The tomato is a typical product of the technological revolution. Genetically tailored to be thick-walled, firm-fleshed, and uniformly round, these tomatoes are mechanically harvested when still green. They are then chemically ripened with ethylene gas, electronically sorted and, finally, mechanically wrapped in cellophane.

Ethylene gas, when used to speed up the ripening process in tomatoes, has been shown to provide lower quality with less vitamin A and C and inferior taste, color, and firmness. Nevertheless, it continues to be used. When consumer groups protested the loss of quality and flavor in this new "Red Rock" tomato, they were reassured that seventy chemicals that produce tomato flavor had been isolated and could be artificially reintroduced into the product.
(from the **More-with-Less Cookbook** by Doris J. Longacre, Harold Press, Kitchner, Ont.)

DEEPER APPROACHES TO DEVELOPMENT

by Stuart B. Hill

The possibilities for development in Canada are enormous. Current problems and crises must, however, be seen as opportunities, if they are to contribute to the evolution of Canada and of Canadians, and our values and assumptions must be exposed for examination. Certainly changes need to be made, but the most important ones require limited resources and manifest their effect via indirect pathways over a long time frame. Small changes that enable individuals to more fully realize their potential will, as a by-product, generate creative, flexible solutions for the future.

In Canada at the present time, the major limiting factor for the generation of such solutions is the lack of individual awareness and associated powerlessness. Most people are unaware of the factors that control their behaviour and are slaves of their own personal history. Consequently we keep returning to old familiar pathways that deep down we know lead nowhere, hoping that others, more creative and more powerful than ourselves, will deliver us. The only way that Canada can become more flexible, adaptable and resilient to change, is to break out of that conceptual prison. Let me illustrate this. Close your eyes, it will only take two minutes, and ask someone else to read the next paragraph to you.

Visualize on your left all those things that you have attained during your lifetime, your possessions, your position, honours awarded you, the activities under your charge. Now on the right hand side, visualize the things that are dear to your heart, the loving relationships you have had in your life, any close friends you have had and the things you have shared together, the people you have helped selflessly and those who have helped you. Now, comparing these two, which have the greatest value? I'm sure that your attention went to those on the right. This is where the real needs of Canadians lie, yet most plans for the future ignore these very things that we most value and stress the more material things, which ironically we largely seek as a compensation for not having our more fundamental needs (those on the right) met.

How can we distinguish between development that is compensatory (CED = compensatory economic development) and that which is essential to the evolution of Canada and of Canadians?

Firstly, proposals must be sustainable. As such, they must distinguish between needs, which can be satisfied, and wants (often manipulated and amplified by advertising) which cannot be satisfied. Many wants operate as bottomless pits that gobble up and waste valuable human and material resources. It must be recongnized that most proposals for economic development are in reality proposals for profitable ways to meet compensatory wants. While it may make good "economic" sense to foster such developments it has degenerating effect on the individuals involved and the associated dependence is likely to make Canada less, rather than more, flexible.

Secondly, it should be realized that the earth operates within a framework defined by a number of cycles and limits that must be respected. When cycles are disrupted and limits crossed, the result is stress to individuals and to ecosystems. Repeated crossing of limits results in breakdowns and crises. Goals such as increased productivity, profit and power are bound to result in such crises as resource bases become exhausted and the environment becomes overtaxed with the associated production and consumption wastes. Suitable replacement goals might be "needs satisfaction,

fulfillment, sustainability and opportunity for evolution".

Thirdly, most, if not all, Canadians need to be committed to the developments being proposed. The connection between Canadians and Canada, particularly the part of it where they live, needs to be strengthened. Such a healthy relationship is similar in many ways to a successful marriage. We need to see the earth as partner, not as slave, or as a resource to be mined, but as collaborator in our own evolution. Federalism will have to take on a new meaning, and be a means and measure of the cooperation between the numerous self-reliant, self-governed communities that will make up the new Canada. Our present over-urbanized, over-bureaucratized structure creates so much distance between people and the things that they should act responsibly towards, that most, knowingly or unknowingly, act irresponsibly most of the time. Furthermore, for this commitment to evolve, greater attention needs to be paid to the process of human development, from conception through pregnancy, birth, early childhood, schooling, work and play activities, to eventual death. Within our present system there are many barriers to human development which, if removed, would help individuals to reach their potential and so be in a better position to contribute to Canada's development.

Some of these points may be seen more clearly by considering the following visual model (in this case applied to pest control). (Fig. 1). Canada and its population may be represented by the shape on the left. It has some smooth (trouble-free) properties and some rough edges that spin off problems. Current approaches to these tend to be curative (aspirins, prisons, hospitals, pesticides, weapons, etc.) Most proposals from those concerned with the future focus on efficiency and/or substitution (e.g., of materials or procedures with less harmful side-effects). These may be regarded as "shallow" solutions because the more successful they are, the more they protect and perpetuate the structures and processes that are the causes of the problems. Furthermore, in this model, people are perceived to be on the outside of the system, and problems are solved by applying materials or procedures from the outside.

"Deep" solutions, in contrast, involve the re-design of the underlying structures and processes that are generating the problems. In fact, the aim is to design systems so that if problems arise there are sufficient resources within the system to spontaneously generate solutions to solve them. In this case, people perceive themselves within the system and work in partnership with it, evolving together.

We conclude with a diagramatic comparison of a shallow and a deep approach to pest problems.

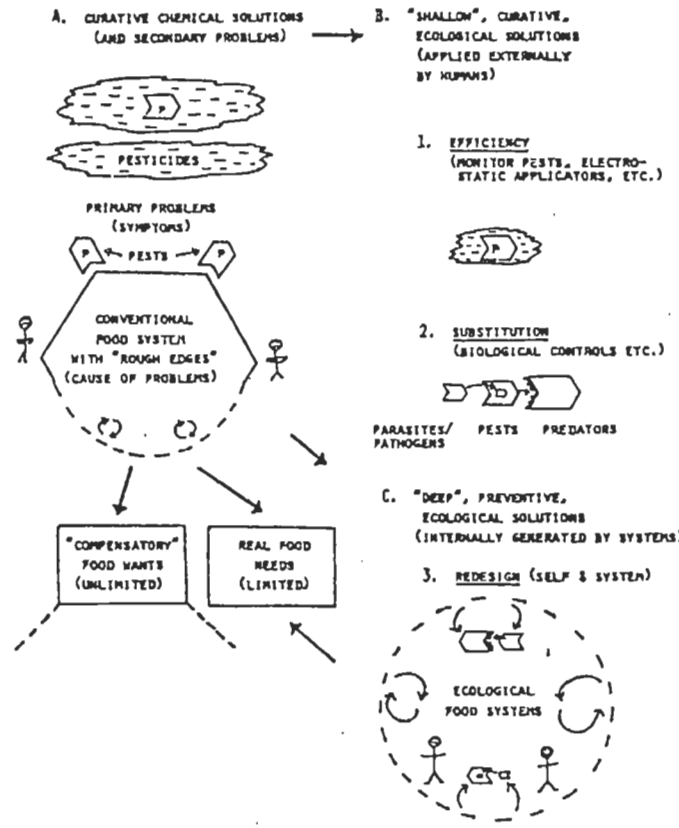

Figure 1. Diagramatic Comparison of "Shallow" and "Deep" Approaches to Pest Problems"

A slightly different version of this paper was presented as a brief to the Macdonald Royal Commission hearings on Economic Development held in Montreal on November 2, 1983.

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FILMS

A recent film relevant to agriculture is **Country**, produced by Jessica Lange, who also plays the lead role of Jewel Ivy, wife of Gil Ivy (played by Sam Shepard). The Ivys are family farmers and the film depicts the difficulties they have in coping with financial hardships that threaten their farm. They