Chapter 15

Principles of Analytical Activism

The System Improvement Process is an example of a better way to solve difficult social system problems. Which process you use is not what matters most. What does is whether the process fits the problem, because Classic Activism has run its course. It doesn't fit today's difficult social problems. Its role in environmentalism is over. That role ended when the now famous *Death of Environmentalism* memo was published in 2004. [92] The memo concluded that:

> Modern environmentalism is no longer capable of dealing with the world's most serious ecological crisis. ... What the environmental movement needs more than anything else right now is to take a collective step back to rethink everything. We will never be able to turn things around as long as we understand our failures as essentially tactical, and make proposals that are essentially technical. ... We have become convinced that modern environmentalism, with all of its unexamined assumptions, outdated concepts and exhausted strategies, must die so that something new can live.

"Proposals that are essentially technical" are the proper practices of Classic Activism step 2. They "will never be able to turn things around" because they don't resolve root causes.

Ever since environmentalism realized it was "no longer capable" of solving the sustainability problem and "must die so that something new can live" the field has been searching for "something new" to replace Classic Activism. What should that replacement be? What should it be called? This chapter offers one possible answer.

Defining Analytical Activism

A viable alternative to Classic Activism is **Analytical Activism**, which is the use of the Analytical Method to achieve public interest activist goals. The Analytical Method is easily derived from the **Scientific Method**, which has these well known highly productive steps:

1. Observe a phenomenon that has no good explanation.

2. Formulate a hypothesis.

3. Design an experiment(s) to test the hypothesis.

4. Perform the experiment(s).

5. Accept, reject, or modify the hypothesis.

These five steps have worked spectacularly well for another group of problem solvers, scientists, for over three centuries now. With only slight refinement they can serve just as well for activists. These steps have proven to be so foolproof and productive, if followed correctly, that we should tamper with them as little as possible.

Public interest activists do not run around in white coats observing subtle phenomenon and formulating esoteric hypotheses, which is *fundamental* research. They engage in *applied* research by solving real, pressing problems. Thus they need a slightly different process, one that would look about like this:

1. Identify the problem to solve.

    2. Hypothesize an analysis or solution conclusions.

    3. Design an experiment(s) to test the hypothesis.

    4. Perform the experiment(s).

    5. Accept, reject, or modify the hypothesis.

    6. Repeat steps 2, 3, 4, and 5 until the hypothesis is accepted.

7. Implement the solution.

However, there's too much magic in step 2. How is the hypothesis created? The seven steps offer no clue, making this version too dependant on intuition and trial-and-error for making the right leap from choice of problem to hypothesis. Better would be to find a good hypothesis most of the time on the first try, instead of cycling through the steps over and over until guesswork finally stumbles on the right one.

What we need is an efficient process for finding productive hypotheses. Adding two steps, we arrive at the nine steps of the **Analytical Method**:

1. Identify the problem to solve.

2. Choose or design an appropriate process.

    3. Use the process to hypothesize analysis or solution conclusions.

    4. Design an experiment(s) to test the hypothesis.

    5. Perform the experiment(s).

    6. Accept, reject, or modify the hypothesis.

    7. Repeat steps 3, 4, 5, and 6 until the hypothesis is accepted.

8. Implement the solution.

9. Continuously improve the process as opportunities arise.

The magic of "Hypothesize analysis or solution conclusions" has been replaced by "Use the process to hypothesize analysis or solution conclusions." A mature proc-

ess will break a big problem down into correctly structured smaller problems whose correct hypotheses are much more easily generated.

The first 8 steps will be tricky at first. That's why step 9 is necessary. Step 9 forces the process to quickly reach and stay at the level of process maturity needed to work. Without step 9, step 3 will be too difficult most of the time.

Step 2 says "Choose or design an appropriate process." That's *the* most important step in the Analytical Method and thus *the* most important step in Analytical Activism. How do you know you have chosen or designed "an appropriate process?" If the process well supports the principles below, it is appropriate.

The key principles of Analytical Activism

These are explained and applied throughout this book. It helps to assemble them all in one place so that solving difficult social problems can move from art to science.

The following list of key principles is presented as a short easily applied list that can serve as a starting point for application, discussion, and improvement. It is not a complete set. Description of each principle is deliberately short so you can focus on the big picture.

Principle 1. Root Cause Resolution

Difficult complex system problems can be solved only by resolving their root causes. From this principle arises the need for all the rest.

Principle 2. Sufficient Process Maturity

The more difficult the problem, the better the process used to solve it must be. An alternate form is *the process must fit the problem*.

Principle 3. Subproblem Decomposition

Difficult social problems are too complex to solve without decomposition into two or more separate subproblems. If this is done correctly, transformation of the one big complicated mess of a problem into clear easily understood subproblems will change the one big problem from insolvable to solvable.

Principle 4. Understanding Causal Structure

The behavior of a social system emerges from its causal structure. Social system **structure** is the nodes, relationships, and interacting feedback loops that describe what causes the dynamic behavior of the system. Once a system's causal structure is clearly visualized it may be understood. The problem then becomes solvable because the system's formerly well hidden root causes may be found and resolved. There is no need to model a large amount of a system's structure. Only that which explains root causes and leverage points need be modeled.

Principle 5. Model Based Problem Solving

Difficult social problems are too complex to solve without development of a glass box model. A good model changes overwhelming complexity that cannot be understood into an organized, simplified representation of the problem that can be easily and unambiguously understood, communicated, explored, tested, calibrated, simulated (each simulation run is an instant low cost experiment), and improved. These are huge benefits. This explains why model based problem solving has become the norm in all the mature hard sciences.

Principle 6. Consideration of Dominant Social Agents

The goals of a social system's dominant social agents determine the fundamental behavior of the system. It follows that dominant social agent types (such as corporations and people) must be a fundamental unit of analysis.

Principle 7. Viewpoint of Defect Resolution

Social system problems are best seen as a process with an unacceptably high defect rate. The defects are emitted by the social system with the problem. How the system works to create and solve problems can be considered a process. Process improvement will lower the defect rate until eventually it is acceptable. From the viewpoint of defect resolution each social problem, such as climate change, a polluted river, or another case of corruption, is a defect produced by a broken political system. Politics is the process social systems use to manage themselves.

Principle 8. Avoidance of the Fundamental Attribution Error

The Fundamental Attribution Error must be avoided so that analysis can focus on systemic causes rather than individual social agent causes.

Classic activists fall into the Fundamental Attribution Error (see page 270) trap over and over. Classic Activism assumes the behavior of *individual* social agents (people or organizations) is the root cause of difficult social problems. This is completely wrong because of principles 1, 5, 7, and 8. What classic activists are trying in vain to resolve are intermediate causes, not root causes.

Classic Activism attempts to change individual social agent behavior with steps 2, 3, and 4: find the truth, promote the truth, and magnify the truth. Since this doesn't address *systemic* causes it cannot solve anything but easy problems, those with low change resistance and whose root causes are not systemic. Reliance on Classic Activism for solving the sustainability problem is one massive prolonged Fundamental Attribution Error.

Principle 9. Systemic Change Resistance as a Separate Problem

How to overcome systemic change resistance must be treated as a separate problem to solve. This is because in difficult social problems the presence of high systemic change resistance is almost always what makes the problem difficult.

How the principles are derived and work together

If thoughtfully applied these principles are fully capable of allowing solution of difficult social problems including sustainability. However, as presented above the list of principles is unorganized and arbitrary. The same weakness that was found earlier on page 136 and 147 in lists of design principles is present here. This weakness can be eliminated by explaining how the principles work together productively as a cohesive set of problem solving rules.

Below is a diagram showing how the principles are derived and how they work together. The diagram starts with the <u>difficult complex system social problem</u> to solve. Realization that "difficult complex system problems can be solved only by resolving their root causes" provides the most important principle of all: <u>Root Cause Resolution</u>. This leads to all the other principles.

The Key Principles of Analytical Activism

Showing how the principles work together as a cohesive set of problem solving rules
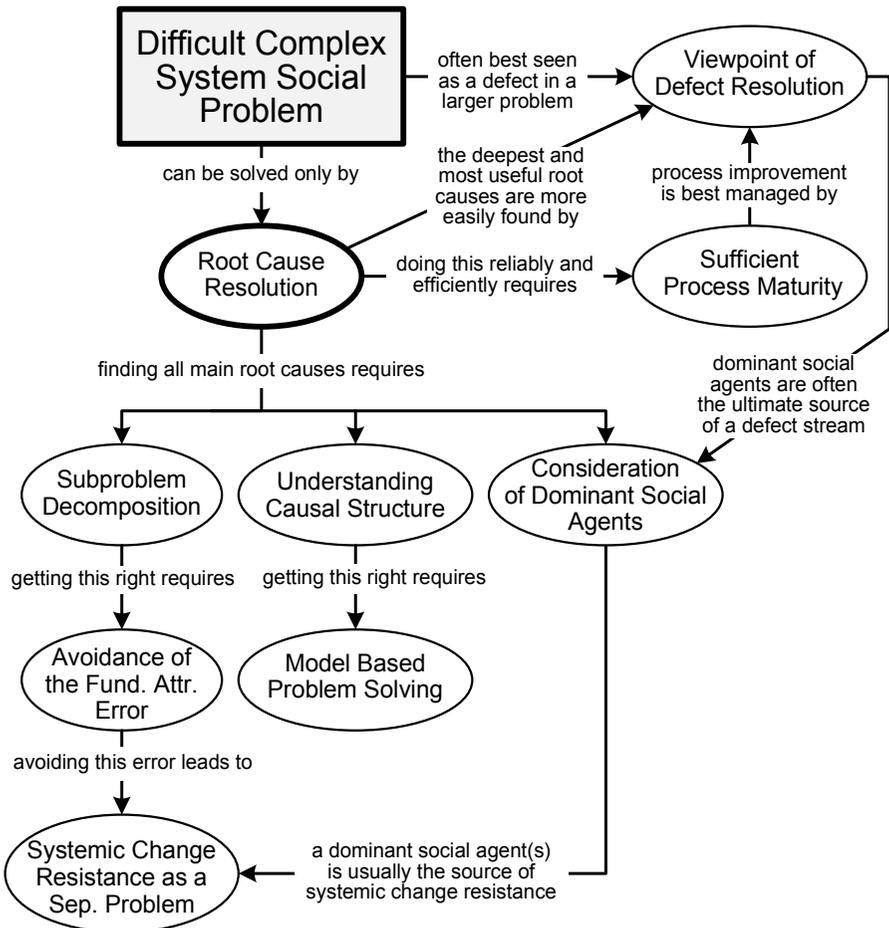
How are analytical analysts going to find all the main root causes of a difficult social problem? That's so hard to do it requires the principles of <u>Subproblem Decomposition</u>, <u>Understanding Causal Structure</u>, and <u>Consideration of Dominant Social Agents</u>.

Of these three principles, strategically the most important is the first: <u>Subproblem Decomposition</u>. This follows the old maxim of "divide and conquer." Get decomposition right and the one big problem suddenly moves from insolvable to solvable, because you are no longer attempting to solve several problems simultaneously without realizing it. That's so loaded with confusing distractions it can't be done. The right decomposition reduces a web of complexity to clarity because each subproblem gives you a clear focus that was lacking before. This allows you to focus on one aspect of the problem at a time. This is identical to the way science, ever since it was born, has been steadily decomposing itself into smaller and smaller subsciences in order to gain clarity, focus, and ever greater success.

The monumental error of Classic Activism was falling into the Fundamental Attribution Error trap. Getting <u>Subproblem Decomposition</u> right requires <u>Avoidance of the Fundamental Attribution Error</u>. Avoiding this error leads to the hugely productive principle of <u>Systemic Change Resistance as a Separate Problem</u>.

<u>Understanding Causal Structure</u> is not easy. The only way to do it and keep the emphasis on actually solving the problem (rather than building a fancy feel-good technically correct model) is <u>Model Based Problem Solving</u>.

<u>Consideration of Dominant Social Agents</u> is a powerful tool. Dominant social agent types (like corporations, the rich, people, politicians, and governments) should be a critical part of analysis since this is a social problem. Application of this principle will usually lead to discovery that a dominant social agent(s) is the source of systemic change resistance. This reinforces the importance of the <u>Systemic Change Resistance as a Separate Problem</u> principle.

So far we have explained how to find the main root causes. How can we do that reliably and efficiently? *How can we transform this activity from art to science?* That requires <u>Sufficient Process Maturity</u>. There is no other way.

As process maturity grows it can eventually support a subtle and powerful tool: the <u>Viewpoint of Defect Resolution</u>. This is so powerful a whole chapter was devoted to it: *Thinking in Terms of Process Maturity and Defect Reduction*. Once the strategy of defect resolution is understood you will discover that process improvement is best managed by a defect resolution approach. Furthermore, once you've adopted this approach, you will discover that the deepest and most useful root causes are more easily found by the <u>Viewpoint of Defect Reduction</u>. The effectiveness of <u>Consideration of Dominant Social Agents</u> can be increased by seeing that dominant social agents are often the ultimate source of a defect stream.

The principles support only the analysis step. In difficult social problems, analysis is where the battle is won or lost. Get the analysis right and the remaining steps

are relatively easy. Get it wrong and no amount of ingenuity, hard work, inspirational appeals, well funded campaigns, and so forth will work.

That these are analysis principles and not solution design principles is a critical paradigm difference. "Design principles" apply to solutions. Design of solutions to difficult problems should not precede root cause analysis. Solutions that do will fail because they are symptomatic and do not resolve root causes. This explains why the "eight design principles of stable local common pool resource management" (page 136), the "six general design principles for policy" of ecological economics (page 147), and the many cases of design the solution first (like Great Transition, Natural Step, and the United Nation's Agenda 21) [93] have not been productive. These are all variants of Classic Activism, which designs the solution in step 2 without first doing a root cause analysis. These approaches work *backward* from a solution vision to figure out how to achieve the solution. Better is to work *forward* from root causes to the solution.

There is a role for a small amount of Classic Activism

One must not throw the baby out with the bath. A small amount of Classic Activism is needed. A small amount of appeal to individual social agents with steps 3 and 4 about the presence and urgency of the problem is necessary to gain support from enough activists to solve the problem. Step 3 is necessary for communicating the results of Analytical Activism. Step 2 is useful to find the proper practices needed for the Economic Proper Coupling subproblem. However, once change resistance is overcome activists will not be the ones developing these proper practices. Small amounts of step 2 are thus useful only during transition from high to low change resistance.

A large amount of Classic Activism is not needed. Classic Activism's central strategy of winning over one mind or organization at a time with more of the truth has not and will not work. Why? Because it does nothing to resolve the root causes of the four subproblems (especially change resistance) as shown in the *Summary of Analysis Results* on page 202. The three rows in substep B list the results of Classic Activism. Instead of resolving root causes Classic Activism attempts to resolve intermediate causes by pushing on low leverage points with symptomatic solutions. This is wasted effort and diverts energy from what will work: resolving root causes.

This completes Part 2, which has provided a process that fits the problem. Next we apply that process and the above principles.