



## Reprint of **When is a need a need? The problem of normative forecasting in a changing environment**☆



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Forecasting is commonly divided into normative, or need-oriented, and exploratory, or capability-oriented, approaches. The former tends to move from the future to the present and the latter from the past and present to the future. Normative forecasting is perhaps most succinctly explained by the familiar adage, “Necessity is the mother of invention.”

Both approaches are essential for effective forecasting and there must be continual feedback between them.

In this paper I shall confine myself to the needs aspect, and consider four unique difficulties encountered in forecasts carried out for the purpose of long range planning in industry or government:

### 1. *Long range objectives are frequently unsuitable for needs analyses.*

Today's corporation tends to have precisely stated objectives which lend themselves to active planning: “X million sales in 1975,” “discounted cash flow return on investment at least 10% on each project,” etc.

In contrast, however, actionable long range objectives do not exist in many significant needs areas. In regional transportation, for example, is the objective (a) to satisfy the current and extrapolated demand for movement, or (b) to use transportation as a tool in facilitating regional or urban growth in certain desired directions?<sup>1</sup>

National objectives tend to be vague if they exist at all (e.g., peace, freedom, equality of opportunity, more education, an end to poverty in the world, and survival). There are endless arguments even about the definitions of terms: What constitutes national survival (Kahn, 1964)? What is American foreign policy?<sup>2</sup>

Further, objectives for the period of concern to the planner may differ considerably from those applicable today. Environments and values are in a state of flux.

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<sup>1</sup> Doxiadis (1967) provides an interesting illustration of the use of the latter objective for the case of the Urban Detroit area.

<sup>2</sup> For example, Kissinger (1968a) insists that “there is no such thing as an American foreign policy,” an impression reinforced by the almost imperceptible step-by-step decisions on Vietnam during the last 10 years.

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The need is not so much a set of firm objectives, but rather clearly defined alternative objectives which may be examined and studied at each level in the organizational hierarchy to determine their implications and, hence, their feasibility.

### 2. *The “system” is inadequately understood.*

*Item:* Study of the Cuban “system” led key U.S. decision makers to the conviction that the Cubans would rise up and overthrow the supposedly unpopular Castro regime as soon as the Bay of Pigs invasion was effected.

*Item:* There was not only shock, but surprise, expressed when serious Negro riots followed closely on the heels of the greatest advance in civil rights legislation in 50 years, which was achieved under President Johnson in 1964.

*Item:* The Tet offensive in early 1968 in Vietnam shocked many who wondered how a Florida-size area occupied by half a million Americans could be so vulnerable to an “underdeveloped country” threat.

*Item:* In his new book on the war on poverty, “Maximum Feasible Misunderstanding? [sic], Moynihan (1969) observes that the trouble was that the Government never really comprehended what community action was all about and did not know what it was doing.

### 3. *There is poor meshing of objectives, environment, and needs.*

The essence of normative forecasting is to assure proper feedback among objectives, environment, and needs. The rigidity of large organizations may well preclude the free interaction of interdisciplinary and innovative thinking which is required both horizontally and vertically. The narrow expert may fail to draw the implications of a change in needs from a changing environment or may fail to understand the mismatch between objectives and environment.

### 4. *Acceptance of new needs poses overwhelming sociological, psychological, legal, or organizational difficulties.*

Fear of the unknown and human inertia provide strong incentive against change. In Hamlet's words, we would “rather bear those ills we have than fly to other that we know not of.” In an affluent society or company, resistance to change is intensified. In a very stable society a policy of “muddling through” (Lindblom, 1959), of small, minimum risk changes, is indeed attractive. Unhappily we face a fundamental dilemma: the difference in the rate of change between science and technology on the one hand, and man, as a behavioral organism, on the other, creates growing instability.

Kissinger (1968b) notes: “The problem of policymaking in our society confronts the difficulty that revolutionary changes have to be encompassed and dealt with by an increasingly rigid administrative structure.”

With the level of effort expended in technological forecasting related to national security, these problems have become particularly apparent in this area. However, they are quite general. The development of the urban administrative structure, for example, is incompatible with creative transportation system planning. In the light of such difficulties there is a strong tendency to take refuge in a twofold procedure:

- (a) Continuation of the present “line” of needs, i.e., step-by-step improvements of today’s systems based on today’s interpretation of needs.
  - (b) A pragmatic approach to changes in needs: “Don’t cross the bridge until you come to it,” i.e., until public discontent or external actions or the customer force the change.
- Any alternative to these ultimately sterile procedures implies recognition and alleviation of the difficulties listed. The normative forecaster or needs analyst is an important instrument in this task.

In the following Sections (1 to 4) each of the four problems will be clarified and finally (in Section 5) some ideas for improvement will be outlined.

## 1. Unsuitable objectives

In a recent conference of top strategic planners, one dominant theme emerged: “To a degree rare in history, world leaders of the next decade will be moving into a great unknown. Rules for world order, written less than 25 years ago, already are ‘wearing out.’

New ways for countries to deal with each other will have to be found” (Anon., 1968).

New objectives must be hypothesized, particularly at the middle level in the bureaucratic hierarchy, so that their implications may be analyzed. The feedback, in turn, will assist in determining the feasibility of the objective itself.

The wide range of possible objectives in the national security area is readily seen by sketching two of the possible United States postures for 1975–1985. To set the stage we shall briefly consider the environment.

### 1.1. Background

The most obvious sources of conflict<sup>3</sup> for this period can be categorized as shown in Table 1.

These types appear quite familiar. The last has represented the leitmotif in several recent needs analyses for this time period (Linstone et al., 1966). The widening economic gap between rich and poor has appeared to be the one certainty in an uncertain world environment (Linstone, 1968).

But this picture no longer appears to be adequate for the development of objectives. The widening economic gap not only splits rich and poor countries but also separates over more widely the very rich and the rich, as well as the societies within rich countries.

And the frustration of the widening economic gap is by no means the sole source of internal upheaval. The growing gap between technological and social rates of change fosters other frustrations. Technological progress as reflected in the modern industrial status questioned as man appears to become submerged or imprisoned by it (Prince, 1969). There is growing rebellion against rigid traditional structures which are unwilling or unable to cope with this imbalance. The

<sup>3</sup> Other historical types, such as religious wars, are not shown here in view of their decreasing occurrence in today’s world.

**Table 1**  
Sources of conflict.

Type	Hypothetical participants
1. Independence movements (nationalism)	
Ethnic groups	Kurds, Basques, French-Canadians, Ibus
Colonies	Angola, Macao
Countries	Czechoslovakia, Panama
2. Expansion, influence regions (imperialism)	
Superpowers	Soviet Union, United States
Challengers	Japan, Germany
Underdeveloped countries	China
3. Boundary disputes	India–Pakistan, Israel–Arab bloc, Soviet Union–China
4. Socioeconomic upheavals	
Rich vs. poor	Underdeveloped countries in Latin America and Asia

challenge of the Old Guard, as represented by Communist Novotny, Nationalist de Gaulle, Capitalist Johnson, and Pope Paul VI points to a heretical, anti-Orwellian struggle in which youth—not labor—provides the leadership, and which infects alike the East, the West, and the neutral “establishments.”

Advanced countries—the United States, the Soviet Union, Japan, Germany, and France—may all be subjected to growing internal disorder as more institutions of the mass production society are threatened. The greater the rigidity of the institutions, the higher is likely to be the level of conflict.

It is evident that the environment permits of widely divergent U.S. postures and objectives.

### 1.2. Posture I

One consequence of struggles within the United States might be the birth of the post-industrial (or post-mass-consumption) state envisioned by Daniel Bell. While competition with the Soviet Union is still present in this event, it no longer serves as such a crucial source of objectives for national planning. On an equal basis is the concept of the unacceptability of the status quo ante.

Herman Kahn and Wiener (1967) list fifteen characteristics of the postindustrial society:

1. Per capita income is about fifty times the preindustrial.
2. Most “economic” activities are service-oriented rather than production-oriented.
3. Business firms are no longer the major source of innovation.
4. There may be more “consentives” (vs. “marketives”).
5. Effective floor on income and welfare.
6. “Efficiency” no longer primary.
7. Market plays diminished role compared to public sector and “social accounts”<sup>4</sup>.
8. Widespread “cybernation”.
9. “Small world” (all-pervasive instant multisensory communications and rapid global transportation).
10. Typical “doubling time” between three and thirty years.
11. Learning society.
12. Rapid improvement in educational institutions and techniques.
13. Erosion (in middle class) of the present work-oriented and advancement-oriented values.
14. Erosion of “national interest” values. “Global” values instead?
15. Late sensate, secular, humanist criteria become central.

<sup>4</sup> It should be apparent that GNP (gross national product) itself becomes less meaningful in a post-industrial society (just as it is less meaningful in a preindustrial society). The measure is most suitable to comparisons of industrial or mass production societies; it fails where man, rather than mass production and consumption, is an end.

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