. The food is the reward. In life, we can work to obtain an intrinsic or extrinsic reward. These rewards need not be strictly financial. Perhaps the reward is making a difference in your client’s life or making your co-worker’s day a little bit easier. Your efforts should pay off, and provide something that you need, whether it is food, water or energy. Don’t waste your personal energy and resources on something that ultimately is not going to provide value, and design systems around you so they best leverage your activity.
- **Apply Self-regulation and feedback:** Self-regulation or self-control allows us to be accountable and it empowers us. Feedback helps us improve which will help us excel at work. Feedback is critical, whether applied to natural ecosystems, business processes, or personal relationships. It gives us the information on the effects of our actions and allows us to make better decisions based on those effects. It is fundamental to knowing and maintaining our limits and relationships with our surroundings. We are forced to think about our actions in the framework of our operating assumptions. Through seeking a wide range of opinions from others a more open and transparent debate can be had from which decision making can occur. Giving and receiving feedback well is an art: cultivate it, recognizing that each person has their own preferred ways. Mantra: “Trust = Accountability.”
- **Use & Value Renewable Resources and Services:** The principle of renewables is perhaps most tangible in smart economics. We try to live off of our income, not our savings. We generally prefer to avoid debt. Whether money or energy or water, the logic of renewable “incomes” helps ensure we honour limits. Figure out how each part of your system can have tight, well-functioning feedback cycles: each individual looking at their own actions; each group evaluating its progress; groups interacting with each other.
- **Produce no waste:** This principle is seen in Lean Manufacturing systems, where the concept is to eliminate excess time to market. However, where Lean is done well, it also applies to efficiency with materials, as material waste generation has real time impacts. People can be wasted, too: when they’re treated as unworthy of respect, when they’re discarded because no longer useful or interesting or cool. Choose your relationships wisely, and then invest in them heartily. Have a clear process for determining when it’s time to separate, and do so cleanly and gently. Support people with direct feedback about what worked and what didn’t, and help them (within reason) find a new place to plug-in. The whole system is interdependent: there is no “away”! It’s best for everyone to find the best fit.
- **Design from Patterns to Details:** Every group and close formation of groups should take regular time to explore the “bigger picture.” Rather than simply extrapolating the past into

the future, really step back, observe your patterns again, look at what's really going on in the world around you and how best your network can support the sustainable momenta and relations. Then, having clearly identified the patterns to work with, design back towards the specific. This also applies to people within an organization. Permaculture calls for standing back and observing patterns in nature and in society and then filling in the details. Harness and leverage the observed patterns of sun, wind, rain and topology rather than work against them. If you have a hill on your property, use the north face for buildings that need to be warmer, harness the shading on the north face, and capture rainwater near the top of the hill so you can gravity feed it to where it is needed. The goal is to be lazy, minimize water demands and get nature to provide heating, cooling, material transport and agricultural services for free.

- **Integrate rather than separate:** Use the synergy between different elements to your advantage. Integration allows complementary qualities to support each other. An example of non-integration is large bureaucracy, which silos functions rather than fostering cross-connections. Bureaucracy creates systemic problems and is yet another pattern that can manifest itself at multiple levels. Bureaucracy blocks feedback, stifles autonomy and is rigid rather than resilient. When system shocks come, too often people aren't empowered to act, because action on the given shock is not their area of responsibility. More robust are management systems that decentralize decision-making to the extent that it can, train people to respond to a variety of requests and needs, and provide transparency through mechanisms like open-book accounting and collective goal-setting. These principles translate perfectly in how we should all live in harmony with each other by integrating everyone into our communities and valuing diversity. Managing for the power of dependence on external systems and others. Make space for different kinds of work, groups, and functions to interact (formally and informally). Bring diverse work processes into physical proximity. Create pathways and spaces for communication to flow about what different people/groups are doing.
- **Use small and slow solutions:** Here is where our economy has its real opportunities, scaling back from the industrial-sized systems we've developed. Slow solutions allow for feedback, adaptation and corrective action of any adverse impacts. By starting small, one can see whether there is wisdom making the solution larger, before any adverse impacts are created at a large scale. Permaculture uses small and slow solutions because they are easier to manage than bigger solutions and they allow for the use of local resources leading to more sustainable outcomes. While this may not always be feasible- sometimes we need big and fast solutions to solve some of society's greatest problems- this principle can potentially be a valuable tool for problem solving. Don't try to create big, tech-heavy, shock-inducing changes to the social system! It will revolt! Look for small tools and practices that will accomplish what's needed with a minimum of bureaucracy and hassle. Build on these once the system has adjusted.
- **Use and value diversity:** Diversity is one characteristic that is basic to any sustainable system. Diversity represents resilience. If one species, technique or initiative doesn't work in addressing a problem, another may. It is the multimodal approach where we are able to experiment, and determine what works, particularly in complex systems. The field of medicine is one good example -- different bodies can respond differently to stimuli, and the interconnection of systems within our bodies means that multimodal approaches that

support different systems can provide real health benefits. There are many different ways people influence and learn, think, and feel. We need all of them in our world systems! Valuing diversity can mean including a variety of cultures, perspectives, and attitudes in a group in order to improve its internal robustness and resilience. At the same time, true diversity requires that particular skills and perspectives be honed for their unique values: this often means a group that is very specific in at least some of its attributes. Diversity is ensured when both kinds of groups thrive, and all of them are strongly interconnected in “a world where many worlds fit.”

- **Use the edges and value the marginal:** Edges and margins are typically the most robust areas of growth. You can use edge effects to create robust growth. Edges can also represent different ideas coming together. We realize our greatest social and business innovation in the free exchange of ideas, and can harness edges for rich experimentation. Edges also reflect our diversity. Permaculture suggests that the interface between things is where the most interesting things take place. These are often the most valuable, diverse and productive parts of the system. In life and work, we can try to more effectively use our resources including the edges. Bring different groups together, and explore the boundaries between them. This is where exciting conflict and synergy can happen!
- **Creatively use and respond to change:** Consider how these principles might apply to departments and functions within your organization, and lead toward greater security, resilience and self-sufficiency. Given how dynamic living systems are, it is unavoidable that changes and problems may arise. As they do arise, turn them to your advantage, drawing on your personal and organizational assets to best address them. Change creates openings for new growth. Whether this is the departure of key participants, success or defeat at some major goal, or dislocations in the social environment: notice when change is imminent, prepare the ground, and use the space proactively to build energy from new and unexpected places. To remain a viable and sustainable business and to live well, we must be resilient and creatively work with change.

