THE DUALISTIC NATURE OF THE SUSTAINABILITY PROBLEM

All problems have a dual nature: the obvious and the rest. Difficult social problems are difficult because they present themselves in a layered manner. Only the top few layers are obvious. The rest lie hidden beneath the blanket of complexity. Traditional viewpoints, such as those found in grassroots activism, traditional academia, and mainstream political thinking, can see only the obvious upper layers as shaded in green. (If you are reading this in black and white, this is the top layer and the left halves of layers 2 and 3.)

The flip side of the duality is seeing the problem from an analytical point of view. This requires realization that:

Difficult problems can be solved only by resolving their root causes. This holds because ever since The Enlightenment pragmatic thinkers have held as their fundamental insight the rule that all effects have a cause that can be determined by inspection of the system.

Traditional Viewpoint Analytical Viewpoint Effect Shallow These are the symptoms that define one end of the These are the **symptoms** that define the **Problem Symptoms** causal chain causing the problem. To solve the problem. They must be solved. problem we must analyze its causal chains. The **causes** of the symptoms must be These are the obvious and intermediate causes Cause 2 Cause 3 Cause 1 changed, such as the cause of climate change of the problem. Our challenge is to drill down in the is excessive greenhouse gas emissions. causal chains until we find the root causes. Intermediate Causes The analytical mind sees these as symptomatic solutions Since that's the cause, the **solution** (for since they try to solve the direct causes of the symptoms. Solution 1 Solution 2 example) is to lower emissions with solutions Analysis Depth According to the laws of physics this cannot work because the like renewable energy and conservation. Solutions Symptomatic causal chain runs past the direct causes to the root causes. Analysis of difficult social problems requires **decomposition** Change Resistance **into supproblems**. Otherwise you're trying to solve multiple Causal Chain subproblems simultaneously without realizing it. Subproblems The **root causes** of each subproblem are found. The most Change important is **change resistance**, because if that is not Resistance overcome then the rest of the subproblems cannot be solved. **Root Causes** Finally **fundamental solutions** are designed and tested. Since each solution resolves a specific root cause, the solution Fundamental set will have high solution accuracy. It's like firing up close at a Solutions known target. The bulls eve is the root cause. Cause Deep

The model shown is incomplete. Not shown are further subproblems, feedback loops, and low and high leverage points. However, the layers capture the essence of the duality. Presently nearly all work employs the traditional viewpoint. We hypothesize that once sustainability advocates grasp the dualistic nature of the problem they will shift their attention to the analytical viewpoint.

This model captures the essence of **the research at Thwink.org**. For further information on the tools required to apply the analytical viewpoint to the sustainability problem, as well as a preliminary analysis, please see the website.

A very special thanks to Jesse James Garrett for the model at http://www.jjg.net/elements/pdf/elements.pdf. His model served as the inspiration for this one.