

components—immediately-adjacent causes and immediately-relevant action. And yet, as Paul Hawken, Amory Lovins and Hunter Lovins summarise,

You can actually make a system less efficient while making each of its parts more efficient, simply by not properly linking up those components. If they're not designed to work with one another, they'll tend to work against one another. . . . *Optimising components in isolation tends to pessimise the whole system.*²¹

The immediate cause of a problem might itself be only one step in a sequence of causes and effects which has not been considered, but there is no space for this possibility in crowded minds that are focused and narrowed by the need to appear to be in control of the situation. *Relative intelligence declines. Simple fixes bring death by a thousand good intentions.

"Cathedral Camps" is a *charity which sends young people on week-long camps to help to maintain ancient church buildings while learning *traditional skills in cleaning stained glass windows and restoring ancient monuments. After 25 years without causing injury, it was threatened with closure in 2006 owing to health and safety fears, complex risk assessment regulations and the cost of insurance against potential compensation claims. The health and safety hazard that was overlooked was *boredom. It leads to things that, from the reductionist point of view, don't matter, such as depression, resentment, overeating, terminal disease, *violence, vandalism, destroyed relationships, and an indolent acceptance that there is no point in being alive. And thankfully, in this case the wider vision—that helping to keep cathedrals upright might be good for our *health—has so far prevailed.²²

And yet, reductionism is not always a *fallacy. It can take the form of the replacement of ambitious but partial explanations with those that are more humble and more complete—a patient and necessary focus on detail. Our understanding of why algae produce dimethyl sulphide, for instance, helps us to understand *Gaia. And if there is one well-defined thing wrong with a system, there is nothing wrong with focusing on that. Scientific discovery depends on a reductionist focus as much as on systems-wide comprehension;

René Descartes' insistence that we have to study one thing at a time holds true, up to a point. *Crafts, language, music and *systems-thinking itself require an exhaustive grasp of the particular.²³

So it is in its abuse and overstatement that reductionism has its malign influence on our lives. Descartes' just-one-thing-at-a-time method misleads because there is no limit to the just-one-things. If you add together all the things you have studied so carefully, you still don't get the whole system: you simply get high on trivia. The sage you took for Descartes turns out to be Mickey Mouse. Reductionists do not recognise the case for placing their work in a wider setting, but if complex questions are considered from just one point of view, then it is not a solution which is reached, but a pathology. Single-issue pressure groups wreak havoc with the complex tissue of forces in tension with each other; when politics addresses one issue at a time, it enters dark territory. Pornography is reductionism for the hell of it.

The philosopher Daniel Dennett writes that the problem lies not with reductionism but with greedy reductionism:

in their eagerness for a bargain, in their zeal to explain too much too fast, scientists and philosophers often underestimate the complexities, trying to skip whole layers or levels of theory in their rush to fasten everything securely to the foundation.²⁴

And yet reductionism accounts for one of the most important ideas of all time—natural selection:

Darwin's dangerous idea is reductionism incarnate.²⁵

*Ecology: Farmers and Hunters, Precautionary Principle, Holism, Disingenuousness, *Reductio ad Absurdum*.

REFLECTION. Disengagement, in order to think. It may be brief and urgent: a matter of ducking out of sight for a moment, if there is no other way.

As Richard Chartres reminds us in his reflection on Ash Wednesday, that is what Jesus did, when pressed by an angry crowd—doodling reflectively in the dust before giving us the clincher argument against the

*witch-hunt and its variants: “He who is without sin: let him cast the first stone.” Chartres summarises: stoop, clarify, connect.²⁶

In less crowded circumstances, reflection is thinking time; there is local self-reliance; a *flow of concentration. It is fractured by an oversupply of data that hasn’t been looked for and *pulled in. It needs a long attention span: unhurried *conversation, a book, a remembered poem, a sense of being at *home, and sustained *intention. Given time and *practice, as Thomas Traherne discovered, it is conversation with the soul:

And the soul is a miraculous abyss of infinite abysses, an undrainable ocean, an unexhausted fountain of endless oceans. . . . Infinity we know and feel by our souls: and feel it so naturally, as if it were the very essence and being of the soul.

*Thomas Traherne, Centuries of Meditations, c.1670.*²⁷

*Freedom, Ironic Space, Judgment, Humility, Sleep, Rote, Imagination, Success.

REFORMER FALLACY, THE. The *fallacy that the best reformers are driven by a burning desire to reform.

In fact, the person who sees himself as a fearless reformer is more likely to be driven by a desire to destroy, to simplify, and to ignore the pleas of the people who know the subject and are affected by the changes. The true reformer, in contrast, is a person who starts from a position of detachment and from no particular desire for change; instead, he is alert to the needs of circumstance, and may be able to push reform through with greater insight, precision and energy—and with more support—than he would be able to bring if he came to the task with the baggage of a prior commitment.

The big reformist movements of the modern era have been turned into acts of destruction by the Reformer Fallacy. The successful reforms—for instance, those of the great reforming Archbishops of Canterbury, Theodore of Tarsus (602-690) and Thomas Cranmer



(1489-1556), and of Florence Nightingale (1820-1910)—have started from a period in which the person is far from clear about the way forward, and is alert to fresh thinking about it. Fortunately, they did not have to take part in television debates in advance to set out precisely what they were going to do.

*Pharisee, Ideology, High Ground, Utopia, Reflection, Encounter.

REGION. See Nation › The Tragedy of the Regions, County.

REGRETTABLE NECESSITIES. Goods and services which are *needed for the subsistence of a large *civic society. The entries on the *Intermediate Economy and the *Intensification Paradox discuss the principles behind this need. Here is an example.

The story starts in seventeenth century Europe, whose growing population had a fuel problem. A lot of energy was needed for domestic heating (this was the “Little Ice Age”, as discussed in *Climate Change), for cooking, and for industrial uses: forges, lime-burning, salt-boiling, dyeing, brewing, soap, candles, bricks, gunpowder and the metal industries. Although wood was the obvious fuel, that option was closing, as forests were cut down for firewood, ships and building, and cleared for *agriculture. The only alternative was to elaborate, to *intensify—and the sequence of elaborations that had to take place required a large amount of extra work from labour and land alike:²⁸

Stage 1. Firewood—the starting point—has decisive advantages. It is widely distributed, easy to obtain by gathering or felling, easy to transport and clean; it has tolerable fumes and it is renewable. It is also easy to use in industrial processes such as smelting and soap-making.

*Stage 2. Failing the ideal option of wood, the next best *choice is coal from shallow mines.* This is accessible, and it had been in use for many centuries, but coal’s disadvantages are severe. It lies in concentrated deposits, usually far from where it is