Planning theory: the quest for identity

Salet, W.G.M.

Published in:
Socio-Economic Planning Sciences

DOI:
10.1016/0038-0121(82)90037-4

Citation for published version (APA):
PLANNING THEORY

THE QUEST FOR IDENTITY

WILLEM G. M. SALET†

Van Diemenstraat 205, 2518 VB The Hague, Netherlands

(Received 17 October 1981)

Abstract—The article concerns a theoretical appraisal of the perspectives of two different paradigms for planning theory: System-cybernetics and the sociology of knowledge. The exploration starts for both paradigms at the meta-level (the level of scientifcoco-theoretical principles) and tracks from these the consequences for respectively the theoretical and applied levels. The discussion is focussed on central, interrelated issues of the object of planning theory:

— the treatment of the tension between “what is” and “what ought to be”;
— the treatment of knowledge in different planning theories;
— the treatment of problems of control and control strategies.

The identification of assumptions and linkages astrvles for possibilities of theoretical evaluation and intends to frame the specific limitations and possibilities of use for both paradigms in practice of planning.

1. INTRODUCTION: THE OBJECT OF PLANNING THEORY

Planning theory is a young discipline. It is only since the early sixties that it has ventured to appeal for the status of an independent discipline in the sphere of the social sciences. The need for profiling this new discipline links up closely with the social tendency towards increasing spheres of rationalization. In the social sciences as well it was gradually realized that problems relating to planning are covered from so many angles as to render it almost necessary to set up a separate field of study for the purpose. It was especially the pragmatic motives that gave rise to the need to delimit the sphere of this “discipline in spe.” But as far as theory formation is concerned planning theory is still in its infancy. It is precisely on account of the composite character of this field of study that the theoretical contributions are still highly fragmentary and unorganized. An additional complication is that in the present stage of theory formation there prevails a serious confusion of terminology and of interpretations as regards the significance of main concepts relating to planning.

The introduction raises three themes, which in my view may be taken into account in further theory development, viz.:

(1) Theory development at three levels.
(2) Theory development approached from different angles (paradigms).
(3) The specific object of planning theory.

1.1 Theory development at three levels

Planning theory can acquire a certain identity in the track of the established social disciplines via the development of a science programme of its own, extending to three levels. These three levels, which are mutually stimulating, are:

(1) The meta-level, at which scientifcoco-theoretical principles are formulated.
(2) The theoretical level, at which concrete sets of statements are drawn up.
(3) The applied level of practical research and action: at this level concrete methods and instruments are developed.

Judging from the three levels, planning theory has so far gone through a relatively onesided development. The terrain of the first two levels has hardly been developed at all. Contributions at these levels are still fragmentary and unorganized.

The third level on the other hand is going through a particularly fast process of development. This applied level takes shape—usually quite separately from the first two levels—in a large number of handbooks and rules-of-thumb for the progress of planning processes, for planning methods, for setting up information systems on behalf of planning processes, etc.

Hence, there is question of a certain unbalance in the development of planning theory. This oneness of theory formation is closely associated with the selective needs of the planning agencies in practice for applied theories, methods and instruments for immediate use. The selective attention of planners in practice for products of theory at the third level is a fact of experience. These planners are not engaged in science, they are faced with a specific policy task. In practice there is little enthusiasm for (scientifcoco-) theoretical discourses.

Theory on the other hand is faced precisely with the task of developing suggestions for practical use from a wider context and from an independent position. Theory cannot exclusively depend on the selective needs of the “market” in its further development. Nevertheless, precisely this reduction is characteristic of a good deal of present day theory formation. Two tendencies are noticeable in respect:

(1) One of the most frequent usages of dominant planning philosophy is the identification with the position of planning agencies in practice. The theorist takes the chair of the planner. The main concern of such theories is the improvement of the effectiveness (the “rational-
ity", the "operationality", etc.) of planning. Careful and
critical reflection on the phenomenon of planning as such
does not enter into consideration in these planning
theories; neither does the position of the other individuals
and groups who undergo the effects of planning proces-
ses. These "plan-affected" are often regarded as derived
categories in the most favourable case, connected with
the planning agencies via "communicative" structures. In
instrumental planning theories the world is divided in
planners and planned people. Unfortunately, most of the
theorists feel comfortable in the instrumental position.

(2) A second tendency concerns the widespread in-
clination to regard the third, applied level of theory as an
independent and as such adequate activity (and indeed
respected as such by the planning market). But this
onesided orientation involves serious risks for the quality
and the use made of the product of "science". A striking
illustration of this problem can be found in the manner
at which present "scientifically founded" quantified
information systems are introduced in practice of planning.
It can be demonstrated—and I shall try to adduce
arguments in support of this thesis in this contribution—
that the type of knowledge institutionalized in quantified
information systems of this kind, is by no means design-
ated for the use the planners want to make of it in
practice (see interalia Laudon 1974, Jamous and
Grémion[1]). While, conversely, the limited function,
which the formalized type of knowledge could indeed
fulfill according to theoretical reconstructions, now
remains for the greater part unused. Each model, each
type of knowledge implies in itself theoretical assumptions
(specific limitations and possibilities) in regard to its use.
It is in my view precisely here that the significance of
scientifico-theoretical and theoretical explanations lies:
—Firstly, scientifio-theoretical identifications present
the possibility of systematically structuring and impart-
ing content to theory formation.
—Secondly, the explanations at the first two levels can
furnish suggestions for the development of applied
theories at the third level. Moreover, they can provide
the practical devices at this level with a theoretical
indication of the specific limitations and possibilities of
use.

The movement from meta-level to theoretical level and
thence to the applied level also takes place, of course, in
the opposite direction: Findings at the applied level
indicate new problems for the meta-level. It will not
always be possible to see statements at a specific level in
perspective with the other two levels. The scheme does
not actually make any pretentions to this effect. It is not
a rigid frame within which all theoretical findings must be
contained, but rather takes the shape of a working pro-
gramme. This is also the way it functions in the
established disciplines. Planning theory will already im-
prove if the attention of theory is divided more evenly
over the three levels.

1.2 Theory developments from different paradigms
In most disciplines, various scientifio-theoretical
identifications (paradigms) have been established along-
side and sometimes even opposite to each other. Such
paradigms each lead at both the theoretical and the
applied level to entirely new elaborations along the lines
of the science programmes described above. In sociology,
for example, the functionalistic paradigm (with its own
scientifico-theoretical principles, its own theoretical sys-
tems and its own style of applied research) is opposed to
the phenomenological paradigm or the paradigm of the
sociology of knowledge. In the sphere of planning theory
as well a variety of perspectives will have to come to
expression. In the initial—fairly scarce—attempts
of planning theory formation in the field of planning
theory some authors actually attempted to structure the
entire field of study from a single (composite) paradigm:
the system-cybernetic paradigm. The systems approach
is adopted here to handle problems of complexity, while
in cybernetics the enormous perspectives of control
appeal to the imagination. This combination would then
have to serve as the general framework for "the" plan-
ing theory. Meanwhile, it has nevertheless become
evident that the system-cybernetic model is not equipped
for such a comprehensive function. The specific presup-
positions and principles are too selective to be able to
serve as a basis for organizing a highly complex and
fragmentary field of study such as that of planning
theory. As a matter of fact the discussion is now taking a
different course. Attempts to establish an integral
framework for planning theory via an approach from a
single angle are viewed with growing sceptis (this break-
through was clearly apparent in, inter alia, the pluriform
set-up of Friedmann and Hudson[27]). The insight now
acquired is that also at the meta-level of planning
theory different perspectives must be studied in order,
from there, to stimulate the other levels (the theoretical
and applied levels). In this pluriform structure the sys-
tem-cybernetic paradigm is still only one of the perspec-
tives, with indeed very "particular" elaborations
throughout the three levels.

The perspectives of two different paradigms for plan-
ing theory are discussed in this article, viz. systems-
cybernetics and the sociology of knowledge. There are
no doubt other perspectives besides the sociology of
knowledge. The choice to discuss the sociology of
knowledge, therefore, is mine and for two reasons:
—The possibilities of the sociology of knowledge have
hitherto been rather neglected in planning theory, while
this approach yet clearly imparts content to all the main
concepts in relation to planning.
—The attractive point of discussing this approach is,
moreover, that the paradigm "sociology of knowledge"
stands in sharp contrast to the system-cybernetic
paradigm in almost all its principles and concepts.
The boundaries between different paradigms cannot al-
ways be drawn all that sharply, because paradigms can
overlap each other. Especially when the consequences of
statements at the meta-level are extended to the
theoretical and applied levels, the existence of mixed
forms must be taken in consideration. The paradigms
discussed here are so divergent, however, that analysis
problems of this kind will not give rise to confusion.

1.3 The object of planning theory
The plea in favour of a revaluation of theory develop-
ment at the meta-level raises the question: on what
subjects in the field of planning theory should scientific
concepts be formulated? In other words: on what points
does the scientific object of planning theory differ from
the object of other social-science disciplines? In my
opinion planning theory indeed has a special object space
of its own, which, of course, can be covered by some
other disciplines (in case with the paradigm
"sociology of knowledge"), but may in itself be con-
sidered as characteristic of planning theory. Planning
theory profiles itself with regard to other social dis-
The most important involvement of most social sciences is a reflection on social reality: via theory formation (thought) and via empirical insight, research and experience (knowledge) reflection takes place on social reality. Scientifico-theoretical problems presenting themselves at this level relate to objectivity and subjectivity, causality and finality, validity and truth, epistemological explorations, etc. Such problems relating to reflection on social reality (thought and knowledge) are just as important for planning theory as for other disciplines. But in the sphere of planning theory “thought” and “knowledge” are situated in a special context. Planning theory must involve at least two other dimensions in its scientific object, viz. purposeful behaviour and action. The reflective moments in planning processes are on the one hand localized in a social field of tension between prevailing and desired developments (the tension between “what is” and “what should be”) and on the other hand usually precede new actions (action). In this way the specific object of study of planning theory “thought” and “knowledge” are situated in a special context. Planning theory must involve at least two other dimensions in its scientific object, viz. purposeful behaviour and action. The reflective moments in planning processes are on the one hand localized in a social field of tension between prevailing and desired developments (the tension between “what is” and “what should be”) and on the other hand usually precede new actions (action). In this way the specific object of study of planning theory creates its own special problems, whereupon the various paradigms can take up their positions from their own angle of approach.

The most important scientifico-theoretical problems that present themselves in the field of planning theory are in my opinion concerned with the manner in which the five various dimensions of the object of study (“what is” and “what should be”, thought, knowledge and action) can be related to one another. In different paradigms of planning these relations are qualified in entirely different ways. In this connection it must be pointed out that these dimensions cannot be studied in themselves, but only in relation to each other. The relationship between the various dimensions in the two paradigms discussed here is actually so close that it is possible to discover points of crystallization in both paradigms where the different dimensions of the object of study are integrated to form one whole!

1.4 The set-up of the article

The article concerns a study of the perspectives of two different paradigms for planning theory. The point of departure for the discussion lies at the recta-level, where indications are given for the two paradigms on behalf of the theoretical and applied levels. On the other hand usually precede new actions (action). In this way the specific object of study of planning theory creates its own special problems, whereupon the various paradigms can take up their positions from their own angle of approach.

Paradigms can take up their positions from their own perspective relating to the nature of and manner of what is desired. The point of departure of the discussion lies at the meta-level, whence indications are given for the two paradigms on behalf of the theoretical and applied levels. On the strength of the description of the object of planning theory the discussion is concentrated on (the relations between) the following themes:

— the treatment of problems relating to the tension between the actual and the desired situation,

— starting points relating to the nature of and manner of using thought and knowledge,

— starting points relating to control and control strategy.

Section 2 deals with the main themes of the system-cybernetic paradigm. Since the system-cybernetic approach originates from biology and physics, some outstanding socio-scientific nuances are discussed in Section 3.

Section 4 contains an explanation of the paradigm “sociology of knowledge”. Two important variants of this extensive sociological school of thought (Dewey [17, 18] and Mannheim [19–21]) are discussed.

Section 5 (final remarks) recapitulates the exploration study with reference to the object of planning theory as formulated in the introduction. The appendix contains a schematic overview of the most important concepts.

2. THE SYSTEM-CYBERNETIC APPROACH

2.1 Nature and function of system-cybernetic knowledge

One of the most remarkable principles of system-cybernetic knowledge is that it refrains from meaningful explanations. The argument is that meaningful explanations of social phenomena and processes (more especially the causally inclined explanations) do too little justice to the complexity of social reality. Meaningful models are often too rigid a nature, their structure is simple, they offer insufficient openings for changes in the system and can thus be characterised as closed models. For system-cybernetics analytical rationalizations offer too little certainty in a world of fundamental uncertainty. Social scientists who endeavour to give meaningful explanations for certain relations in a complex system are trumped by their own arguments. Any (“Verstehende”) positive indication of a substantial relation ignores the “understanding” of all other possible relations. The degree of representation of meaningful models is inadequate for a complete understanding of complex systems. The argument is clear and correct. Knowledge and understanding are relative phenomena in a world which does not allow itself to be understood in rationalizing frameworks of knowledge.

The answer of system-cybernetics to the shortcomings of analytical rationalizing models is original, but also highly pretentious. The limitations of human knowledge in a complex world are acknowledged, but at the same time complexity and fundamental uncertainty are regarded as a direct challenge to the own science programme. To start with the solution is sought in another kind of knowledge, which exhibits the following properties:

In the first place social processes are represented as systems. Social phenomena are regarded in relation to each other, as an organized whole studied on a totality principle. (The whole is more than the sum of its parts.) Two assumptions in one, which, strictly speaking, greatly reduce the degree of representation of social reality (system-cybernetics do not always appear to be aware of this reduction).

A second fundamental property of system-cybernetic knowledge is its orientation on effective behavioural relations of systems.

Attention is not focussed on the intentions, the interests of positions of the power of the groups and parties forming part of the system, but on actual system behaviour. No more explanations of inherent qualities and processes, but only registration of the effective system transformations. Hence, in the attention of this kind of knowledge the accent shifts from the causes to the effects of social processes. The substantial, often causally inclined, method of explanation makes room for a purely registering, efficient explanation. The system-cyberneticist is not interested in the question of why events take place. His type of knowledge merely observed only that they take place.

It speaks for itself that the economical type of system-cybernetic knowledge can not fulfill the same understanding function (however relative this may be also elsewhere) as the explanations of substantial rationalizations. But in this approach knowledge has another different function: knowledge serves in the first place to enable forecasts to be made in respect of system
behaviours and system disturbances. The function of knowledge in the system-cybernetic paradigm is to reduce the almost infinite margins of the system to be controlled. In this connection it is not necessary to understand why certain processes will take place (meaningful explanation), but it suffices to know that they will take place with a certain degree of probability.

Forecasting is the primary function of this knowledge and via forecasts the difficult problem of control can be simplified. The most refined form of forecasting is quantitative forecasting; a stagement, however, that cannot simply be transferred from the sphere of physics to that of the social sciences. Nevertheless, the requirement of quantitative orientation of system-cybernetic knowledge and forecasting is maintained equally rigorous also in the field of social study.

A last fundamental property of system-cybernetic knowledge and forecasting relates to the fact that it is impossible to forecast with any degree of certainty in complex systems. It is possible, starting out from a moment in the past, to indicate "trajectories" of the system, but the uncertainty in respect of future behaviour remains very great indeed. A further complication is that the system-cybernetic method, true to principle, takes into account any kind of system behaviour potentially to occur. The solution is not to work with deterministic models, but with probabilistic models: Developments of systems do not take place according to a determined pattern, but can be indicated in terms of probability. The rule which then once more applies is that to the system-cyberneticist the degree of probability, the "organization" of the system, is of greater interest than its substantial content.

2.2 System-cybernetic control

In the above characterization the system-cybernetic approach displays a very specific form of knowledge, but this type of knowledge does not offer yet any solution to the enormous problems of control in complex systems. Let's turn to the connection between knowledge and action. When discussing the system-cybernetic method of control, it is necessary to deal in the first place with an essential and main principle, briefly referred to as cybernetic teleology: The system-cyberneticist is interested in living systems. In these systems he discovers natural principles, laws and mechanisms of control. The principal idea is that such systems embody internal goal-seeking mechanisms, which automatically direct the developments of the system along a given course (self-regulation). For the sake of clarity it should be added here that the goal-seeking behaviour of the system is not the goal of the system-cyberneticist, but a teleological mechanism of the system itself which is under examination. The principal form of goal-seeking behaviour which system-cyberneticists discover in living systems is the built-in tendency towards survival, towards continuity of the system. When external or possibly internal disturbances threaten the continuity of the system, its self-regulating mechanisms will come into action immediately in order to keep the essential variables of the system within the limits essential for survival or continuity or, if necessary, to bring them back within these limits. Survival, self-preservation and continuity thus constitute the principal focusses for the cybernetic method of control.

In the original descriptions of the cybernetic loop the closest attention is given to systems which are in a certain state of equilibrium. Deviations ("errors") are corrected by self-regulating mechanisms, and thus brought back to their original condition. This is referred to as negative feedback. Later the social scientists especially were to add greater dynamics to the closed loop of cybernetics. They point out the significance of learning processes, of the adaptivity of systems. Nevertheless, these positive feedback loops, which provide for the progression of systems, also come within the teleological basic pattern of continuity and survival. The significance of such socio-scientific nuances are evaluated in Section 3.

For the present argument it is important to point out that the cybernetic method of control is based on a given type of presupposed, self-regulating behaviour of the system. This conception of self-regulation creates a special relationship between controllers and the system to be controlled.

In system-cybernetic reasoning the chances of successfully controlling living systems via direct control from an external position are considered to be nil. Control of this kind is rejected as idealistic on the strength of the so-called law of requisite-variety. What this (quantitative) law briefly amounts to is that only variety can destroy variety, i.e. that the controlling apparatus must be just as varied as the disturbances of the system. Even the highest degree of bureaucracy is incapable of meeting these requirements when it comes to direct external control. Rather unfortunately, Ashby is usually cited for his formulation of the law of requisite variety. But this law can never hold out the promise of cybernetics, since it does not indicate the possibilities of control, but exactly its limitations! In effect, Ashby uses the law of requisite variety merely to set the limits for an indirect and sophisticated method of control, which is brought to expression in a second law: the law of supplementation.

What the law of supplementation amounts to is that the controlling system (with due observance of the conditions of the law of requisite variety) can improve its limited capacity for regulation of the system to be controlled. This indirect method of control is based on the principle of coupling of systems. The external control system can greatly increase its limited control potential without itself incorporating this variety in its own system, because the movements of powerful self-regulating mechanisms are activated by properly selected injections. Thus, cybernetic control of systems takes place from within these same systems. This sophisticated perception of the position of the controller has certainly had a sobering effect on idealistic views on planning. The control of the planning agency (which functions as independent input for the system to be controlled and thus occupies an external position) can only activate the self-regulating mechanism of the system. Hence, cybernetic process planning is not a steering, but a following type of planning. According as the direction of the goals

The cybernetic definition of process planning differs from the description given in the Operational Research handbooks. Cybernetic process planning is based on a concept of control. It gives expression to a certain relationship between the control system and the self-regulating "process" in the system to be controlled. The Operational Research interpretation of process planning on the other hand relates to the progress of the "planning process". This school of thought endeavours to increase in particular the flexibility of planning processes (via cyclic phasing and continuous progress). The two interpretations may not be confused.
of the planning apparatus become further removed from the internal goal-seeking behaviour of the system, the basis for control becomes weaker still. The law of requisite variety watches over this principle and punishes "wishful thinking". With this nuanced perception of control cybernetics has once and for all made short shrift with the naive planning optimism, which was so characteristic of the initial attempts at planning theory, but the teleological basis for this relativization is --as will be seen in Sectors 3 and 5-- itself not without problems in a socio-political context.

In most cases the self-regulating mechanism does only come into action if slight "errors" have already arisen in the state of the system, which impede the progress of the system (common example: the operation of a thermostat).

\[
\text{Disturbances} \rightarrow \text{SYSTEMS} \rightarrow \text{Output of essential variables}
\]

Controlling Agency + Self-regulating mechanism

If the reaction of the system does not take place until after small disturbances have occurred, we speak of so-called error-controlled feedback. This way of feedback control (negative or positive) is generally characterized by its stepwise nature. The majority of disturbances namely occur in many stages, in which stimuli for feedback reactions are continually present. Moreover, the feedback regulator can be prepared for major disturbances on the strength of information concerning small disturbances. Here, the external planning apparatus can take action in two ways:

—Firstly, selective forecasting studies can now be carried out to foresee possible further disturbances in order, in this way, to narrow down the margins of uncertainty (selective attention with regard to system input).

—Secondly, it may be endeavored to activate the self-regulating mechanisms of the system. It is assumed that the controlling body has to its disposal technical instruments to set this mechanism in motion, its effectiveness being checked against certain output variables. As previously pointed out. Before, the direction of such control is indicated by the nature of the internal goal-seeking behaviour.

The strict interpretation of the cybernetic control method, strictly from the control point of view, is strikingly technocratic and in a social and political context unavoidably evokes legitimation problems. In actual fact a number of less strict interpretations of cybernetic control are now current, in which adjustments are made to the cybernetic method of control from, nota bene, the rational actor model. I cannot pay attention to this in the current context, while furthermore for the present discussion it is more important to clarify the scientifico-theoretical foundations of the pure system-cybernetic model. A brief remark will therefore suffice. The most striking tendency in this respect is the attempt to project the analyticorational stage of plan preparation (objects, analyses, policy alternatives, evaluations and the like) over system-cybernetic process monitoring. Composite constructions of this kind are highly confusing, because the underlying scientifico-theoretical principles in such "syntheses" are not discussed. And they are contradictory: the system-cybernetic method of control does not tolerate an analyticorational head of plan preparation. It has deliberately turned away from it. In these notes an as strict as possible interpretation of the system-cybernetic scientific programme is maintained, not merely in an attempt to avoid a confusion of tongues (as previously pointed out in introduction, the system-cybernetic flag covers many cargoes), but more in particular to ensure the purity of identity of the underlying, scientific concepts and specific principles.

3. NUANCES OF THE SYSTEM-CYBERNETIC BASIC MODEL IN THE SPHERE OF SOCIAL SCIENCES

Ever since the early sixties the possibilities of the system-cybernetic approach for applied knowledge and the remarkable perspectives for controlling complex systems have raised great expectations in the social sciences. A problem is, however, that the discussion moved rather too quickly from the scientifico-theoretical level to that of direct application. In fact, a number of fundamental problems have hitherto eluded discussion almost entirely.
The most important nuances applied relate to the nature of cybernetic teleology. Such authors as Deutsch, Beer, Dunn, Buckley, Schon, Argyris, etc. apply variants in the goal-seeking behaviour of systems: Under the pressure of serious disturbances the internal goal-seeking behaviour can be subject to change. This is referred to as learning processes. Living systems do not incline towards "direct self-preservation" under any circumstances, but exhibit a progression if conditions ask for such adaptation. In this respect attention is drawn to the "growth" of systems and a relation is established with "evolution" phenomena (initiated from external or internal disturbances). On the strength of these and similar additions with respect to goal-seeking behaviour considerable dynamics is actually imparted to the original teleological line of thought (which with Ashby is still very static), but the basic philosophy: the built-in tendency towards "survival" and "progress" of the system merely derives a firmer foundation from such nuances. The identity of the system as such is not made a subject for discussion.

This picture is anything but evident in the social sciences. As a matter of fact various other development possibilities have been brought into the discussion for quite some time now (regressive, dialectic, revolutionary, discontinuous models, etc.), while history has proved often enough that unlinear evolution theories have an extremely limited power of validity. A fascinating question is whether more fundamental adjustments could not also be accommodated in cybernetic teleology, so as to ensure that (to put it strongly) instead of systems inclined towards survival other systems tending towards self-destruction are also considered or that both forces are recognized in one and the same system (!). It is easier to pose this question than to answer it.

Fester is one of the few who has studied this problem. His criticism of cybernetic teleology is based on the same grounds: The perspective of a model oriented to a basic condition of survival rules out reflection on the system itself. In the adjustments of Deutsch and others evolutionary learning processes of the system are, in principle, regarded as reactive as a safeguard against unforeseen futures! Fester elaborates his criticism towards a constructive suggestion of a framework capable of being expanded in the direction of self-transformation. Later Fester was to associate this suggestion with the famous concept of "communicative planning". In Fester's proposal fundamental changes are the main concern in the development of the system. The dynamics for which room is created in this proposal certainly offers a better hold for the social sciences than the frameworks described earlier on. But Fester leaves off where the serious problems begin. The question is how such elaborations of cybernetic teleology can be performed without departing too far from the original context and from the accurately formulated principles of the system-cybernetic approach! The teleological premises constitute the essential mainsprings of cybernetic control. Such concepts as self-regulation, feedback control, planning strategy, etc. are essentially based on a specific teleological foundation. Therefore, if the "natural" teleological foundation is changed or weakened to the extent that at once all forms of goal-seeking behaviour (towards "survival" or "self-destruction") are considered possible, what basis would then remain for self-regulation, feedback control or planning strategy? This problem is not easy to solve.

A second nuance of the original system-cybernetic model as suggested at the time of its introduction in the sphere of social sciences relates to the denial of substantial explanations. Some are of opinion that the cybernetic type of efficient explanations present too little substantial insight into social processes. Especially in quarters of policy sciences it is emphasized that system-cybernetic knowledge passes by power phenomena [3, 4]. Hence, it is suggested in these quarters that the model could be supplemented with such substantial analyses. From other quarters as well attention is drawn to the need to add more substantial knowledge to the cybernetic paradigm. The problem of these approaches is that the scientifico-theoretical points of departure of the analytico-rational and system-cybernetic paradigm are mixed up. According as more substantial elements are added to the original cybernetic paradigm (why should one confine oneself to an analysis of the phenomenon "power" and not add concepts as internalization, socialization, alienation, etc.) the specific quality of the approach (i.e. quantitative forecasts of effective system behaviour on behalf of system control) will be lost more and more, while at the same time the "understanding" level of purely analytico-rational approaches remains out of reach. Hence, it is not advisable to mix the properties of different scientific programmes, because the specific useful value of each individual programme will then be lost. Each programme has its possibilities and limitations.

Instead of artificial mixing of methods of approach, I would suggest an elaboration of different science programmes of planning theory based on their own specific theoretical principles of knowledge and evaluated for different ways of use.

For the time being these variants from the angle of social sciences round off the discussion of the system-cybernetic approach. The final remarks (Section 5) will include an evaluation of this perspective for planning theory. But first attention will be given in the next Section to the perspectives of an entirely different science programme, which bears no relation to the system-cybernetic approach. This concerns the science programme of the sociology of knowledge, of which two classical subvariants are discussed. Like system-cybernetics, the sociology of knowledge applies very specific scientific concepts, which mutually differ in many respects. Planning theories, strategies and methods derived from the two paradigms display equally fundamental differences.

4. THE PERSPECTIVE OF THE SOCIOLOGY OF KNOWLEDGE

4.1 Two variants of the sociology of knowledge

Like system-cybernetics, the sociology of knowledge has a very firm basic structure, of which own specific planning theories, strategies and methods can be derived. Yet, the perspectives of the sociology of knowledge have remained practically unknown in the later development of planning theory (the basic principles of the sociology of knowledge date back to the beginning of the century, while planning theory presented itself as an independent discipline very much later). Its fame usually does not go much farther than Mannheim's notorious "synopticism", a comprehensive planning ideal, which is regarded—and not altogether without reason—with some disdain. But the sociology as knowledge has more to offer and Mannheim himself in the first place.

Two variants of the sociology of knowledge are discussed. They concern the so-called American and Euro-
Dewey were responsible for its sociological elaboration. In present-day sociology Mead's work especially is of great influence (see, for example, "symbolic interactionism"), because he was successful in laying down his views on knowledge in a sound theory. In this respect Dewey must definitely give way to Mead. Yet, in the context of the present discussion a connection is sought with Dewey, because it was he who very expressly associated the theoretical component of knowledge with the component of meaning giving on the one hand and with the action component on the other. Dewey's theory is the theory of "meaningful and capable action", the basic pattern for planning theory. The so-called European variant is much less of one mind and also more difficult to delineate. The origin of this school lies in 19th-century philosophy and sociology. This article links up with the manner in which Mannheim deals with the Marxist and Weberian tradition.

The choice of two classical variants implies that some elements have meanwhile proved either outdated or inadequate for present-day problems. This limitation applies to various elaborations by Dewey, but also to some by Mannheim. With the latter the limitations apply, paradoxically, precisely for those moments at which in his later period ("Man and Society") he explicitly expresses himself on planning (what I have to say will, therefore, be based especially on the specific explanations in respect of the sociology of knowledge in Mannheim's earlier works). Nevertheless, both approaches are characterized by a surprising unity of basic conceptions, of which the structural lines possess a special topicality for the current problems in planning theory.

The ideas of Dewey and Mannheim are imbued with the relativity of human knowledge. The effort to achieve "perfect certainty" creates false alibis in a world of uncertainty, as Dewey puts it, while instead he gives the action dimension a central position in knowledge processes. Mannheim on his part emphasizes the need to recognize the partiality of all knowledge and elaborates this point of departure into a theory of perspectivistic knowledge.†

Both authors thus reject the absolute significance (and application!) of human knowledge in what is, in principle, an unknown world. In the sociology of knowledge processes of thought and knowledge are related to a social and changeable context. The unimpeachable and universal products of thought of traditional philosophy are renounced. Knowledge is no longer exclusively a result of the thinking individual, but in the sociology of knowledge both reflective moments (thought and knowledge) are associated with a worldly context which in different theories are elaborated into different concepts of "existential determination" (Seinsverbundenheit). It is perhaps Dewey who wages the strongest opposition against the rational philosphies, which had remained unassailed for so long. He speaks in this connection of the necessary pragmatization of thought and knowledge. Dewey's pragmatization proceeds in two directions: on the one hand the emphasis lies on the antecedents of knowledge ("existential determination"), i.e. knowledge is placed in a real world of actions, while on the other hand knowledge itself initiates new actions (with this second pole, the action dimension, Dewey comes to his most striking pronouncements). Thus, Dewey's pragmatization appears as a continuous process of action, reflection and action and new reflection and action. With Mannheim we find the same unity of basic concepts. The concept of "existential determination" and the action dimension are the subjects of the next two sub-sections (4.2 and 4.3). In the final subsection (4.4) a relationship is established with a third key concept in the sociology of knowledge: the normative component.

4.2 The first dimension: "existential determination" of thought and knowledge

Unfortunately, Dewey has failed to substantiate convincingly the theoretically important concept of "existential determination". In effect, the greater part of the criticism which his sociological method has attracted can be brought down to this problem. What Dewey's proposal briefly amounts to is that action and reflection are placed in the process of interaction between man and nature. In the permanent struggle with the surrounding forces of nature man is invariably faced with new problems, demanding new insight and new solutions. In this type of knowledge any problem is as important as the next and no attention is given to structures of a human (instead of natural) world, while the main emphasis of the analysis lies on the acting, atomized individual, etc. The criticism is just a little too obvious. As pointed out before, Dewey's kindred soul, the pragmatist Mead, elaborated this knowledge component more precisely in his theory of "symbolic interactions". The sophistication of Dewey's method would stand out to greater advantage on the other side of pragmatization (the action dimension).

Unlike Dewey, Mannheim does throw all his energy into the first site of pragmatization. In this respect Mannheim elaborates a special type of perspectivistic knowledge from a critical reflection of the marxist ideology concept. In everyday usage the concept of ideology has a somewhat contaminated meaning. One speaks of ideology if there is question of unreliability in someone's behaviour. Referring to someone's ideology is an unmasking activity and amounts to referring to a certain consciousness. The consciousness in which human thought and knowledge take place has been elaborated in philosophy into one of the main themes of the theory of knowledge. This is not a matter of superficial unmasking, but the theme of consciousness is related to the total mental structure of the individual (total "Weltanschauung"). Originally, the philosophical attention remained confined to the philosophical history of thought, but the materialists added a social dimension. It is here that thought and knowledge processes find their foundation in collective historical experiences. Mannheim tends to connect up with the latter version of the theory.

†The problem of uncertainty is thus not a discovery made in system-cybernetics, as is suggested in some handbooks.

The sociology of knowledge is equally imbued with the relativity of human knowledge in a complex world. The difference between the two approaches does not, therefore, lie in the perception of uncertainty, but rather in the different ways in which this problem is approached. The answer of cybernetics is that the object is to achieve certainty after all by lowering the quality of the knowledge level (reduction to registration of effective relations). The sociology of knowledge on the other hand indeed endeavours to discover relations of understanding, but then adds as a consequences that the understanding acquired is indeed partial.
of ideology, but elaborates it in his own way. In the Marxist theory of knowledge the weapon of ideology is presented as the privilege of a single class. Mannheim puts it, however, that one cannot brand everybody else as ideological from one point of view without placing oneself in the same position. Seeing that Mannheim permits of various, mutually opposing points of departure and thus renders the position of the thinker a relative one, he rises the concept of ideology, characterized as unmasking, to a new and general principle of knowledge. So as to avoid confusion with ideological thought Mannheim speaks of perspectivistic knowledge. Knowledge is essentially partial. It originates and develops in relation to certain collective experiences, social situations and the specific Weltanschauungen (philosophies of life) which accompany it.

In this connection Mannheim has made remarkable studies of the liberal, fascist and socialist “Weltanschauungen”. The actual subject of the sociology of knowledge thus becomes the onesidedness of observation and experience. Knowledge is associated with the “social situation” of the observer and must be judged from this perspective. (It should be pointed out by the way that Mannheim’s often sociological definition of the “social situation” ought to be extended by a structural and institutional dimension.

The relational nature of Mannheim’s type of knowledge implies that different perspectivistic segments of social reality stand alongside and opposite to each other and that they can also overlap, thus excluding an objective and absolute form of knowledge, validity and truth in this conception. This observation does not imply that perspectivist knowledge can lay no claim whatsoever to validity and truth, but what it does amount to is that the conditions under which perspectivistic pronouncements are made must be closely watched.

4.3 The other side of pragmatization: the action dimension

Dewey concentrates first and foremost on the action dimension. He replaces the quest for certainty in traditional philosophy by the search for possibilities of control. Dewey, however, was so obsessed by the absence of the action dimension in traditional philosophy that in his own method he subordinated all other components to the category of action. In this way thought and knowledge acquire a derived function and these concepts become purely instrumental to the required actions. Dewey does not believe in pre-existent knowledge, which fulfills an independent function. Knowledge must grow towards completion via practical experimenting and can only be judged on the strength of the practical results of the actions to which it gives rise. The reflective moments of the process of knowledge serve to set out the problems more sharply and thence to suggest new solutions by trial and error. Via “thought” (varying from loose ideas to complete theories) a more rational perspective can possibly be given to relatively blind actions, but the test ultimately lies in the results. Knowledge processes in themselves imply actions. The method of action research designed later can find useful support in Dewey’s pragmatic theory formation. Dewey’s “observer” actually participates in the reality he investigates and the significance of his knowledge will have to be demonstrated experimentally. To Dewey knowledge is a process of discovery about which no certainty exists or can exist beforehand. The resulting planning strategy is, logically and deliberately chosen, one of trial and error and has many points of agreement with the “muddling through” formulated in later planning theories. It is the consequence of an approach governed right from the start by the idea of direct actions. Dewey pursues this unity between knowledge and action so far that even criteria of “validity” and “truth” are found in the results of actions. If knowledge provides the answer to the problem is question, it is “true” and “valid”. If it does not, it is worthless. “That which guides us truly is true.”

On the one hand this is a stimulus for researchers to bear action-perspectives constantly in mind, but on the other hand such unity is presented in a much too absolute sense, if knowledge derives its function exclusively from practical results.

Like Dewey, Mannheim also considers the pragmatization of thought and knowledge in two directions. Action is not purely presented a rational consequences of the thinking individual, but processes of thought and knowledge are themselves also placed in a context of observation. (The sequence is action, reflection, action.) Individualized and independent thought and knowledge can be regarded as exceptional. The greater part of thought and knowledge originates from collective actions and the power of the collective unconscious cannot, therefore, be denied. In this connection Mannheim introduced perspectivistic knowledge. Via the method of knowledge this sociology of knowledge aims to involve parts of the irrational origin of thought in the scientific analysis; and from the scientific analysis in political action. Social processes, but also unconscious motivations and suppositions, must be perceived in order to enable them to be controlled. At this interface between irrational actions and theoretical knowledge Mannheim localizes his “rational” action perspective: planning. Planning is situated in the historical course of actual movements, as well as of processes in the field of force of the collective unconscious. This planning is not an idealistic, external control, but expressly seeks to connect up with processes taking place in reality.

In this connection a brief comparative remark would be in place with respect to the relationship between theory and practice in the system-cybernetic approach. In both science programmes the position of the controlling person or institution is related to social processes. In the system-cybernetic approach this development of the “system”, however, is presented as a “natural” process (“survival”, “evolution”). Mannheim’s sociology of knowledge on the other hand tries to “understand” the social context in an ideological and (to a lesser extent) structural sense. Mannheim takes the view that it should be possible to establish the social prime movers (the “principia media”) of a given period and to find in them strategic action points for control. As regards the unity between knowledge and action Mannheim, unlike Dewey, places the emphasis on a given manner of knowledge. In this more or less rational guidance for action perspectives is to be found. Mannheim’s planning makes use of indirect control, a type of control which moreover is of a socio-psychological character. Hence, it is a method of control which for this reason alone demands very accurate legitimation.

Mannheim’s view on planning acquire a doubtful character in my opinion when he later speaks of comprehensive planning coupled with a “massive state”. The basic idea is that different perspectivistic segments of social reality can be synthesized to a comprehensive
whole on the strength of which control activities can be undertaken. Such an abstraction process presupposes an unattached position of the central system over and above the parties. This position is little realistic and has a veiling effect in the end. Apart from the fact that the central planning system has itself a certain identity in the social, ideological and structural field of force (amidst other more or less "controlling" parties), it is further so that this synthesis of different perspectives should not in the first instance take place in a system of planning agencies, but must via confrontations acquire form on political and social platforms.

4.4 The third dimension: normative processes

Apart from the "existential determination" of thought and knowledge and the unity of these concepts with the action dimension, it is necessary also to discuss "the normative" component as a last structural component in this context. Dewey elaborates the "normative" component in a concept of instrumental ethics, forming an integral part of his experimental method. This discussion can be brief, because the ethical guidelines in the process of knowledge and action are subject to the same instrumentalization as the ideas and theories already described. Dewey has no confidence in the independent existence of universal, exalted Ethics. Such Ethics function as an alibi for failing action and, in effect, create a separation between theory and practice and between objectives and means. Entirely in line with his method Dewey places opposite intrinsic Ethics a concept of *instrumental* ethics, i.e. ethics as a motto for action, ethics as method. Like the knowledge process, the origin of these ethics lies in a problematical relationship between man and the surrounding forces of nature while again the usefulness and meaning of the ethical guidelines must become apparent from the results of the action process. Thus, in ethics the action dimension is once more already included. Taking into account the remarks made previously, pragmatic ethics constitute a useful suggestion for planning theory, but in my view Dewey takes instrumentalization rather too far when he reads his motto also the other way round and draws the conclusion that without action ethics would be impossible.

Mannheim also considers the possibility of involving normative processes in his perspectivistic knowledge. The voluntaristic element can then be kept in or out of knowledge processes:

—in the *non-normative* analysis the method remains confined to demonstrating the association between intellectual point of view and social position. Value and object-tied elements are removed from the object of knowledge as possible. The object of this method is to acquire insight into the mutual connectedness of things and the narrowness of individual standpoints. The transition from non-normative to evaluative studies often proceeds unnoticed (this is something which even the advocate of non-normative science, Max Weber, experienced in his own socio-historic studies). Qualitative studies of social and political processes can hardly be divested of normative moments. For this reason Mannheim gives close attention to a method in which room is explicitly created for normative elements.

—the *normative* analysis is very suitable for acquiring knowledge which is only accessible from a specific social perspective. Social and political knowledge are mostly in a process of "becoming". The whole of collective objects and interests of which an individual forms part fulfills a function in this process of creation. The perceiver is not an observer, but actively participates in the process perceived. Decision and standpoint form an integral part of this type of knowledge. In such cases the interests, the normative moments and the "Weltanschauungen" cannot be divorced from the product of thought.

5. SCIENCE PROGRAMMES AND PLANNING THEORY: FINAL REMARKS

As suggested in the introduction planning theory is gradually detached itself from the formal frameworks which dominated in the recent past. The view that it is possible to develop from different paradigms also entirely different theories, strategies and methods is more and more accepted. The exploration in the present study confirms this trend. An exploration of only two science programmes brings me to the conclusion that the existence of different planning theories must be recognized, while it would seem to me that further research on an even greater theoretical planning variety would moreover be highly beneficial if not necessary. Earlier attempts to design an overarching planning theory used to reduce attention exclusively to the procedures of planning processes, while substantial studies were kept separated as "field explorations". In my view a separation of this kind rests on a scientifical-theoretical error. A point which is overlooked is that different science programmes are based on different theoretical principles (with respect to meaning-giving, knowledge and action), involving very specific procedures of their own.

It is advisable instead to study different theoretical planning perspectives for their specific scientifical-theoretical principles and then evaluate them for the different ways of use. The evaluation will recapitulate the differences.

5.1 Evaluation of the two science programmes on the basis of the object of planning theory

5.1.1 The tension between "what is" and "what ought to be". In the system—cybernetic model the tension between "what is" and "what ought to be" receives an exceptionally striking, albeit sometimes paradoxical, treatment.

The "controller" (the controlling person or body) functions as independent input of the system to be controlled, i.e. he takes up an *external* position. Cybernetic handbooks do not speak of the identity of the "controller", and exclusively deal with the strictly technical aspects of control. In socio-scientific elaborations of "cybernetics" the controller is usually identified with the central control positions of the system concerned: the top management in industrial organizations [5, 6] or the government control in social systems (Deutsch[7] and other authors). The controller is, in principle, able from his own external position to introduce own objectives into the system, but as will become evident his margins are narrow. The tension between "what is" and "what ought to be" is also present in the system to be controlled. Internal goal-seeking behaviours bring into operation self-regulation mechanisms in order to react on the "errors", which have occurred as a result of disturbances. The original assumption is that the objectives of the external controller and the internal goal-seeking system behaviour are in alignment. The enormous control perspectives of cybernetics are based on this principle of
effectiveness and of probabilism we considered already knowledge. In the relationship between knowledge pro-
tural context and thus finds himself in the same knowledge. Re-
ached from another direction. Position, which the cybernetic controller had already astrated from a position over and above parties. Mann-
applicable in this process of "particularizing" abstractive
essential partial knowledge leads to a
heim's view of planning as well. On the one hand his
ing, reconstruction instead of construction.
between theory and practice thus does not result in
tension between "what is" and "what ought to be" and
taken in close relationship with social processes. The
analysis. Tractable analyses of situations, collective
experience and Weltanschauungen, capable of being
red at all times. The control activities are under-
taken in close relationship with social processes. The
tension between "what is" and "what ought to be" and
between theory and practice thus does not result in
wishful thinking. Planning is recreating instead of creat-
ing, reconstruction instead of construction.

Nevertheless, an inconsistency has crept into Mann-
heim's view of planning as well. On the one hand his
esential partial knowledge leads to a relational analysis
of reality (Weltanschauung, social situation), but in his
later work on the other hand he admits of a comprehen-
sive synthesis of perspectives, on the strength of which
the controlling body (i.e. the government) exercises con-
rol. His relational argument is apparently no longer
licable in this process of "particularizing" abstrac-
tion. All of a sudden partial perspectives can be ab-
stracted from a position over and above parties. Mann-
heim's controller rises above the ideological and struc-
tural context and thus finds himself in the same external
position, which the cybernetic controller had already
reached from another direction.

5.1.2 "What is" and "what ought to be", thought and
knowledge. With the method of explanation in terms of
effectiveness and of probabilism we considered already
important aspects of the nature of system-cybernetic
knowledge. In the relationship between knowledge pro-
cesses and the field of tension between "what is" and
"what ought to be" the cybernetic approach opts for the
non-normative method. This implies that value and
objectrelated elements must as far as possible be eli-
minated from the object of cognition (as otherwise the
transition to normative knowledge inadvertently takes
place only too soon). This condition sets few problems
for the system-cybernetic method, because the selective
attention is in any case exclusively directed to effective
system transformations on the strength of the need for
quantitative forecasts. These forecasts, however, do of
course take place in a normative context. The political
options precede the forecasts.

Dewey and Mannheim elaborate the essence of thought
and knowledge processes according to a concept of exist-
tial determination. In the relationship with the field of
tension between "what is" and "what ought to be" the
two variants of the sociology of knowledge do indeed
present openings for normative cognition: Dewey via his
concept of instrumental ethics and Mannheim via his
ideal-typical constructions "ideology and utopia". Poli-
tical development process in particular embody im-
portant parts of knowledge which are solely accessible
from a certain viewpoint - Weltanschauung, as Mannheim
puts it. A necessary condition then is, of
course that these moments of choice are clearly made
explicit.

5.1.3 "What is" and "what ought to be", thought, knowledge and action. When the relations between
"what is", "what ought to be" and knowledge (the inde-
pendent category of "thought", the role of ideas and
theories actually only appears in the models of Dewey
and Mannheim) are supplemented by adding the final
action dimension, the picture of the differences in plan-
ing strategy is complete. As centres of crystallization of
the different approaches then appear successively the
cybernetic "error-controlled feedback", Dewey's "in-
telligent action" and Mannheim's "principia media".

The main idea of "error-controlled" feedback is that
the self-regulating mechanisms react in order to correct
"errors", which have occurred in the positions of the
essential system variables as a result of disturbances.
The external controller can activate the self-regulating
mechanism, if he expects even more serious disturbances
on the strength of prognoses. The tension between "what is"
and "what ought to be" is present in the behaviour of
the controller and in the internal goal-seeking system
behaviour. The relationship with knowledge processes is
present in the selective forecasts (aimed at possible
further threats to the system and initiated as a result of
minor errors, which have already occurred), while on the
other hand knowledge processes are now also related to
actions of the controller: by suggesting in the first place
possibilities of coupling between controller and self-
regulation (the controller has manipulation facilities at
his disposal, "recipes" to activate self-regulation) and
in the second place by checking the effectiveness of such
"blind" control operations against a number of feedback
variables. This feedback control is, in other words a
strictly engineering form of process monitoring. Unlike
in the case of the procedures of the analytico-rational
model, no memoranda of goals, no substantial analyses,
o scenarios, no alternative policy models, no evalua-
tions of the above-mentioned processes be expected from the controlling body, but instead selective
forecasts and on the strength thereof points of departure
for control operations. These operations as well are not
analysed for their social consequences, but for their
effectiveness. If the operations turn out the wrong way, a
signal will be received automatically and new operations
can be tried.

The two centres of crystallization from the point of
view of the sociology of knowledge are characterized by
differences in accent. In Mannheim’s “principia media”
the emphasis lies on perspectiveivistic knowledge, while in
Dewey’s: “intelligent action” it lies on the action dimen-
sion. But in both concepts the relations between the five
dimensions of the object of planning theory converge.

5.2 An interpretation of limitations and possibilities for
use
Reverting to the discussion of two science program-
mes the conclusion may be drawn that they result in two
kinds of planning theory, which on essential components
such as meaning-giving, knowledge and control apply
entirely different points of departure and methodological
procedures.

Judging by the scientifico-theoretical criteria for-
ounced on the strength of the specific object of planning
theory both schools of thought may be regarded as sound
references for planning theories. But on the strength of
these criteria it was also possible to observe the
differences in style and identity. The sharply outlined
identity of the two approaches includes directly the
specific possibilities and limitations for use in planning.
These theoretical assumptions must be taken into
account when searching for possible applications. The
limitations of the system-cybernetic perspective have
been discussed with some emphasis on account of the
popularity of the approach and in view of the absolute
pretentions allocated to it in a large part of planning
theory. It is an original and particularly coherent ap-
proach, but also one which precisely on account of its
special identity is totally unsuitable to fulfill a framework
function in social planning. Two categories of arguments
stand in the way of the above use of the system-cyber-
netic perspective:

—In the first place there are the transformation prob-
lems of a method of approach, which—without remarkable
adjustments—was transferred from the “exact” to the
social field of study. In the sphere of social sciences the
approach simply fails to stand up to the consciously
chosen challenge of complexity and uncertainty, the
quantitative character, the calculations regulating poten-
tial, etc. The social reality is too fickle for a system-
cybernetic cure. I have discussed this category of more
or less technical arguments somewhat more extensively
elsewhere (Planning Theory in Perspective, 1979). Special
attention was given there to the excellent criticism
by Berlinski[8].

—The second category of arguments attacks the
framework function of the system-cybernetic method of
approach on a more fundamental basis, because it relates
to the scientifico-theoretical principles. The centre of
crystalization of the system-cybernetic science pro-
gramme is the “error-controlled feedback”. Normative
processes, knowledge processes and control processes
(three main pillars of planning theory) are integrated in
this feedback principle. The feedback behaviour is based
on a teleological mechanism, which is presented as a
“natural” principle. In this framework the object of mean-
ing-giving, knowledge and control are identified, in prin-
ciple, with such intractable “natural” principles as “sur-
vival”, “growth” and “evolution”. Quite apart from the
content of the assumed natural behaviour of certain
systems the teleological point of departure is in itself an
unstable base to rely upon in a social and political
context. Social planning takes place in a context of
human structure and perspectives, which guide the
developments of social systems along certain courses.
Systems-cybernetic teleology does not seek to link up
with such social factors.

Hence, the possibilities of the system-cybernetic science
programme for social planning could better not be sought
in the function of general framework. Parts of this
approach such as the capacity to perform efficient fore-
casts, can, of course, certainly be used under certain
conditions. As a reasoning model the cybernetic model
raises interesting items for planning in a social context,
but as an application model it is unsuitable in its present
form.

The control rationality of the system-cybernetic ap-
proach stands in sharp contrast to the analytical
rationality of the sociology of knowledge. In cybernetic
teology the object-orientations of systems are regarded
as natural data. The system-cyberneticist does not
attempt to understand societies in terms of the social
structure, but confines himself to “monitoring” these processes. The
sociology of knowledge on the other hand is a prototype
of the Rational Actor Model. Action perspectives are
rationalized from constantly changing, but continuously
and specifically localized object-assessments and from
substantial analyses. Actions are motivated and identified
from these rationalizations. Insofar as survival or self-
destruction tendencies of social systems present them-
theselves in this approach, they are immediately related
to social action patterns. I am of opinion that planning
processes situated in a social and political context must
conform to the basic structure of the Rational Actor
Model, because the actions of planning bodies can only
be justified on the strength of political arguments and
concrete analyses (in the same way as for that matter
decisions not to plan can be justified on these grounds).

This standpoint is not so obvious as one might be
inclined to think in the first instance. On the strength of
empirical studies various researchers have come to the
conclusion that the behaviour of complex organizations
often by no means proceeds in accordance with such
rational patterns (see for example, Allison’s thorough
analysis of the rocket crisis in Cuba[9], studies by
Steinbruner[10], Halperin[11], etc.). These authors point
out that in the practice of complex organizations the
Rational Actor Model meets with numerous restrictions.
It is observed, for example, that:
—processes of object-assessment, analytical process-
ing and actual actions of complex organizations proceed
in almost independent circuits and can by no means
always be brought about completely in line with each
other;
—the rationalizing processes are disturbed by a variety
of irrational elements; the behaviour of organizations is
even more incomprehensible than that of individuals;
—analytical rationalizations do too little justice to
complexity problems, etc.

The objections are serious: The structures of Rational
Actor Model cannot offer certainty, but with all their
limitations they do present the only conceivable foothold
that can be adhered to for the theory of planning processes
in a social and political context. Politicians must base
their decisions simply on political and analytical
arguments. The recommendations of cybernetics to eliminate the basic structure of the Rational Actor Model (in favour of a model along cybernetic lines) would appear to me only to lead from bad to worse, because it does not give solutions at all for above named problems. Social reality is no black box, which can be experimented upon.

The approach according to the sociology of knowledge is one of the paradigms that can be qualified as rational action models. In my view this approach, therefore, certainly offers more perspectives for the development of theory formation with respect to social planning processes than the system-cybernetic paradigm.

It must be pointed out here immediately that the sociology of knowledge is not the only suitable perspective and that in planning practice different scientific programmes can be used one alongside the other. There is no objection to this at all, provided one realizes the consequences of the underlying presuppositions and care is taken to ensure that no mixing of specific uses takes place. Another point that should be made here concerns the fact in this text only two variants of the sociology of knowledge are discussed, whereas the sociology of knowledge itself is no objection to this at all, provided one realizes the consequences of the underlying presuppositions and care is taken to ensure that no mixing of specific uses takes place. Another point that should be made here concerns the fact in this text only two variants of the sociology of knowledge are discussed, whereas the sociology of knowledge itself.

The characteristic feature of such planning is that knowledge initiates new action. Mannheim worked out this basic pattern in his "comprehensive planning". The idea is that it should be possible to integrate the perspectivist segments of reality into a single pattern (synthesis of "principle media") on the strength of the reflective moments (in particular the concept of "existential determination") leaves room for improvement, as a result of which his trial-and-error method acquires too arbitrary a character and the action dimension is represented too absolutely. In the later development of the sociology of knowledge these theoretical refinements have for that matter already taken place to some extent[12-16]. Recent injections also emerge from the philosophy of language.

Mannheim's elaborations are already more plausible, but his concept of existential determination as well must be extended by a structural component. In addition, he works out (such in conflict with his own relational cognition?) a suggestion of comprehensive planning, which in the present context cannot be deemed particularly realistic.

5.3 Final remarks: Openings from the perspective of the sociology of knowledge

The last observations made with respect to Mannheim's concept of planning can be elaborated into a constructive suggestion. In actual fact the perspectivism of the sociology of knowledge already provides the elements for a more realistic style of planning. Mannheim's specific elaboration towards comprehensive planning is definitely not a necessary consequence of the theory of the sociology of knowledge. It is more likely a suggestion of the thirties, which more and more found itself in the hold of fascism. The hope of a justified and democratic comprehensive planning was perhaps naive in that context, but certainly understandable. For a short while the conditions for such a planning concept seemed present during the rise of the welfare states after World War II. But in the meantime new breaches have occurred in initial, postwar, social consensus on the structure society, causing the basis for such an ideal typical style planning to be lost.

The role of the state is once more put up for discussion, its planning is no longer accepted without question. In the more recent planning literature the legitimacy of planning is questioned more and more. Attempts at being made to place planning more expressly in a plural form, social context. Etzioni's "active society" is an example of this, as is the concept of "communicative planning". Both these concepts constitute attempts to open up planning in relation to social processes. It is true, nevertheless, that both concepts are still related to a system-cybernetic planning framework (with all the inconveniences this entails).

In addition, there are the so-called dialogue models, of which Friedmann's "transactive planning" is an example. It is more difficult to determine the theoretical planning reference of these models. Within the scope of this article it is impossible to indicate more than just a trend in the planning literature have meanwhile come to belong to classical sociology. The motive underlying this choice was that precisely these classical explanations in the sociology of knowledge made it possible to bridge the main pillars of the object of planning theory with fundamental scientific perceptions. They indeed fulfilled this promise. Judging by the scientific-theoretical problems with respect to planning both subvariants of the sociology of knowledge offer an attractive and full perspective for planning theory. But as far as conceptual design of the theoretical level is concerned there are still some blanks that require to be filled. This is especially true for Dewey, whose design of the reflective moments (in particular the concept of "existential determination") leaves room for improvement, as a result of which his trial-and-error method acquires too arbitrary a character and the action dimension is represented too absolutely. In the later development of the sociology of knowledge these theoretical refinements have for that matter already taken place to some extent[12-16]. Recent injections also emerge from the philosophy of language.

Mannheim's elaborations are already more plausible, but his concept of existential determination as well must be extended by a structural component. In addition, he works out (such in conflict with his own relational cognition?) a suggestion of comprehensive planning, which in the present context cannot be deemed particularly realistic.

The characteristic feature of such planning is that knowledge initiates new action. Mannheim worked out this basic pattern in his "comprehensive planning". The idea is that it should be possible to integrate the perspectivist segments of reality into a single pattern (synthesis of "principle media") on the strength of which this reality is then controlled. In effect, Mannheim uses an artifice in this abstraction process, which pushes aside the principles of his own relational perception. A comprehensive planning of this kind presupposes a rationalization and control position over and above the parties, which does not exist in practice.

Apart from the fact that planning bodies (e.g. governmental organizations) are internally divided in horizontal and vertical patterns, each having its own scope and responsibility, it is also essential that in a social context the presence of other rationalizing and (more or less) controlling parties should be acknowledged. A social reality of this kind receives greater attention in a concept of confrontation planning. Assuming a pluralistic society confrontation planning recognizes the essentially perspectivist nature of social reality. Unlike Mannheim's planning, the "synthesis" of perspectives is
not brought about in a control apparatus standing above the context, but in a social confrontation between the different stand-points themselves. In this connection Horowitz makes the statement that "pluralism is separa-
ot brought about in a control apparatus standing above

not the hidden hand of

context, but in a social confrontation between the

stand-points themselves. In this connection

concerned) is itself one of the parties with a clearly

far as the productive and not the arbiter function is

in a social field of force, in which the government (for so

different stand-points) is itself one of the parties with a clearly

established interest of its own. Confrontation of different

platforms. Planning is

conflicts and concrete agreements. Parliamentary politics

merely constitutes the tip of the iceberg of these social

platforms. Planning is opened up with respect to current

social movements (with all its conflicts and opposing

interests) and the central apparatus formerly placed

above the parties exhibits an identity of its own in this

structural and ideological field of force.

REFERENCES

1. K. Laudon, Computers and Bureaucratic Reform. Wiley, New


2. J. Friedmann and B. Hudson, Knowledge and action, a guide to

planning theory. JAIP, (Jan. 1974).


Vierteljahrschrift 7(1), (1976).


(1976).

9. G. Allison, The Essence of Decision. Little Brown and

Comp., Boston (1971).


11. M. Haipern, Bureaucratic Politics and Foreign Policy. The


13. N. Elias, Sociologie en Geschiedenis. Van Gennep, Amster-
dam (1971).


16. A. Giddens The Class Structure of Advanced Societies.


18. J. Dewey, Reconstruction in Philosophy, 7th Edn. The


19. K. Mannheim, Essays on the Sociology of Knowledge. Rout-


22. C. Argyris and D. Schon, Organizational learning: a Theory of

Action Perspective. Addison-Wesley, Reading, Mass

(1978).


24. W. Buckley, Sociology and Modern Systems Theory. Prentice

Hall, New York (1967).

25. W. Buckley, Modern Systems Research for the Behavioural


27. E. Dunn, Economic and social development: a process of


York (1965).


30. F. Fester, Vorstudien zu einer Theorie kommunikativer


(1973).

32. J. Friend and W. Jessop, Local Government and Strategic


33. H. van Gunsteren, Politiek Nieuws van het Planningfront.


34. W. James Pragmatism and Other Essays Washington Square


35. A. M. J. Kreukels, Planning en Planningproces. Vuga, Den

Haag (1980).

36. Th. Kuhn, The Structure of Scientific Revolutions. University of


51(2), (1963).

38. G. Novack, Pragmatism Versus Marxism. Pathfinder Press,


Planning Agency, Study report nr. 16. Staatsuitgeverij, Den

Haag (1980).

40. B. Tromp, De Samenleving als Oplichterij. De Arbeiderspers,

Amsterdam (1977).


42. N. Wiener, The Human Use of Human Beings. Cybernetics


APPENDIX

A schematical overview of concepts

As the text is set up in mainlines from three angles the results
can be indicated by the construction of two crosstables. The
three dimensions involve:

(1) Paradigms. Two paradigms are analyzed: The system-

cybernetic paradigm (Table 1) and the paradigm of the sociology of

knowledge (Table 2).

(2) Science programmes. Both paradigms are analyzed at three

levels. The three levels are:

—the meta-level (scientifico-theoretical principles);

—the theoretical level (sets of theoretical statements);

—the applied level (practical research and action).

(3) The object of planning theory. The analysis is concentrated on

the essential and interrelated dimensions of planning theory

(the tension between "what is" and "what ought to be", "thought", "knowledge" and "action"). For sake of simplicity the schemes are shorted to:

—what is/what ought,

—reflection,

—action.
### Table 1. The System Cybernetic Paradigm

<table>
<thead>
<tr>
<th>Level</th>
<th>Metalevel</th>
<th>Theoretical Level</th>
<th>Applied Level</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>What Is</strong></td>
<td>- External controller</td>
<td>- Patterns of surviving models</td>
<td>- System adaptation</td>
</tr>
<tr>
<td></td>
<td>+</td>
<td>- Inclusive learning</td>
<td>- Communicative planning</td>
</tr>
<tr>
<td></td>
<td>Cybertic teleology</td>
<td>- Efficient explanation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(goals seeking behaviour)</td>
<td>- Systems approach</td>
<td></td>
</tr>
<tr>
<td><strong>Reflection</strong></td>
<td>Efficient explanation</td>
<td>- Systems approach</td>
<td>- Systems approach</td>
</tr>
<tr>
<td></td>
<td>(dissociate from</td>
<td>- Varieties (entropy and information)</td>
<td>- Quantitative registering models</td>
</tr>
<tr>
<td></td>
<td>substantial knowledge)</td>
<td></td>
<td>- Test and refinement methods</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Action</strong></td>
<td>Efficient explanation</td>
<td>- Feedback (negative and positive)</td>
<td>- Cybernetic process planning</td>
</tr>
<tr>
<td></td>
<td>(dissociate from</td>
<td>- Accent on ‘error-controlled’ feedback</td>
<td>- Monitoring as overall strategy</td>
</tr>
<tr>
<td></td>
<td>substantial knowledge)</td>
<td>- Law of the supplementation</td>
<td>- ‘Failure’ planning (preventing</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>catastrophes)</td>
</tr>
<tr>
<td></td>
<td>- Probabilistic</td>
<td>- Cybernetic process planning</td>
<td>- Recipes (Simon)</td>
</tr>
<tr>
<td></td>
<td>(with respect to</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>uncertainty and complexity</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Table 2. The Paradigm of the Sociology of Knowledge (Two Alternatives: Dewey and Mannheim)

<table>
<thead>
<tr>
<th>Level</th>
<th>Metalevel</th>
<th>Theoretical Level</th>
<th>Applied Level</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>What Is</strong></td>
<td>Mannheim: Ideology and utopia</td>
<td>Action oriented problem structuring</td>
<td>Methods for problem structuring</td>
</tr>
<tr>
<td></td>
<td>Mannheim: Weltanschauung</td>
<td>Dewey: Natural reason; individualism and structures</td>
<td>Planning as reconstruction</td>
</tr>
<tr>
<td></td>
<td>Dewey: Instrumental ethics</td>
<td>Mannheim: Principia media (social situation, intermediate factors)</td>
<td>Process planning</td>
</tr>
<tr>
<td><strong>Reflection</strong></td>
<td>Mannheim: Existential determinism of knowledge</td>
<td>Mannheim: Principia media (social situation, intermediate factors)</td>
<td>Participative knowledge</td>
</tr>
<tr>
<td></td>
<td>- Existential determinism of knowledge</td>
<td>Dewey: Logic of Discovery</td>
<td>Action research</td>
</tr>
<tr>
<td></td>
<td>- Existential determinism of knowledge</td>
<td>Mead: Symbolic interactions</td>
<td>Dewey: Practical engineering</td>
</tr>
<tr>
<td></td>
<td>- Existential determinism of knowledge</td>
<td>Elias: Social configurations</td>
<td>Mannheim: Synthesis from particularisation and abstraction</td>
</tr>
<tr>
<td></td>
<td>- Existential determinism of knowledge</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Action</strong></td>
<td>Rational Actor Model</td>
<td>Dewey: Method of experimentation</td>
<td>Methods for problem solving</td>
</tr>
<tr>
<td></td>
<td>(Actions rationalised from goals and reflection)</td>
<td>Mannheim: Action perspectives included in knowledge</td>
<td>Strategy of trial and order</td>
</tr>
<tr>
<td></td>
<td>Dewey: Intelligent action</td>
<td></td>
<td>Comprehensive planning strategy (synopticism)</td>
</tr>
</tbody>
</table>