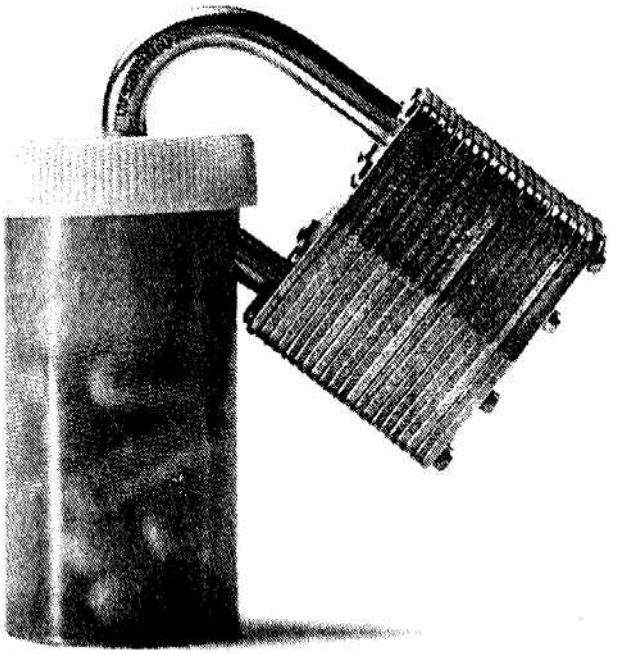

Jesse Gordon

Thalidomide, at What Price?

By Roald Hoffmann

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Thalidomide, a pharmaceutical that has not been made or legally sold in the United States, is about to be approved for leprosy patients by the Food and Drug Administration — despite the fact that in the 1960's the drug was responsible for thousands of malformations in newborns.

None of thalidomide's horrendous potency has diminished. And everyone agrees that increasing its use will result in more babies born with birth defects. But thalidomide has been shown to be remarkably effective against leprosy, and shows promise as a treatment for AIDS and other immune system diseases.

Do the benefits outweigh the risks? I think not. But I understand why we struggle so hard with this issue.

We are in a moral quandary with thalidomide partly because we divide the world into good and bad chemicals. Poisons, pollutants and carcinogens are just plain bad for us, while soaps, antibiotics and broccoli sprouts are good for us.

But lumping all chemicals into good and bad categories imposes an overly simple world view on the more complicated reality of the natural world. A chemical's ability to both harm and hurt is always there; the real world insists on confounding the simplicity we long for. A thin layer of ozone in the atmosphere absorbs much of the sun's harmful ultraviolet radiation. At sea level, the same ozone is a component of smog, destroying plant life and even our tissues. Nitric oxide is another air pollutant. It is also produced and acts as a vital messenger in the cells of every advanced organism from barnacles to humans.

Do I need to tell anyone who has been through major surgery about the utility of morphine? Of course, it is also easily turned into heroin.

Because a chemical's health risks could outweigh its benefits, a reasoned, democratically reached decision to prohibit, for the good of society, synthesis or sale of some chemical or tool (natural or unnatural) seems to me entirely appropriate.

> An ill-advised tradeoff that puts children at risk.

This returns me to Janus-faced thalidomide. Brazil has tried limited use of thalidomide for leprosy, while taking measures to warn and monitor patients who might become pregnant. Nevertheless, and inevitably, the drug has been misused, and there are apparently several dozen documented recent thalidomide-deformed births.

True, the safeguards proposed by the American producer, Celgene Corporation, are unprecedented. And perhaps our medical system is better than Brazil's, so misuse could not occur here. But the recent discovery that a potentially dangerous diet drug combination, fen-phen, had been prescribed to many who were not obese, on the basis of flimsy scientific evidence that it worked, does not leave me sanguine. American doctors, and especially desperate AIDS and cancer patients, might turn to thalidomide as an unproven last resort. And some malformations will inevitably follow.

It seems to me that when considering thalidomide, society must make moral distinctions between hurting children and adults. In every society children have been guarded by special provisions; I think of laws that govern child labor, protect children from sexual abuse and forbid them to buy cigarettes and alcohol.

Children deserve the same protection from thalidomide. The special and lasting nature of the horror remains. The anguish of thousands of thalidomide children and their parents must not be felt again. To me, the existence of a single child malformed because of thalidomide outweighs any illnesses that thalidomide might alleviate.

Instead, researchers should be given incentives to develop thalidomide-related pharmaceuticals that are effective but do not cause birth malformations. We can wait, and when they succeed, we can be grateful that what was brought into this world was a better drug and not a thalidomide-damaged child. □

Roald Hoffmann, a professor at Cornell University, won the Nobel Prize for chemistry in 1981.