

# The principle of the hiding hand

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A fter two decades of intensive work by social scientists, the processes of economic, social, and political development of the so-called underdeveloped countries — in Latin America, Asia, and Africa — remain poorly understood. Theories that were attractive because of their simplicity and because they had clear-cut and hopeful policy implications have been badly battered by academic critics; worse, they have been faulted by events. Nevertheless, it is not true to say that we have learned nothing from the experience of the past twenty years. It's just that what we have learned is not quite what we expected to learn. . . .

## I

The Karnaphuli pulp and paper mill is one of the earliest large-scale industrial enterprises to have been set up in Pakistan after partition and independence. Planned by the official Industrial Development Corporation to utilize the vast resources of the bamboo forests of the Chittagong Hill Tracts along the upper reaches of the Karnaphuli river in East Pakistan, the mill started to operate in 1953. It had perhaps more than its share of technical and managerial teething troubles, but considerable progress had been achieved in these respects by 1959 when management of the mill passed into private hands. Soon thereafter, a major upset endangered the very life of the mill: the bamboo began to flower, an event entirely unforeseen and

probably unforeseeable in the present state of our knowledge, since it occurs only once every 50 to 70 years: given the resulting paucity of observations, the life cycle of the many varieties of bamboo is by no means fully known. In any event, the variety which supplied the Karnaphuli mill with some 85% of its raw material, flowered and then, poetically but quite uneconomically, died.

It was known that flowering of the bamboo results in death of the whole plant and in regeneration from the seeds, rather than, as normally, from the rhizomes; but it was *not* known that the bamboo that dies upon flowering would be unusable for pulping since it would disintegrate upon being transported and floated down the river. Another unpleasant surprise was the discovery that, once flowering was over, a number of years would have to pass before the new bamboo shoots would grow up to the normal size fit for commercial exploitation. In its seventh year of operation, the mill therefore faced the extraordinary task of having to find itself another raw material base.

In a temporary and costly way, the problem was solved by importing pulp, but other, more creative responses were not long in coming: an organization to collect bamboo in villages throughout East Pakistan was set up (the waterways crisscrossing the country make for cheap transportation of bulky cargo), sundry lumber was cut in the Tracts, and, most important, a research program got underway to identify other fast growing species which might to some extent replace the unreliable bamboo as the principal raw material base for the mill. Permission was obtained to plant an experimental area of six square miles with several of the more promising species and plans to cover eventually a much larger area are underway. Thus, the crisis of the flowering bamboo may in the end lead to a diversification of the raw material base for the mill.

Looking backward it may be said that the Karnaphuli mill was "lucky": its planners had badly overestimated the permanent availability of bamboo, but the mill escaped the possibly disastrous consequences of this error by an offsetting underestimate or, more correctly, by the unsuspected availability of alternative raw materials.

The question which I wish to explore is whether this really is a matter of pure luck or whether there are reasons to expect some systematic association of such providentially offsetting errors. A phenomenon very similar to the one just noted can be observed in successful irrigation and irrigation-hydroelectric projects: the river that is being tapped is frequently found not to have enough water for all the agricultural, industrial, and urban uses which had been planned or which are staking claims, but the resulting shortage can then often be remedied by drawing on other sources which had not been within the horizon of the planners: ground water can be lifted

by tubewells, the river flow can be better regulated through upstream dams, or the water of more distant rivers can be diverted. At present such plans are afoot for the San Lorenzo irrigation scheme in Peru, and for the Damodar Valley in India.

It would obviously be silly to expect that any overestimate of the availability of a given material resource is always going to be offset by an underestimate of alternative or substitute resources; but if we generalize a little more, we obtain a statement which no longer sounds wholly absurd: on the contrary, it is quite plausible and almost trite to state that each project comes into the world accompanied by two sets of partially or wholly offsetting potential developments: (1) a set of possible and unsuspected threats to its profitability and existence, and (2) a set of unsuspected remedial actions which can be taken whenever any of these threats materializes.

We have much experience of development projects that fit this very broad proposition. For example, the San Lorenzo irrigation project in Northern Peru suffered serious and at times exasperating delays caused by political change and second thoughts on the kind of irrigation farming which the project should promote; but the economic losses implied by these delays were at least in part offset by the fact that, as a result of these second thoughts, San Lorenzo irrigation eventually became a pilot project for the subdivision of land into small but viable family farms, with credit and technical assistance being given to previously landless farmers; the project thus set an entirely new pattern for Peruvian agriculture and turned into a breeding ground for administrators who would be ready to apply elsewhere in Peru the lessons learnt in San Lorenzo.

A Uruguayan livestock and pasture improvement project also experienced extraordinary delays, first because of slowness in political and administrative decision-making and then because the key technical task of improving the natural grasslands by introduction of legumes into the soil turned out to be unexpectedly complex; yet the solutions that were gradually found, through scientific research and practical experimentation, and which were then applied over an expanding area, have now started to make this program into a particularly successful operation and have served to spread the spirit of innovation among a large group of Uruguay's farmers.

The common structure of the Pakistani, Peruvian, Uruguayan projects can now be recapitulated as follows:

1) If the project planners had known in advance all the difficulties and troubles that were lying in store for the project, they probably would never have touched it, because a gloomy view would have been taken of the country's ability to overcome these difficulties by calling into play political, administrative, or technical creativity.

2) In some, though not all, of these cases advance knowledge of

these difficulties would therefore have been unfortunate, for the difficulties and the ensuing search for solutions set in motion a train of events which not only rescued the project, but often made it particularly valuable.

## II

We may be dealing here with a general principle of action. *Creativity always comes as a surprise to us; therefore we can never count on it and we dare not believe in it until it has happened. In other words, we would not consciously engage upon tasks whose success clearly requires that creativity be forthcoming. Hence, the only way in which we can bring our creative resources fully into play is by misjudging the nature of the task, by presenting it to ourselves as more routine, simple, undemanding of genuine creativity than it will turn out to be.*

Or, put differently: since we necessarily underestimate our creativity it is desirable that we underestimate to a roughly similar extent the difficulties of the tasks we face, so as to be tricked by these two offsetting underestimates into undertaking tasks which we can, but otherwise would not dare, tackle. The principle is important enough to deserve a name: since we are apparently on the trail here of some sort of Invisible or Hidden Hand that beneficially hides difficulties from us, I propose "The Hiding Hand."

What this principle suggests is that, far from seeking out and taking up challenges, people are apt to take on and plunge into new tasks because of the erroneously presumed *absence* of a challenge — because the task looks easier and more manageable than it will turn out to be. As a result, the Hiding Hand can help accelerate the rate at which men engage successfully in problem-solving: they take up problems *they think* they can solve, find them more difficult than expected, but then, being stuck with them, attack willy-nilly the unsuspected difficulties — and sometimes even succeed. People who have stumbled through the experience just described will of course tend to retell it as though they had known the difficulties all along and have bravely gone to meet them — *fare bella figura* is a strong human propensity. While we are rather willing and even eager and relieved to agree with a historian's finding that we stumbled into the more shameful events of history, such as war, we are correspondingly unwilling to concede — in fact we find it intolerable to imagine — that our more lofty achievements, such as economic, social or political progress, could have come about by stumbling rather than through careful planning, rational behavior, and the successful response to a clearly perceived challenge. Language itself conspires toward this sort of asymmetry: we fall into error, but do not usually speak of falling into truth.

### III

While some presence of the Hiding Hand may be helpful or required in eliciting action under all latitudes, it is no doubt specially needed where the tradition of problem-solving is weak and where invention and innovation have not yet been institutionalized or routinized. In other words, in developed countries less hiding of the uncertainties and likely difficulties of a prospective task is required than in underdeveloped countries where confidence in one's creativity is lacking, and where new tasks harboring many unknowns must be presented as though they were all "cut and dried" in order to be undertaken.

The Hiding Hand principle is in effect a close relative, or perhaps a generalization, of an idea proposed several years ago by an economic historian, John Sawyer. Having looked at development projects that were undertaken in the first half of the 19th century in the United States, he noted that underestimates of cost resulting from "miscalculation or sheer ignorance" were, in a number of great and ultimately successful economic undertakings, "crucial to getting an enterprise launched at all." "Had the total investment required been accurately and objectively known at the beginning, the project would not have been begun." The eventual success of these ventures, in spite of the large initial miscalculation and the consequent financial trouble at various stages, derived from the fact that, once the necessary funds were secured and the project was brought to completion, "the error in estimating costs was at least offset by a corresponding error in the estimation of demand."<sup>1</sup>

This has a close resemblance to the Hiding Hand principle. The difference is that in Sawyer's model the underestimate of the benefit is unexplained and acts rather as a *deus ex machina* to save selected projects from becoming failures, once they turn out to cost so much more than expected. In our Hiding Hand principle, Sawyer's unexplained underestimate of benefits becomes the easily intelligible underestimate, on the part of the project planner, of his own problem-solving ability. The principle then simply goes on to state that, in view of this underestimate, a similar underestimate of the difficulties themselves is required so that projects which in the end turn out to be perfectly feasible and productive will actually be undertaken.

Which are the projects that are chosen because their difficulties tend to be underestimated? And which ones tend to be systematically neglected because their difficulties are too obvious? By asking these questions we realize that the Hiding Hand principle, while permitting an increase in the rate at which projects are taken up, also leads to

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1. John E. Sawyer, "Entrepreneurial Error and Economic Growth," *Explorations in Entrepreneurial History*, Vol. 4 (May 1952), pp. 199, 200.

a bias in project selection whose nature must now be briefly explored.

First of all, it becomes clear that projects derive a crucial advantage from being based on a technique that *looks* transferable even though it may not actually be nearly as transferable as it looks. This is perhaps a principal reason which gives industrial projects so large an edge over others. Time and again, industrial projects, particularly those that are not limited to administering "last touches" to a host of imported semi-finished products, run into very considerable technical and managerial difficulties when they are transplanted to a different environment. But factories *look* as though they could be picked up and dropped anywhere — whereas in other activities, such as agriculture and education, the need for adaptation and the concomitant problems are immediately obvious. Industry thus lends itself eminently to the operations of the Hiding Hand, whereas agricultural projects suffer in comparison from the sincerity with which they flaunt their prospective difficulties.

This conclusion is reinforced when the principle of the Hiding Hand is viewed in the perspective of time. For its mechanism to work, it is necessary that the operators be thoroughly "caught" by the time the unsuspected difficulties appear; caught in the sense that having spent considerable money, time, and energy and having committed their prestige, they will be anxious to generate all the problem-solving energy of which they are capable.

Just as the Hiding Hand principle states that the to-be-experienced difficulties should be hidden at the moment of the decision to go ahead with the project, so it *implies* that these difficulties should not appear *too early* after the execution of the project has started — for, within a certain range, the propensity to tackle the difficulties will be roughly proportional to the effort, financial and otherwise, already furnished. Therefore, a given level of difficulties may be wholly discouraging for the prosecution of the project if it turns up early, while it would be tackled with alacrity and perhaps solved if it arose at a later stage.

In spite of the somewhat paradoxical ring of this assertion — paradoxical only because medical science has thoroughly impregnated us with the notion that the sooner a malady is recognized and diagnosed the better — it appears to be confirmed by experience with development projects, and it again underlines the disadvantageous position of agricultural as compared with industrial and public-work projects. With the (important) exceptions of irrigation and of tree crop projects, agricultural projects have a short gestation period, and therefore production or marketing difficulties unfold rather soon after the projects have been started; hence, attempts to rescue them are often half-hearted and they are readily pronounced failures and abandoned.

This is the story of many colonization projects in Latin America and Africa.

In the case of projects with longer gestation periods and more permanent structures, similar difficulties tend to appear much later and then lead to far more serious efforts to overcome them. This difference between projects with short and long gestation periods is well exemplified by the contrasting fates of the East African Groundnut Scheme and the Owen Falls Hydroelectric Station in Uganda. Undertaken at the same time, in the same region, by the same kind of colonial administrators wishing to turn over a new progressive leaf and harboring similar illusions about the nature of the development process, both schemes met with similar financial difficulties during their early years. After a very few years, the Groundnut scheme was abandoned and nothing remains of it; the Owen Falls Hydro station, on the other hand, has had many lean years, but it has endured and finally come into its own and will soon have to be supplemented by new generating capacity. For once it had become clear that the originally anticipated industrial boom in the Owen Falls area was not going to materialize, the Uganda Electricity Board made an effort to tap, through the building of transmission lines, new markets for its power to neighboring Kenya at first, and then to a host of smaller industries and towns of Uganda.

By itself, the mere ability of the Owen Falls Station to survive cannot of course be taken as a vindication of the original investment decision. While later administrators were right in considering as by-gone the heavy costs which had been sunk into the project in its early years, the project as a whole may still have to be given a poor mark in any ex-post appraisal. It is well known that, with long-gestation projects, one runs the risk that good money will be thrown after bad. We are here pointing out that short-gestation projects are subject to the opposite risk: the failure to throw good money after what looks bad, but could be turned into good, if only the requisite rescue effort were forthcoming.

The foregoing remarks permit a policy conclusion: projects whose potential difficulties and disappointments are apt to manifest themselves at an early stage should be administered by agencies having a long-term commitment to the success of the projects; also such projects should be developed as much as possible in an experimental spirit, in the style of a pilot project gathering strength and experience gradually, for in that case they will be able to escape being classed and closed down as failures when they are still in their infancy. The Uruguayan livestock and pasture improvement project followed both these precepts and has thus been able to survive and to achieve maturity and success.

## IV

In general, entrepreneurs and promoters and developers must long have been dimly aware of the Hiding Hand principle, for they have been most adept at finding ways in which projects that would normally be discriminated against, because they are too obviously replete with difficulties and uncertainties, can be made to look more attractive to the decision maker.

One widely practiced method consists in pretending that a project is nothing but a straightforward application of a well-known technique that has already been used successfully elsewhere. For example, for a number of years in the post-World War II period, any river valley development scheme, whether it concerned the São Francisco River in Brazil, the Papaloapan River in Mexico, the Cauca River in Colombia, the Dez in Iran, or the Damodar River in Eastern India, was presented to a reassured public as a true copy, if possible certified expressly by David Lilienthal, of the TVA. Although obviously two river valley development schemes will differ vastly more from one another than two Coca Cola bottling plants, the impression was created, by the appeal to the "TVA model," that clear sailing lay ahead for the proposed schemes. To be acceptable, it seems, a project must often be billed as a pure replica of something that already exists as a successful venture in an advanced country.

It surely is a pity that ventures which are 90% indigenous initiative and execution and 10% imitation of a foreign model are regularly presented to the public as though the percentages were, in fact, reversed; but this seems to be the price that must sometimes be paid to "sell" projects which would otherwise look too forbidding.

This attempt at making a project's path look more smooth than it actually is may be termed the "pseudo-imitation" technique. When the novelty or difficulty of the task is too obvious for the use of this technique to be plausible, another method is often resorted to. It consists in dismissing previous efforts at solving the task as "piece-meal" and in pretending to more insight than is actually available by drawing up a "comprehensive program." We shall call it the "pseudo-comprehensive-program" technique.

An excellent example of this technique is supplied by the Uruguayan livestock and pasture improvement project. It started with the avowed aim to "implement" a joint World Bank-United Nations report issued in 1951 whose recommendations covered an extremely wide spectrum as will appear from the following incomplete list of topics: subdivision of pastures by fences, grazing trials, tree plantings on permanent grasslands, introduction of legumes, increased use of lime and phosphate, shrub eradication, works to control runoff water, establishment of fodder reserves through silage and hay, better stor-

age facilities, changes in the cropping system to include legumes, establishment of diversified farming combining harvested crops and livestock, improvement in productivity by irrigation, tillage practices, weed and pest control, erosion control, control of animal disease, improvement in transportation, storage and marketing, organization of research and technical services, appropriate price and other economic policies, etc. . . .

Such a report tends to give the policy makers and project planners the illusion that the "experts" have already found all the answers to the problems, and that all that is needed is faithful "implementation" of these multifarious recommendations. In fact, Uruguayan agriculture had shown prolonged and stubborn resistance to many of the report's proposals, which were by no means new; the reason was that very considerable and difficult breakthroughs remained to be achieved in the technical, organizational, and other realms. But the comprehensive program technique underplays this need for imagination, insight, and for the application of creative energies; and the project planners are, as it were, tricked into undertaking a program with whose real difficulties they will only gradually become acquainted.

The comprehensive program, whose many components all are given the same emphasis and are pronounced to be interrelated, in effect covers up the ignorance of the experts about the real cure of the malady they have been summoned to examine; if they knew, they would be proposing a far more narrowly focused program! At the same time, the diffuse kind of program provides an excellent alibi to the experts in case anything goes wrong: since it is practically impossible to carry out all the proposed actions, any lack of success can always be blamed on the failure to follow the experts' instructions rather than on the shortcomings of their advice.

This is not to deny that there are real interdependencies, and that often a multi-pronged attack on a problem is necessary. But a comprehensive program that stems from real insight into the problem will be easy to tell from one that is a smoke screen for ignorance, for in the former the nature of the interdependencies will be clearly spelled out and an effort will have been made, in the interests of feasibility, to limit the number of activities that have to be undertaken concurrently. This approach was evident in a 1964 plan for the creation of an industrial pole in the Taranto-Bari-Brindisi area in Southern Italy. Here a deliberate effort was made to determine a strictly limited number of establishments producing intermediate goods and providing services, such as tool making, which would have to be available if a certain group of newly planned mechanical industries were to find it attractive to locate at the "pole."

## V

The two Hiding Hand techniques which have been reviewed at some length — the pseudo-imitation technique and the pseudo-comprehensive-program technique — are nicely complementary: the former makes projects appear less difficulty-ridden than they really are, whereas the latter gives the project planners the illusion that they are in possession of far more insight into the projects' difficulties than is as yet available. Both techniques act essentially as crutches for the decision-maker, permitting him to go forward at a stage when he has not yet acquired enough confidence in his problem-solving ability to make a more candid appraisal of a project's prospective difficulties and of the risks he is assuming. The experience of meeting with these difficulties and risks, and of being able to deal with them, should then enable him to discard these crutches and to achieve a more mature appraisal of new projects. The recourse to the Hiding Hand thus becomes less necessary as development proceeds, and one of the indirect benefits of projects is precisely that the willingness of the decision-maker to face uncertainty and difficulty is increased. The Hiding Hand is essentially a mechanism *which makes a risk-avertor take risks* and turns him into less of a risk-avertor in the process. In this manner, it opens an escape from one of those formidable "prerequisites" or "pre-conditions" to development: it permits the so-called prerequisite to come into existence *after* the thing to which it is supposed to be the prerequisite. In our model, risk-taking behavior is engaged in actively (though involuntarily) prior to the arrival on the stage of the "risk-taking, achievement-motivated personality"; instead, it is this personality which is fashioned by risk-taking behavior.

The Hiding Hand model is helpful in understanding the process of growth from yet another point of view. It has often been remarked that what is most needed at an early stage of development is that the ventures that are undertaken meet with unqualified success, so that the spirit of entrepreneurship may become strong and widely spread. The objection to this prescription is, of course, that it is singularly unhelpful, since in the early stages of any development effort numerous disappointments are inevitable and survival is a feat. How is development possible then? Perhaps because, among the ventures that do survive, there is a large number in which the Hiding Hand has been at work. In these ventures, the entrepreneurs' experience will have been *both worse than expected* (getting into unsuspected trouble) *and better* (getting unexpectedly out of it); and even though their financial success is not striking, the resulting infusion of confidence, and perhaps the discovery of a more exciting way of life, will strengthen the spirit of enterprise.

What we are in effect saying is that in appraising the contribution to development of various ventures, we must take into account not only their — properly discounted — financial returns, but important side effects connected with what economists call the "time shape" of these returns; specifically, a venture which has gone through considerable teething trouble, presumably as a result of the intervention of the Hiding Hand, is likely to deserve a higher ranking than one with a similar return, but no such experience.

We have ended up here with an economic argument strikingly paralleling Christianity's oft expressed preference for the repentant sinner over the righteous man who never strays from the path. And essentially the same idea, even though formulated, as one might expect, in a vastly different spirit, is found in Nietzsche's famous maxim, "That which does not destroy me, makes me stronger." This sentence admirably epitomizes several of the histories of economic development projects in recent decades.

## VI

Having achieved, in a roundabout way, a convergence of benefit-cost analysis with the teachings of philosophy and religion, I should probably stop right here. Unfortunately, however, this dramatic effect must be spoiled, for something now must be said about the failings and dangers of the Hiding Hand. As noted before, its principal usefulness is in inducing risk-aversers to commit themselves to risk-taking behavior. This commitment permits an acceleration of economic growth; as a result of this experience, the decision-makers are likely to become readier to look newly emerging risk-laden situations straight in the face. The Hiding Hand is thus essentially a transition mechanism through which decision-makers learn to take risks; and *the shorter the transition and the faster the learning, the better*. For this mode of learning about risk is not without grave dangers. One has to be rather lucky to be lured by the Hiding Hand into ventures whose emergent problems and difficulties can be successfully tackled. As long as one needs this "crutch" in order to act, the probability of committing major errors and of undertaking projects which will turn into failures is obviously higher than when one is able to differentiate between acceptable and non-acceptable risk.

Moreover, those servants of the Hiding Hand, the pseudo-imitation and the pseudo-comprehensive-program technique, while they facilitate decision-making, can easily be habit-forming rather than self-liquidating. The camouflage which they use to disguise pioneering entrepreneurship may go undetected for a long time and may possibly still be used when there is no longer a real need for them. The pseudo-imitation technique will not permit the country using it to reap the full psychological benefit of the ventures successfully launched un-

der its auspices, since there will remain a lingering feeling that any achievement is due to the imitation of a foreign model. As to the pseudo-comprehensive-program technique, a favorable outcome may even leave a sense of disappointment and frustration behind; for, if our description of the process by which insight into the problem is finally achieved is correct, then a number of originally enunciated measures and objectives which were important elements in the "comprehensive program" will no longer be actively pursued. As a result, public opinion will tend to lament the abandonment of originally much-touted programs, and the project, even though a success, will leave behind a vague sense of failure.

## VII

Before concluding it may be of interest to place the phenomenon here described in a wider context. The Hiding Hand is essentially a way of inducing action through error, the error being an underestimate of the project's costs or difficulties. As Sawyer noted for his related theory of entrepreneurial error, the argument smacks uncomfortably of "praise of folly" — a praise which is sometimes deserved, but always needs to be narrowly circumscribed.

We could bestow limited praise on the Hiding Hand because, in causing an underestimate of costs and difficulties, it serves to offset another error which project planners are liable to commit through their propensity to underrate their inventiveness and problem-solving ability; when this propensity is present, the chances for correct project decisions to be taken will actually improve, up to a point, as the Hiding Hand does its handiwork. But suppose now that, *in the same situation*, it fails to do so and that prospective difficulties stand therefore clearly revealed: since, by assumption, the actors are afflicted by the same lack of self-confidence, the difficulties (i.e., costs) will now loom larger than they really are, and the only remaining way by which action on perfectly feasible projects can still be induced is through an *overestimate of the prospective benefits* — we need a magnifying glass for benefits to take the place of the Hand that hid the costs or difficulties. Thus, the same basic infirmity, namely lack of confidence in one's ability to overcome difficulties, requires correction either by underestimating the difficulties or by exaggerating expectations about the project's future accomplishments.

Exaggeration of prospective benefits is at least as common a device to elicit action as underestimation of costs. This error, especially when it is combined with an underestimation of costs, has of course often led to disaster — history abounds with examples, from bankruptcies and white elephants to lost or ruinously won wars. But occasionally the exaggeration of benefits can serve, just as the hiding

of costs, to ward off another, less visible, but nonetheless real, disaster: missed opportunity.

This is the case when difficulties in the project's path tend to be overestimated *and are unhideable*. Take, for example, projects that clearly require from the start the making of politically difficult decisions, such as a change in existing administrative structures around which considerable vested interests have gathered. Extravagance in promising future benefits plays a useful role in such development projects — precisely because they do require difficult *initial* decisions, be it a change in existing institutions or a fiscal sacrifice demanded of some or all of the citizenry. Actually, the promise of some sort of Utopia is for this reason more characteristic of larger-scale social undertakings.

Recourse to the utopian vision as a stimulant to action has on occasion been advocated in a sweeping way. We considered a specific and, hopefully, temporary infirmity of *some* societies, i.e. inadequate acquaintance with man's ability to solve difficulties, as the reason for which the Hiding Hand or, in its absence, the exaggeration of benefits can play a useful role. A far more generalized pessimism about human nature as weak-willed, routine-ridden, and decadence-prone led Georges Sorel to the belief that humanity required "myths" — inspiring images of battle and triumph — for any substantial forward movement. He was so well aware of the disproportion between the promises of these myths and the ensuing reality that he simply vetoed what we call today project reappraisal. "We should be especially careful," he said, "not to make any comparison between accomplished fact and the picture people had formed for themselves before action."

A far more appealing and convincing defense of the occasional need for exaggeration of prospective benefits appears in an essay by Kolakowski, the Polish philosopher:

The simplest improvements in social conditions require so huge an effort on the part of society that full awareness of this disproportion would be most discouraging and would thereby make any social progress impossible. The effort must be prodigally great if the result is to be at all visible. . . . It is not at all peculiar then that this terrible disproportion must be quite weakly reflected in human consciousness if society is to generate the energy required to effect changes in social and human relations. For this purpose, one exaggerates the prospective results into a myth so as to make them take on dimensions which correspond a bit more to the immediately felt effort . . . [The myth acts like] a Fata Morgana which makes beautiful lands arise before the eyes of the members of a caravan and thus increases their efforts to the point where, in spite of all their sufferings, they reach

the next tiny waterhole. Had such tempting mirages not appeared, the exhausted caravan would inevitably have perished in the sandstorm, bereft of hope.

This fine passage permits two observations. First of all, in contrast to what must have been Sorel's assumption when he issued his injunction against looking back, the Kolakowski image definitely conveys the message that the effort of the caravan *was* worth the cost and the suffering, since it permitted survival. Secondly, the effort would not have been forthcoming had there not been the Fata Morgana, i.e. a rather serious overestimate of the benefits.

The similarity with our two points describing the mechanism of the Hiding Hand is striking. In Kolakowski's thought (which again is concerned of course with large-scale socio-political movements and action rather than with development projects), the reason for which the exaggeration of benefits is required is precisely the one we indicated earlier: the actors underestimate the strength that is left in them, therefore the to-be-furnished effort is felt as "impossible" until the required social energy is generated by the mirage.

The Fata Morgana image actually contains one other suggestion, rather different from the use Kolakowski makes of it: there may be special difficulties in visualizing in advance *intermediate* outcomes or *partial* successes such as the "tiny waterhole." In other words, the Utopian vision may not originate so much in a need to offset the inflated costs of the enterprise under consideration, as in an infirmity of our imagination which, even without costs appearing unduly high, is simply unable to conceive of the strictly limited, yet satisfactory, advances, replete with compromises and concessions to opposing forces, which are the very stuff of "incremental politics."

We have now identified two situations in which overestimates of benefits can play a positive role: 1) when, because of inexperience in problem-solving, the actors have an exaggerated idea of the costs and difficulties of action; and 2) when, because of inexperience with the actual processes of change, the actors are unable to visualize intermediate outcomes and limited advances. As in the case of the Hiding Hand with its underestimate of costs and difficulties, and pending the correction of these various inexperiences, the overestimate of benefits must therefore be recognized as a useful development mechanism for a transitional phase.

But, for the reasons already given in connection with the Hiding Hand, it is much to be desired that this transitional phase be short. A contribution to this end could be hoped for from the very description-exposé of these mechanisms of self-deception which has been attempted here. It may persuade project planners to dispense with these crutches as soon as it is possible for them to do so.