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FIRST GENERALIZABLE DECISION PROCESS MODEL: GDP - I

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PREAMBLE

Below we present a (hopefully) generalizable decision process model, synthesized in part from a sizable collection of on-line verbal protocol observations taken from decision makers who were solving problems in a simulated management (game) environment, but which has now been related more directly to a set of interview field-observations of graduate student decision-makers (Dms) in the process of planning their occupational career and selecting their organization in which to "participate". Perhaps one of the notable features of the model is its phase structure, focussing our attention on six presumably operationally distinguishable behavior processes namely:

Problem Recognition,

Problem Defintion,

Planning

Search,

Confirmation, and

Implementation,

each of which is then described in more detail in terms of its characteristic set of decision hypotheses.

GDP-I

FIRST GENERALIZABLE DECISION PROCESS MODEL

PHASE I -- PROBLEM RECOGNITION

Dm's process of discovering that there may exist a "problem" which needs his attention in some part of whatever task environment he is currently operating in, and Dm's subsequent decision to focus attention on that part of his environment, constitute an important yet poorly conceptualized part of behavioral decision theory.(1) However, such hypotheses as have been formulated regarding the nature of Dms' problem recognition processes fall outside the context of the data we are about to focus on -- namely that generated by graduate students during their last year in school, who have long since recognized that they indeed have an Occupational problem to solve. We therefore postpone considering the Problem Recognition part of this theory until we are ready to consider data that bear more directly on these propositions. We thus turn to the first process hypothesis of GDP-I, namely Problem Definition.

PHASE II -- PROBLEM DEFINITION

Problem Definition is a label for two related processes:

1. Dm's association, i.e. memory retrieval, of a set of Problem Types from his own prior Image-model of the task environment, using as argument his own (or the experimenter's or some other Problem existence recognition agent's, say a client's) initial description of the symptoms that initially lead Dm to believe that some sort of "problem" exists in the present task environment.

2. Dm's derivation of his description of an Ideal Solution to the Recognized Problem. Such description usually includes a subset of quite unoperational Value or goal-attributes.

"Unoperational" in this context may be taken to mean either of both of the following:

a. that Dm has no way of knowing a priori whether a Solution can in fact be found;

b. that Dm has no way of measuring posteriori whether he may in fact have found a Solution which meets his "unoperational" criteria; or

c. that Dm does not have directly available to him as "operational" method by means of which he might attempt to produce, locate, or invite recognizable Solutions to his perceived problem.

In the laboratory-based task environment examined earlier(2) we observed that it made quite a difference to the outcome of Dm's Problem Definition phase just which problem descriptive attributes he was presented with initially. We were thus able to compare quite systematically a number of different types of Problem Definitions in what were otherwise structurally and parametrically identical environments. In this manner we were also able to manipulate which of a set of conceivable Problem Types Dm decided he was presently faced with.

Moreover, for each Problem Type evoked in the task situation most Dms had associated in his Memory of past experiences with such a Problem Type one or more possibly viable Plans, or Strategies that might be used in attacking such a Defined Problem. We discovered that it was quite mandatory, if we were adequately to understand and explain how a Dm went about determining the Problem Type he thought he was facing, as well as how he selected one of a set

of associated Solution Strategies for attacking this Type of Problem, for us to obtain a fairly exhaustive, prior reading on whatever part of Dm's Memory Structure was particularly relevant to the decision context we were studying.

In the present Occupational decision context we have an excellent opportunity to observe -- if we only knew which questions to ask -- how Dms go about Defining their Problem in a task environment in which they have much less personal past experience to base their Problem Definition on. Unfortunately, only a small number of the Dms observed in the data analyzed below had significant amounts of Problem Definition processing left to be done when our observations began. Thus I do not feel very secure in suggesting that Dms in such situations Define their Problem by deriving a description of what they consider to be an Ideal Solution to the Recognized Problem. Nevertheless, the observations we do have suggest the following compound process hypotheses, which we shall now take pains to make as explicit and as empirically rejectable as possible. (I re-emphasize that I have not (yet) data available of the type needed to attempt to reject Hypotheses I and II empirically.)

Hypothesis I -- Definition of Ideal Solution

Most of his young adult life Dm has been thinking about and collecting generalized data about what he wants to do with himself "when he graduates." For model building purposes let us represent what Dm knows or "feels" at the time that he seriously faces up to the task of Defining his job decision problem, in the form of three list structures:

A. Dm's Personal Values structure;

B. Dm's Expected Personal Qualifications structure;

C. Dm's present Knowledge about different types of occupational careers.

A. Personal Value Structure:

In whatever language Dm expresses these things to himself (the conceptual terminology of which is most likely not congruent with the classification schema for "values" that psychologically trained observers would implicitly assume that Dm utilizes(3)), Dm presumably has a list of attributes that describe the "qualities" that to his way of thinking are the things he would hope to find in, or be able to get out of, an imaginary "Ideal" job.

Exactly how we are to identify the existence and the nature of such Value qualities inside Dm's head, independently of observing the process we are about to postulate, is a challenging and largely unanswered question. On the other hand, there exist a number of precedents for attacking this measurement question, either directly or indirectly, say by trying to construct so-called "personal value" scales from formalized questionnaires.(4)

For reasons that become obvious in what follows existing types of psychological Value scales are unfortunately largely inappropriate for measuring the goal attributes Dms seem to make use of in Occupational decision making. But we cannot let trivial objections like that detain us from expressing the following hypotheses:

Assume that we can determine that our Dm is interested in obtaining certain quantities of the following Reward Qualities from his occupational environment -- which he (not we) in his more reflective moments would label, say:

affluence	happiness	professional success
social position	fame	personal security
power	status	independence
adventure	ease of work	knowledge

We would then engage Dm in a game of specifying for us which of these "inducement qualities" were respectively of:

i. Primary importance to his way of thinking -- for example "getting enough of this quality is what really matters in my career, most other things would be secondary compared to this quality."

ii. Secondary importance -- such that I need to obtain at least a certain amount of this quality or else an ultimate job would no longer be ideal for me;"

iii. Auxiliary importance -- such that "I would indeed appreciate finding this quality in an ideal job, it would be nice to have, but I think I could get along nicely without having more of it than what I think I'll get, whatever I choose to do."

This notion of different classes of goal attributes is critical to the analysis that follows. We shall therefore side-track our development of Hypothesis I for just a moment, and elaborate on the structural properties of Primary versus Secondary versus Auxiliary goals. Assume for simplicity of exposition -- the assumption can be dropped easily later -- that each "underlying goal-attribute" is seen by Dm as being unidimensional as well as orthogonal to other goal-attributes.

Primary Goals

Possible states of an alternative with respect to a Primary goal or Value are separated by Dm into three categories:

a. "SUFFICIENT or better" -- implying that any alternative which had this reading or "score" on a Primary goal would be immediately ACCEPTABLE to Dm, unless it happened simultaneously to possess certain serious drawbacks (see b.);

b. "less than NECESSARY" -- any alternative with this reading on a Primary goal would be immediately REJECTED, except in the case where it also possessed OUTSTANDING characteristics, i.e. was scored "SUFFICIENT or better" on a Primary goal, in which case the alternative might, depending on other factors to be described, qualify for Dm's FURTHER CONSIDERATION.

c. "NECESSARY but less than SUFFICIENT" -- the alternative, at least as far as its reading on this Primary goal is concerned, qualifies for Dm's further consideration, given that Dm is about to continue choice deliberations.

Furthermore, on direct questioning, or in order to resolve potential conflicts among otherwise incomparable alternatives, Dm may also be able to -- although there is usually no need for him to -- rank order two or more alternatives scores within these goal-attribute value categories, up to some presumably measurable unit of "just noticeable difference" or perceived "value indifference."

Secondary Goals (Constraints)

Possible states of an alternative with respect to Secondary goals are separated by Dm into two categories:

a. "NECESSARY or better" -- the alternative will at least not be REJECTED by Dm due to its reading on this Secondary goal.

b. "less than NECESSARY" -- the alternative may be REJECTED, depending on other factors to be described, but partly so for its reading on this SECONDARY goal.

Similarly Dm may, if asked to -- but in his own decision making rarely needs to -- be able to compare two or more alternatives' readings within these two classes of Secondary values.

Auxiliary Goals

Readings on Auxiliary goals are usually classified by Dm as being either GOOD or BAD, but are not relevant to Dm's actually choosing among alternatives -- except possibly in the extremely rare case where two alternatives are entirely comparable, i.e. are "just noticeably value-indifferent" on all Dm's Primary and Secondary goals, and Dm has exhausted all his other means of resolving his Indifference Conflict, in which case Dm's evaluation of a clear-cut "Goodness" versus "Badness" composite rating over all Auxiliary Goal attributes taken together may then carry his decision.

Auxiliary Goals, even though an alternative may be scored along such dimensions quite early in Dm's deliberations, are used selectively by Dm post hoc merely to bolster his argumentation, why whatever decision he has already is indeed "the best one."

Note, the scaling of Values we hereby assume Dm to use in his evaluation of alternatives is by no means connex in the traditional sense of utility theory.(5) If we need a label, we might simply call this form of Value scaling "disjoint." Each alternative is scored according to a number of different and disjoint goal dimensions, the reading on each of which is usually arrived at not by pairwise comparison of alternatives along that dimension, but by a disjoint matching of each alternatives Value scores with some underlying "standard" for two or three gross Value categories, as described above, depending on the class of Value measured.

We now return to the main development of Hypothesis I. We shall return to further conceptual development of Dm's goal structure below,(6) but this is all we need at this point. We now consider what has been labeled Dm's Expected Personal Qualifications structure.

B. Expected Personal Qualifications Structure

Parallel to the naive questioning procedure suggested above we would also want to determine what Dm feels is, or will be his chief personal assets, liabilities, and technical qualifications for obtaining his Ideal ultimate job, or career.

Just as "economic man" has had to make do with the constraints of his budget, so presumably will a human being be aware of the fact that his "potential ability to contribute" may help him go farther, or alternatively constrain him more, should he decide to pursue one versus another type of career or ultimate Ideal job.

Say we are able to identify that the following personal qualifications, or "contributions qualities," are among those a Dm considers may be useful to him in his future career -- again represented exclusively in terms of our Dm's own personal coding scheme or conceptual language:

Specific technical skills (names)		Special aptitudes (names)
Occupational experiences (names)		Friends and connections (names)
Poor health	Personal Capital	Prior Obligations
Energy	Judgment	Personality
Amibition	Character	Maturity

Ability to Make Friends and Influence People

Then, or perhaps simultaneously, we'd hope to get Dm to indicate which of these Qualifications he considers respectively are:

i. Outstanding -- i.e. is or will be his future forte, i.e. is a particularly strong point with him personally;

ii. Adequate -- which he perceives having no particular future problems with (we might even try to avoid Dm's having to mention such qualities in our discussion with him, see below)

iii. Inadequate -- i.e. which Dm somewhat feels he has, or might eventually have, "serious problems" with.

Note, we are not interested in whether an outside judge would consider that Dm was either Outstanding, Adequate, or Inadequate on any of whatever potential contribution-qualities Dm brings up. We merely need to know what it is that Dm considers to be own occupational self-image, presumably defined along a set of such subjectively labeled personal qualifications dimensions.

C. Knowledge of Different Types of Terminal Jobs

Hypothesis I is not an unassuming one, as it pretends to specify which specific subset of "types of terminal job" or careers a Dm will decide to aspire to, given that he has at some point considered, or been made aware of, a larger set of alternative careers. So, in order for the proposition to have much predictive value we obviously want to get measurements on our Dm's Knowledge, Values, and perceived Personal Qualifications before he reduces the list of "terminal types of jobs" he considers more seriously to a much smaller sub-set, which for lack of a better term we shall call his Potentially Ideal Solution to his Occupational problem.

Say we encounter our Dm in quite a confused state, and he indicates he is considering at least the following types of careers:

Corporation Executive	Independent Artist
National Politician	University President
Independent Management Consultant	Independent Financier
Professor	Research Scientist
Company Owner	Top Civil Servant
Practicing Professional	Social Luminary
Political Commentator	Learned Sage

Top Corporation Staff Expert,
(in Engineering say,
or even more specifically
as a Research Engineer,
Design Engineer, Production
Engineer, or Sales Engineer, etc.)

In his description of each one of the career possibilities we should want to obtain Dm's considered evaluation of the following two set of questions:

a. "How much of each of the (inducing) qualities that we've already talked about -- our List A above -- would you expect would be available to you as a future incumbent of either of the career types you're considering?"

Answer codes (for example):

i. HAVE or HAVE NOT thought about it.

ii. if "HAVE": CLEARLY OUTSTANDING (amount) or QUITE INADEQUATE or SOMEWHERE IN BETWEEN, or REALLY CAN'T SAY.

b. "Rate the importance, to your way of thinking, of the various personal requirements (list B above) which you feel would be especially important for you to have in order to succeed should you actually try for either one of the various career types you've been considering."

Answer codes (for example):

i. HAVE or HAVE NOT thought about it.

ii. if HAVE: ESPECIALLY IMPORTANT or NOT ALL THAT IMPORTANT or HAVE NO IDEA REALLY.

HYPOTHESIS I -- PROBLEM-DEFINITION

Dm will ask two questions of each "terminal type of job," or career types, that he discriminates among (list C above):

A. "Do I really want such a career?"

B. "Ought I try for such a career?"

(alternatively, "have I got, or can I obtain, what it takes to succeed in such a career?")

On basis of answers to these two questions Dm defines his occupational problem by determining which, if any, terminal types of jobs, careers, he will consider to be Ideal for him. The decision process GDP-I proposes that Dm uses is outlined in explicit detail in Tables I-A and I-B.

(Please turn page.)

But there is one set of argument-values, namely Dm's responding DON'T-KNOW or CAN'T SAY to questions "C-a" (list C attribute-question a) or "C-b," for which the function described in Tables I-A and I-B is not defined. In order to describe these cases as well we need to define another function-value

TABLE I-A

PROBLEM DEFINITION, PART A

		Career is OUTSTANDING on any one PRIMARY GOAL	and	Career is INADEQUATE on any one PRIMARY GOAL	and	Career is INADEQUATE on any SECONDARY GOAL	and	Career is INADEQUATE on more than two SECONDARY GOALS
Dm asks himself "Do I want Career?" He will answer this by categorizing a Possible Career as follows:								
Top-Active Roster	if	YES		NO		NO		—
Bottom-Active Roster	if	YES		NO		YES		NO
		NO		NO		NO		—
Reserve	if	YES		NO		YES		YES
		YES		YES		NO		-
		NO		NO		YES		NO
Reject	if	NO		YES		either		either
		NO		NO		YES		YES

TABLE I-B

PROBLEM DEFINITION, PART B

Dm asks himself "Will I Succeed in Career?" He will then accept or reject a Possible Career as being "Ideal"		I consider myself OUTSTANDING on any one CRITICAL REQUIREMENT of this Career	I consider myself INADEQUATE on any one CRITICAL REQUIREMENT of this Career
Accept	if	YES	NO
Accept from Top-Active Reserve from Bottom-Active Reject from Reserve	if	NO	NO
Reserve from Top-Active Reject for Bottom-Active	if	YES	YES
Reject	if	NO	YES

Process all members of "Top-Active" Roster first. If one or more ACCEPTANCES, quit processing, exit with the thus determined "Roster of Ideal Careers". If no "Acceptances" at Top-Active level, go to "Bottom-Actives."

dimension, namely Dm's Decision to Reality Test his prescription of an Ideal job.

Reality Testing for Problem Definition, Defined:

"Reality Testing for Problem Definition" will be said to occur when Dm is observed to be actively seeking information, i.e. asking questions of his peers, local "experts," counsellors, or incumbents of the career positions that he is interested in, regarding the virtues of and qualification requirements for such a position.

HYPOTHESIS I (cont'd)

Having made at least one pass through the process described in Tables I-A and I-B Dm will REALITY TEST a career or Ideal job possibility if:

i. Dm has answered DON'T KNOW for the reading on a Primary or a Secondary goal of a potential career

   i. (For Primary goals only) which is not presently in Dm's roster of Ideal Solutions.

      and if Dm believes that the alternative "may well be OUTSTANDING" on that Primary goal,

      if the alternative in the latter case is "possibly ACCEPTABLE" into Dm's Ideal Solution roster; or

   ii. which presently is part of Dm's Ideal Solution roster, and if Dm believes the alternative "may well be INADEQUATE" on that Primary or Secondary goal,

      if the alternative in the latter case is "possibly REJECTABLE" from Dm's Ideal Solution roster.

iii. Otherwise Dm will ignore his own uncertainty, i.e. he will not initiate information searches of his DON'T KNOW values on attribute questions "C-a" and "C-b" during the Problem Definition Phase of his decision making.

Opportunities for Testing Hypothesis I

Assuming that we indeed are able to obtain reliable prior estimates of the states of Dm's own memory, or "feelings," with respect to list structures A, B and C above, Hypothesis I is now applicable to Dm's Problem Definition processing at a number of observational point in time. First, as just indicated, the hypothesis should be used for checking the explanatory consistency Dm's current set of actively considered Ideal Solutions. But more interestingly, whenever we observe Dm either changing his opinion or perceptions of either A, B or C -- say he "accidentally" learns something about IMPORTANT qualifications that he hadn't previously considered, or that he finds out more about the "actual" nature of a certain career he is currently interested in -- Hypothesis I will then generate for us all those, if any, career possibilities that Dm may now be observed either to reject from, or to add to, his set of Ideal Solutions.

Hypothesis II -- Commitment to Career

The hypothesis we are about to consider may seem trivial at first glance compared to the elaborateness of Hypothesis I. But Hypothesis II yields useful implications, as we shall see.

If GDP-I has described Dm's initial processing of his Occupational problem information even reasonably correctly, Dm will be observed to "exit" from this phase of problem solving in one of three states:

A. Dm reports he came up with no Ideal Solution to his occupational Problem;

B. Dm reports that he is presently considering more than one Ideal Solution to his occupational Problem;

C. Dm reports a single Ideal Solution to his occupational Problem.

A. "No Ideal Solution Could Be Imagined to the Perceived Problem."

Dms in this state will go through three phases of additional Problem Definition processing:

1. Search for additional "ultimate job" or career possibilities to consider (e.g. by raising that particular question with peers and counsellors, or by going through some form of "systematic" check-list, such as "what are the careers of people I know, or admire").

2. Re-examine his own Value Structure and Personal Qualifications structure, with respect to the RESERVE rated career possibilities, to see what, and how large, modifications would be necessary in order that he be able to ACCEPT one of the latter alternatives as his Ideal Solution. (Just how, and under what conditions, Dm changes his "values" or "requirements" perceptions I have at present only vague notions about.)

3. If either of the above processes fail to turn up an ACCEPTABLE Ideal Solution, Dm will take a stand and construct himself an argument (e.g. by emphasizing the Primary or Secondary goals, or his particular Qualification Requirements), why no career type that he could think of embarking on would constitute an Ideal Solution to his occupational problem.

We might perhaps assign a label to this category of Dms by calling them something, say "confirmed Career Agnostics." (We might even speculate that Dms who perceive no Ideal Solution to their occupational problem would trend to become less "self-involved" in their occupational problem solving, such that we could in turn hypothesize that Confirmed Career Agnostics would score appropriately LOW on independent measures of Degree of Self-involvement with this problem if such measures could be constructed.

B. "Several Ideal Solutions are Found to the Perceived Problem."

Dms in this state will go through two phases of additional Problem Definition processing:

1. Additional Reality Testing in order to "check out" the roster of Ideal Solutions on their respective Primary and Secondary goals and Qualifications requirements, hoping thereby to catch "mis-estimates" such that the size of the Ideal Solution roster might be correspondingly reduced.

2. Failing to reduce the roster to a single Ideal Solution Dm will "summarize" for himself the Primary Goals or Qualifications requirements which, if "weighted" or estimated differently by him, would enable him to settle for a unique Ideal Solution.

We could for example label this category of Dms "Uncommitted Career Explorers," or perhaps "Self-searching Problem Solvers." (We might even choose to differentiate among Dms who are primarily "non-self-committed," i.e. are unresolved as to how to compare competing Primary goals, versus those who are primarily "non-career-committed," i.e. feel ignorant chiefly about the factual reliability of their own estimates or of unfamiliar career attributes. We will however not make use of such sub-classification of Career Explorers below.)

C. "A Single Ideal Solution is Defined."

Dms in this state will proceed directly to the Planning phase of their decision process. We might label Dms of this category "Career Incumbents."

HYPOTHESIS II

A. "Agnostics" will go through a SHORT Planning period, and report that Planning for them was EASILY accomplished. (They will quickly focus on the here-and-now attributes of immediately available first-job alternatives).

B. "Explorers" will report that Planning is DIFFICULT, but will go through a SHORT Planning period (they will face up to the fact that no adequate Plan for an all-inclusive first job can be constructed, given their multiple Ideal Solutions).

C. "Incumbents" will go through a SHORT and EASY Planning period, or through a LONG and DIFFICULT Planning period, depending on whether or not there the task (job) environment provides -- and Dm is aware of -- institutionalized "ladders of progression" from Dm's present career position to his Ideal Solution. (For later reference we might label the former "Institutional Career Incumbents" and the latter "Entrepreneuring Career Incumbents.")

Measures for Hypothesis II

Dm's "Planning period" runs from the time he first starts thinking about, specifically, "what sort of a first job (move) should he be looking for" to the time when he has his criteria for that "first job" sufficiently well expressed that he can start looking for, processing, and reacting to specific available job opportunities.

"Easy" and "Difficult" are of course highly idiosyncratic evaluations, as are all the various rating responses that we have made use of so far, and are therefore not strictly comparable, or "countable," across subpopulations of Dms. However, since our scale of DIFFICULTY rating is only binary we might get around the problem of error in classification, due to different Dm responding with different ratings in the middle ranges of perceived DIFFICULTY, by modifying our scaling questions in the following manner:

> By adding two more ratings, say FAIRLY EASY and SOMEWHAT DIFFICULT to the rating categories QUITE DIFFICULT and QUITE EASY, and subsequently discard as "too unreliable" for testing Hypothesis II all those Dms who respond with, or are judged in terms of, the two former scale classes.

PHASE III -- PLANNING

GDP-I's Problem Definition routines have thus yielded theoretical explanations for the following sets of observations:

a. Dm's description of what he considers to be the Ideal Solution(s), to his occupational Problem if he has any such in mind;

b. What it is that Dm likes about his Ideal Solution(s);

c. Why Dm thinks he'll be able to obtain, to get himself into, or succeed at, his chosen Ideal Solution(s).

Now the function of the Planning routine becomes to explain how Dm derives:

d. How he intends to attain his Ideal Solution.

The Concept of a "Plan"

Planning as the term is used below and elsewhere in this study (7) consists of three related processes:

1. Dm's derivation or construction of a set of Operational Design Criteria for identifying, and guiding his search for, a "best possible" next move (first job), given Dm's Definition of Ideal Solution(s) and his knowledge, i.e. his Image-model, of the occupational task environment.

2. Dm's a priori allocation of Computational Resources, such as anticipated Time, Money, and Effort to be expended, for solving his Defined Occupational Problem.

3. Dm's search for, and identification of, a set of Search Generators that will produce a series of first-job Alternatives for him to consider choosing among.

Note the broader degree of conceptual generality which we attain by viewing Dm's Plan as consisting of a more or less constraining set of design criteria for recognizing and evaluating a series of (somehow) generated decision alternatives, in contrast to the more limited notion of viewing Dm's Plan as being a more or less well-specified set of decision rules, or behavior prescriptions, for how he is to locate a viable "path through his problem space," from his "current position" to some well-defined decision "objective."(8) The latter type of Plan is obviously a sub-species of the more general concept of Plan suggested here, which was in turn quite naturally derived from the reported observations of Dms who were trying to find viable solutions to their occupational decision problem.(8a)

Hypothesis III -- Nature, Deviation, and Evaluation of Plans

We can identify some four modes of Planning, or methods that Dms employ for deriving a set of Next Job design criteria:

a. Means-Ends Analysis

This is the familiar "reasoning backwards" form of Planning.(9) Starting with his Ideal Solution Dm tries to think of at least one viable path for attaining such a position, given his present position, qualifications and career planning horizon. Such Means alternatives as are suggested by his own or advisors' Image-models of the occupational environment are evaluated according to Plan mata-criteria, a common set of which are described below in the second part of Hypothesis II. If called for by such criteria Dm will recurse

his Means-Ends Planning routines, with respect to a derived intermediary career position, until his analysis reaches an occupational "level" that he considers to be feasible as his Next Job description.

Dm's means-ends chains at this level of aggregate Planning turn out to be quite short, and the steps Dm visualizes himself as taking from one occupational level to the next are correspondingly gross. In no circumstance was a Dm observed to utilize more than 3 links in his means-ends chain linking Ideal Solution to Next Job.(10)

b. Role Commitment

Given his description of an Ideal Solution Dm may already be aware of -- or he may easily find out by asking appropriate questions of his peers or advisors -- a set of cutomarily prescribed occupational "ladders" whereby aspirants to such a career are advised, at times required, to proceed. Thus a set of Next Job design descriptors, and most likely also a set of potentially effective Generators for locating candidates for such Next Job possibilities, will be automatically available. Dm's Planning activity in this case reduces to his simply having to select one of the already prescribed types of recommended Next Jobs.

c. Goal Elaboration

If Role Commitment was found to be one degenerate form of Means-ends planning, in the sense that the occupational means for accomplishing an ultimate career goal did not have to be derived analytically from Dm's definition of his Ideal Solution, then Goal Elaboration is another degenerate form of Planning in the sense that Dm in this case ignores means-ends altogether, concentraing instead on elaborating the various inducement qualities of his Ideal Solution in such a manner that they become directly and operationally applicable

as design criteria for a Next Job, with little or no reference to Dm's later career plans.

d. Commitment Postponement

This form of Planning is in essence no planning at all. Dm is acutely aware of the fact that his accepting a Next Job will in some undefined manner prejudice and commit the future direction of his career. Dm's chief Planning criterion in this instance is to identify an alternative that "closes as few doors as possible," which constitutes what he hopes will be an "excellent point of departure" for whatever career direction he might later decide to commit himself to.

HYPOTHESIS III-A -- MODE OF PLANNING

i. Entrepreneuring Career Incumbents will Plan mainly by Means-Ends-Analysis, will utilize a long planning horizon, and will be highly willing to forgo present consumption for future investment.

ii. Career Agnostics will Plan mainly by Goal Elaboration, will utilize a short planning horizon, and will be highly unwilling to forgo present consumption for future investment.

iii. Institutional Career Incumbents will Plan mainly by Role Commitment, will utilize a long planning horizon, and will be highly willing to commit their future career by their Next Job choice.

iv Career Explorers will Plan mainly by Commitment Postponement, will utilize a short planning horizon, and will be highly unwilling to commit their future career by their Next Job choice.

As indicated above a "Plan" in GDP-I terms consists of i. set of criteria or description attributes of a desired Next Job, ii. a set of Search Generators for unearthing prospects for such a Job, and iii. a Computational Resource Allocation for activating the Generators and operating Dm's decision mechanism.

The following three samples from protocols serve to illustrate the concept Next Job Plan Criteria:(11)

"A staff job in industry, with a large corporation, in their finance department, preferably located on either Coast;"

"A job with a small consulting firm specializing in government contracts;"

"Teaching in a well-known university."

The four Types of Planners described above will generate and evaluate possible Next Job Plans in recognizably different manners, according to Hypothesis III-B:

HYPOTHESIS III-B -- PLANNING META-CRITERIA

a. Means-Ends and Role Commitment Plan possibilities will be evaluated primarily according to the Plan's perceived Effectiveness for attaining the Ideal Solution, constrained by Dm's estimate of its Feasibility and perceived Personal Sacrifice.

b. Goal Elaboration Plan possibilities will be generated by means of Reality Testing, i.e. by Dms performing first or second stage Investigations of a "representative" sample of Next Job. In this manner Dm will i. note his own approximate market worth in the occupational environment, and ii derive Descriptive Attributes which discriminate HIGH versus LOW Yield types of available jobs. Discovered Plan possibility will then primarily be evaluated according to the Next Job's Estimated Take-home Benefits, constrained by its perceived Present Feasibility for Dm.

c. Non-commitment Plan possibilities will be evaluated primarily according to that Type of job's All-inclusiveness relative to Dm's multiple set of Ideal Solutions, as well as Dm's expected Organizational Mobility as an incumbent of such job, constrained by its perceived Feasibility to Dm in his present circumstances.

Non-committed Dms will as a rule not be able to derive a Plan description of the type of Next Job they want to look for, although they may well be able to indicate a number of Job-types which they are not interested in.

Definitions of Plan Meta-criteria:

"Effectiveness" -- Extent to which Next Job is seen to lead directly and certainly to the Ideal Job.

"Personal Sacrifice" -- Extent to which Next Job falls below the Ideal Job's prescribed Necessary levels on Dm's Primary and Secondary goal attributes.

"Take-home Benefits" -- Amount of immediately available and consumable returns from Initial Job, such as Salary, Fringe Benefits, Living and Working Conditions -- all fairly easily convertible into, and comparable in terms of present-valued monetary quantities.

"All-inclusiveness" -- Extent to which holding the Next Job per se does not pre-judge Dm's subsequently committing himself more firmly to either of his presently perceived Ideal Solutions.

"Organizational Mobility" -- Extent to which the Next Job serves as a "good place to have come from" should Dm decide to remake his career Plan at some later date.

Problems of Testing Hypothesis III

Two major sources of problems which were encountered when attempting to relate Hypothesis III to empirical observations arose from i. the difficulty of coding reliably the various types of Planning that Dms were observed to use, as well

as ii. meaningfully mapping the variety of Dms' subjective expressions of their Plan evaluation Meta-criteria onto the set of categories utilized by Hypothesis III. A fair amount of attention was devoted to constructing a standardized annotation schema for reducing on-line process interviews of decision makers in action to a standardized format. In spite of the suggestive results obtained with this method it seems in retrospect that a much less painful, if perhaps not too obviously valid, approach to the problem of identifying the various "factors" which enter into each type of Dm's Planning-criteria function would be a questionnaire of standard items that Dms could answer with respect to a representative, hypothetical set of Next Job Types, at the point in time when their own career Planning was identified to be occurring.(12)

Hypothesis IV -- Resource Allocation, Availability Check and Generator Selection

Dm will be observed to make three additional, recognizably different sets of decisions at the Planning stage of problem solving, namely:

A. Determination of how much Time, Money and Effort he is to allocate to solving this particular problem;

B. Estimation of how easily potential candidates for solution will be to come by in the task environment;

C. Selection of means with which to start locating (or designing) alternative prospects for solution.

HYPOTHESIS IV-A -- RESOURCE ALLOCATION

Dm's allocation of Time, Money, and Effort to the solution depends on:

i. the amount of such resources available to Dm in the present task environment, and

ii. the perceived importance of the problem to Dm.

See Table IV-A for an explicit formulation of this hypothesis.

HYPOTHESIS IV-B -- AVAILABILITY CHECK

Dm's initial propensity to be Critical toward, i.e. to REJECT summarily, or be Open-minded about, i.e. to LOOK INTO FURTHER, alternatives that seem Borderline according to his career Plan depends on the outcome of Dm's initial Availability Check, i e. his personal market survey, regarding the apparent ease of finding alternatives for jobs that a priori appear to fit his criteria. See Table IV-B for explicit formulation.

HYPOTHESIS IV-C -- SEARCH GENERATOR SELECTION

Dm will organize his Search for alternatives by utilizing one or more Search Generators, i.e. ready-make methods for exposing himself to, for designing, or for having exposed to his own scrutiny whole series of potentially "interesting" solution possibilities.

Dm's choice of which Search Generator(s) to activate intitially, during the Search Phase of his decision making, depends on:

i. the perceived Effectiveness of each Generator for producing interesting candidates of the type described by Dm's Plan attributes, and

ii. the Cost to Dm of activating that Generator.

See Table IV-C for an explicit formulation.

TABLE IV-A

(HYPOTHESIS IV-A -- RESOURCE ALLOCATION)

Dm's Rated Importance of the Problem (read across):	CRITICALLY IMPORTANT	FAIRLY IMPORTANT	NOT PARTICULARLY IMPORTANT
determines	↓	↓	↓
Dm's a priori Resource Allocations (read across):	HI (see below)	MEDIUM (see below)	LOW (see below)
i.e. his Budget Limits with respect to either (read down):	↓ i.e.:	↓ i.e.:	↓ i.e.:
i. TIME (relative to what is available to be spent in this task environment)	HI — max. time to be spent solving this problem	MEDIUM — max. time limit	LOW — max. time limit
ii. MONEY (relative to what is available to be spent in this task environment)	HI — max. $ to be spent solving problem	MEDIUM — max. $ limit	LOW — max. $ limit
iii. EFFORT MOTIVATION	HI	MEDIUM	LOW

TABLE IV-B

(HYPOTHESIS IV-B -- AVAILABILITY CHECK)

Procedure: Reality-test Plan, by sampling currently available Next Jobs and questions of peers and advisors, to determine the potential availability of the type(s) of Next Job described by the Plan.

Question: Is the Plan "realistic," i.e. are such Next Jobs generally available in the Occupational Environment?

If not at all available, return to Plan Derivation.

Availability is: (read across)	PLENTIFUL	ADEQUATE	SCARCE
which determines: (read down)	↓	↓	↓
Dm's Initial Criticalness of available alternatives, i.e. his propensity to investigate "borderline" possibilities:	REJECT "Doubtfuls" at First Screen (pre-Interview)	PASS "Doubtfuls" at First Screen REJECT "Doubtfuls" at Second Screen (post-Interview)	PASS "Doubtfuls" at both Screens

TABLE IV-C

(HYPOTHESIS IV-C -- SEARCH GENERATOR SELECTION)

1. Set of potentially useful Search Generators for Dm's Planned type of Job -derived from:

   i. Dm's own Image-model knowledge of the task environment, and
   ii. direct advice from peers, advisors, and environmental agents.

2. Each Generator suggested is then Evaluated according to:

   i. its expected Effectiveness for locating prospects for Dm's Planned type of Job (HIGH, MEDIUM, LOW Effectiveness):

   a. If a Generator is rated LOW on Effectiveness, REJECT it immediately.

   ii. the Computational Resource cost of (Time, Money, Effort) required to activate that Generator:

   b. If the cost of a Generator exceeds Dm's present Resource Constraints on either of the above three factors, REJECT it immediately.

3. Selection of the Search Generators Dm will use initially:

   c. If Dm believes Availability of Alternatives to be PLENTIFUL, Activate that HI (if none then a MEDIUM) Effectiveness-rated Generator which
      i. requires LEAST Effort, and which
      ii. remains within Dm's Time and Money Constraints.

   d. If Dm believes Availability of Alternatives to be ADEQUATE, Activate the two HI Effectiveness-rated which
      i. require LEAST Effort, and which
      ii. remain within Dm's Time and Money Constraints.

   e. If Dm believes Availability of Alternatives to be SCARCE, Activate all HI Effectiveness-rated Generators that are Resource feasible.

      If Dm still has Resources left over, Activate all MEDIUM Effectiveness-rated Generators that are Resource feasible.

Examples of types of Search Generators used by Dms in Occupational decision making.

The following list of Generators extracted from decision protocols illustrates the types of Search Generators utilized by Dms in an Occupational task environment:

a. Examine the local bulletin board for announcements of companies coming to this building to interview candidates;

b. Sign up with the school employment office, fill out their forms to let inquiring companies know of one's interest;

c. Go through descriptions of companies in the folders of the school's employment office;

d. Sit down in the library with some industrial reference index, and reduce systematically the list of all possible companies to a set of potentially viable ones;

e. Ask friends, acquaintances, and professional contacts to suggest likely companies;

f. Read want ads in local or national news media;

g. Contract with a professional employment agency;

h. Put ads in local and national papers, e.g. in the Wall Street Journal;

i. Do nothing, trust to word of mouth, let interested companies search one out at their own initiative, if they're interested;

j. Knock on company doors, e.g. write to Presidents and Personnel Managers

PHASE IV -- SEARCH

The "Search" phase of Dm's decision making commences at the time Dm activates his first Search Generator, and thus starts to process Next Job alternatives "in earnest," and runs until Dm announces that he is no longer actively interested in processing new alternatives. GDP-I describes a Dm's Search processing by means of the following five sets of propositions, namely:

Hypothesis V: Initial Search Propensity and Screening Strategy;
Hypothesis VI: Cross-alternatives Search, Screen Adaptation, and the Decision to Investigate.
Hypothesis VII: Generator Regulation;
Hypothesis VIII: Alternatives Investigation, Evaluation, and Choice;
Hypothesis IX: Search Termination.

Hypothesis V -- Initial Search Propensity and Screening Strategy

Dm's Initial Search Propensity is an index of how long Dm intends to Search and roughly how many alternatives he expects he will (have to) investigate before he makes up his mind. Whereas the actual length of time spent Searching, as well as the number of alternatives Dm actually ends up investigating, should both relate partially to a measure of Dm's Initial Search Propensity, the latter is of course not a sufficient predictor of either of the former measures, since -- as we will see below -- there are a number of subprocesses operating between the commencement and the end of Dm's Search which serve to deflect or/and augment a possible effect of Initial Search Propensity on actual Search behavior.

For purpcses of Hypothesis V-A a reasonable measure of Dm's Initial Search Propensity are his answers to direct questioning about how long and how thorough he expects his Search will be.

HYPOTHESIS V-A -- INITIAL SEARCH PROPENSITY

Career Explorers will as a rule report HIGH Initial Search Propensity;

Career Agnostics will as a rule report LOW Initial Search Propensity:

Career Incumbents will report VARIABLE Initial Search Propensities,

HIGH or LOW depending on whether their Plan has led Dm to

expect LOW or HI Perceived Availability of decision alternatives.

Any decision process complex beyond a certain, possibly predictable level -- which Occupational problem solving is simply assumed to be -- that involves significant expenditure of Dm's computational resources in order for any one alternative to be investigated Adequately, will have its Search Phase organized as a multi-stage process: At each subsequent Stage of its investigation Dm will collect a batch of additional partial information about the alternative being examined, and will thus be able to apply successively more elaborate Evaluation criteria for determining an alternative's relative REJECTABILITY or POTENTIAL ACCEPTABILITY.

The stringency or Tightness of the Screening procedure applied to any alternative at different stages of Dm's Search and Evaluation process can be measured by the ratio of the number of alternatives presented to the Screen to the number rejected by the Screen, or else by the gross number of goal attributes tested for by the Screen at that particular Search-Evaluation stage.

HYPOTHESIS V-B -- SCREENING STRATEGY

Career Explorers will initially adopt (relatively) LOOSER First-Stage -- e.g. Pre-interviewing -- as well as LOOSER Second-stage (say Post-interviewing) Screening procedures.

Entrepreneuring Career Incumbents will initially adopt LOOSER First-stage (e.g. take many interviews) but TIGHTER Second-stage Screening procedures (e.g. have many post-interview rejections).

Institutional Careermen Incumbents will initially use TIGHTER First-stage as well as TIGHTER Second-stage Screening procedures.

Career Agnostics will use alternatives uncovered early in their Search to Reality Test their own Market Worth, i.e. such Dms will initially adopt LOOSER Screening procedures, but will thereafter institute TIGHTER both First-and Second-stage Screening of alternatives.

Hypothesis VI -- Intrer-Alternatives Search, Screen Adaptation, and the Decision to Investigate

The notion of a Level of Aspiration describes a very simple form of a decision alternatives Screen[12a]: All alternatives which do not meet a certain scalar criterion are immediately REJECTED, while the first alternative which does meet Dm's Level of Aspiration is immediately ACCEPTED by such a Screening process. Unfortunately the Aspiration Level concept, at least in its usual formulations, is too simple to yield sufficient explanatory variations for describing adequately Dms' decision behavior in the present context. Nevertheless it may be useful, if only metaphorically convenient, for the reader to continue to think of Dm's Alternatives Screen adaptations as "changes in his Aspiration Level for jobs." [13]

There are at least four ways that Dm can adapt his Alternatives Screening procedures, the three first of which, however, have no conceptual counterparts in traditional Aspiration Level theories:

i. Since Dm's Search procedure is multi-stage, he can "move," or redistribute, the Screening attributes of his original Plan "up front" or "back farther" relative to, say, his First-stage Screen. The effect is obviously that some alternatives would be rejected earlier or later than they might otherwise have been. But such adjustments, however, may also have more "absolute" effects, in that Dm may or may not by this procedure give himself a chance to discover significantly "compensating" factors of (potentially) Rejected alternatives which he would otherwise have not, or respectively have, discovered.

ii. Dm can choose to become more or less Critical of borderline alternatives, i.e. of prospects which either fall "just short" of passing, or which only "barely" pass, one or two Secondary goal attributes at any one Stage of his Screening procedures, or which which possess attributes that Dm has to assign DON'T KNOW values to during his preliminary Investigation at a certain Screening stage. (We might for example wish to label Dms' varying propensity to REJECT alternatives with DON'T KNOW values his "willingness to absorb uncertainty," or his "intolerance for ignorance.")

iii. Dm can choose to add or delete Screening-attributes, with respect to his total Screening procedure, which would then make his Screening procedure either more or less constraining on new alternative (without necessarily thereby implying that Dm will also have modified the REJECT level of any one of the Screens' "old" attributes).

iv. Dm can, as in Aspiration Level theory, modify his REJECT levels on one or more Screening attributes, without changing the number, type, or distribution of such attributes with respect to his total Screening procedure.

I have not been able to discern discriminating attributes that would allow us to describe a set of different conditions under which a given Dm will utilize a particular one of these different methods for his Screen Adaptation. Nonetheless, the following generalization about the conditions under which Dm will make his Screening Procedures either TIGHTER or LOOSER seems quite reasonable:

HYPOTHESIS VI-A -- SCREEN ADAPTATION

Dm will TIGHTEN his Initial Screening Procedures whenever:

i. a new alternative is added to his Active Roster of Potentially Acceptable Atlernatives (defined below), i.e. has "passed" Dm's last preliminary Screening Stage without being REJECTED;

ii. the number of alternatives currently in the process of being Investigated and Screened exceeds a certain upper limit (five-plus-minus-two, different for different Dms, seems to be a reasonable number in the current context);

iii. Another Alternative passes into Dm's Active Roster, the total number of which exceeds a certain upper limit (four-plus-minus one);

iv. a Potentially Favoritely Acceptable Alternative is identified (see definition below);

v. Dm's residual computational resources, particularly Time remaining for Search, become LOW, and the number of alternatives in his Active Roster exceeds a certain upper limit (three).

Dm will LOOSEN his initial Screening Procedures whenever:

vi. no alternative passes his Initial Screen for a certain period of time (a week to ten days);

vii. an alternative, which Dm had not yet REJECTED, rejects him;

ix. Dm's residual computational resources, particularly time remaining for Search, become LOW, and the number of alternatives in his Active Roster is less than a certain upper limit (three).

Although it is surely a trivial observation in an Occupational context it may be worth our while to state the following GDP hypothesis explicitly, as it contrasts sharply with the usual Satisficing notion of serial, or sequential, Search behavior.(13a)

HYPOTHESIS VI-B -- PARALLEL SEARCH

i. At any one instant of time Dm will as a rule be observed to be Screening and Evaluating more than a single alternative. (For obvious reasons, namely that there usually are time lags, i.e. waiting periods, between each Search and Evaluation Stage, giving Dm excess capacity with which in the meantime to process other alternatives.)

ii. Similarly, Dm's Active Roster of Potentially Acceptable Alternatives -- alternatives which have passed through all Search stages and have not been REJECTED, but which are considered "perfectly possible" candidates for Dm's final decision -- will as a rule consist of more than a single alternative.

Finally, since classical decision theorists(14) seem to assume so universally that Dm's Evaluation or "preference ordering" of any two decision alternatives is independent of either presence or absence of third alternatives, the following GDP-I hypothesis ought to be examined with some care:

HYPOTHESIS VI-C -- NON-INDEPENDENCE OF THIRD ALTERNATIVES

> The Tightness of Dm's Screening procedures and therefore his tendency to REJECT questionable alternatives varies depending in part on the number, type, and quality of the alternatives presently residing in his Active Roster of Potentially Acceptable Alternatives. (See also Hypothesis IX for another effect of "third" alternatives on Dm's Evaluation of alternatives, in the Confirmation phase of decision making.)

Thus, to the extent that a given alternative which gets summarily REJECTED early in the Screening procedures would have PASSED if presented earlier in time, or conversely, "third" alternatives indeed do influence Dm's "preference comparison" of two or more other alternatives.

Hypothesis VII -- Generator Regulation

Although it is usually difficult to construct appropriate interval scales for direct measurement of the meta-theoretical attribute of search behavior which we might label Intensity of Search -- a variable of key importance in traditional Aspiration Level theory (15) -- there exist two counterpart variables in GDP-I that we might compare metaphorically to Search Intensity, namely Dm's reported Search Propensity, which we've already discussed above, and his Regulation of Search Generators.

Searching MORE INTENSELY might then simply be said to correspond to Dm's "activating another Search Generator," and conversely, LESS INTENSELY could correspond to his "dropping one" -- even though "dropped" Generators usually exhibit quite a bit of inertia of their own, at times making Dm appear to be continuing his Search by presenting him with new alternatives, when in fact he is no longer particularly interested in processing them.

Each Search Generator considered by Dm in his Planning phase has associated with it Dm's own prior expectation regarding the Effectiveness of that Generator for producing Potentially Acceptable alternatives of the type Dm is looking for.

HYPOTHESIS VII-A -- GENERATOR REGULATION

If Dm's presently active Generators, in the time expected for them to start producing results, have not yet presented Dm with an alternative which "passed" his Screening procedures, then Dm will:

i. activate another HI Effectiveness-rated Generator, if such is available and feasible given Dm's present Resource Constraints;

ii. If no HI Effectiveness-rated Generator is available then Dm will "refuel" his currently-active set of Generators, and assign them a specific deadline by when to produce results, and in addition activate all those MEDIUM effectiveness-rated Generators he presently knows about that are still compatible with Dm's Resource Constraints.

iii. If the above deadline arrives, with yet no alternative Generator having passed, or promising to pass, all the Stages of his Screening procedures, then Dm will consider revising his Next-Job Plan.

HYPOTHESIS VII-B -- PLAN REVISION (HIGHLY TENUOUS HYPOTHESIS)

Career Agnostics will rarely need to Revise their Plan, since they based their Next Job Screening Procedures to a large extnet on a priori sample of "what they were worth" (could get) in the job market place.

If they do need to Revise their Plan, the latter will take the form of lowering REJECTION levels on Take-home Benefit attributes, re-processing the "best" of their previously Rejected alternatives, and letting their old Search Generators run their course within the limits of remaining Computational Resources.

Career Explorers will frequently feel a need to Revise their Plan. Characteristically they will find that their various Ideal Solutions are incompatible with their having to choose a single Next Job -- one which they originally may have hoped would "close no doors," i.e would not commit them unfavorably with respect to a possible future choice of either of their Ideal Solutions.

As noted above (Hypothesis III) Career Explorers initiate Search with a quite rudimentary Plan, intending instead to investigate quite thoroughly a "representative cross-section" of alternatives relevant to each of their different possible Ideal Solutions.

When the latter investigations have been accomplished a Career Explorer will return to his Problem Definition routine, but this time armed with a set of specific Next Job alternatives in mind for each of his Ideal Solutions. He will then use the differential Personal Sacrifice implied by each of the Next Jobs types he has uncovered, with respect to its Ideal Solution, as an additional discriminator for attempting to reduce his unwieldly set of Ideal Solutions. The outcome of the latter Redefinition will then determine how he then Evaluates his available Next-Job alternatives for final choice.

Entrepreneuring Career Incumbents will revise their Plan by reconsidering the alternative Means they had Rejected previously, or had "held in reserve," at their last Means-Ends Planning phace.

If no such alternative Means exists then Dm will instead reconsider his his alternative Ends, i.e. the Means-one-level-up closer to his Ideal

Solution.

As Dm now believes he possesses much more "realistic" estimates of the Feasibility for him, and of the relative Effectiveness vis-à-vis his Ideal Solution, of different Means-Ends Plans he will now usually be able to exit from revised Planning with one of his "old" previously rejected Means as his new Revised Plan. Only rarely will a completely "novel," previously unconsidered Means be discovered during Dm's initial Search and Evaluation activities.

Institutional Career Incumbents will of course also have directly available to them their previously rejected, yet career-wise still viable, Plan alternatives that are associated with their Ideal Solution. However, Dm will usually not have changed his mind regarding the fact that either i. such alternative Plans have two or more Secondary drawbacks, i.e. imply Personal Sacrifices that Dm is not willing to live with, or ii. such Plans require as Critically Important certain Personal Qualifications on which Dm (more or less "realistically") evaluates himself as being INADEQUATE in the market place.

i. In the former case Dm will examine Neighborhood Modifications of the rejected Plan alternatives, looking for ways of "getting around" the implied sacrifices. Finding none such he will simply lower his Rejection level on those of his Plan's Secondary goal-attributes that Rejected the "most-promising" alternatives uncovered by his Search so far. Dm will re-Screen his previous set of available Plan alternatives over the revised criteria.

ii. In the latter case Dm will perform Means-Ends analysis on his INADEQUATE Qualifications, looking for an augmented Plan which will be more Effective and also Feasible in enabling him to improve or "work around" his current drawback for attaining his Ideal career.

For readers familiar with Satisficing theory it might be useful to contrast the above pictured Plan Revision with more traditional Aspiration Level Reduction: For cases of Career Agnostics/ Dm's Plan Revision may be viewed as a conceptual analogy to Aspiration-Level-revision in multi-dimensional space. But in cases of Entrepreneuring Career

Incumbents "Aspiration Level Reduction" may mean in effect that Dm comes up with a whole new Plan, which criteria for evaluating a Next Job will in general be quite different from the set of criterion Dms had previously used for describing a desired Next Job.

Hypothesis VIII -- Alternatives Investigation, Evaluation, and Choice

Normative models of "rational" choice usually prescribe that Dm ought to collect additional information about an alternative only to the extent that the marginal cost of obtaining such information is less than the expected gain from his having it, the latter presumably measured by the opportunity loss Dm assures himself against, which he might otherwise have incurred by having chosen the "wrong" alternative.(16)

HYPOTHESIS VIII-A -- MODE OF ALTERNATIVES INVESTIGATION

a. The necessary and sufficient conditions for Dm to "continue to Investigate" an alternative are:

   i. that the alternative was not REJECTED by Dm's Screening Procedure at its last Stage of Investigation:

   ii. that Dm is still UNCERTAIN with respect to any Primary or Secondary goal attribute on which he believes he may be able to obtain more information.

   iii. that Dm is provided with an Opportunity to Investigate the alternative further (e.g. obtains an invitation to visit a company); and

   iv. that Dm has sufficient Computational Resources remaining in his budget to carry out another stage of Investigation.

b. Dm will not try to balance his marginal cost of collecting further information about an alternative against his expected marginal loss of not having such information. When in the process of Investigating an alternative Dm will simply attempt to

collect all the information he can possibly obtain about it, on any goal attribute, giving no prior thought as to whether such information is either relevant or worth gathering relative to his (later) alternatives discrimination processing.

Although Dm will usually claim that he has not yet obtained "sufficient" information about an alternative at the point in time that he includes it in his Roster of Acceptable Alternatives, he will temporarily "freeze" his overall Evaluation of said alternative -- until ready to make his Final Decision by reducing somehow his Active Roster -- as soon as i. he has arrived at an ADEQUATE, OUTSTANDING, INADEQUATE, or CAN'T-TELL-BUT-CAN'T-FIND-OUT Evaluation of the alternative on all Primary and most of the Secondary goal attributes in his Plan, and ii. he is QUITE CERTAIN that he will receive an offer from the alternative.

HYPOTHESIS VIII-B -- EVALUATION POSTPONEMENT

Dm will attempt to withhold judgment, i.e. not enter an alternative into his Active Roster of Acceptable Alternatives, and will also be quite reluctant to express his opinion about the "overall worth" of such an alternative, until he is QUITE CERTAIN that he will not be REJECTED by the Alternative, i.e. that he will indeed receive a Job Offer from the latter.

It seems as if Dms are unwilling to expose themselves to the potential disappointment of being "turned down" by an alternative they have already decided they like. Instead they reserve for themselves the option of later being free to decide that they "didn't really like this alternative after all," should it indeed turn out that the latter REJECTS them.

HYPOTHESIS VIII-C -- ALTERNATIVE EVALUATION

In general an alternative will reach semi-equilibrium in Dm's opinion of its "overall worth," for the stable remainder of Dm's Search period, by its being categorized according to one of the following six Evaluation classes:

1. "FAVORITELY ACCEPTABLE" -- Alternative is judged OUTSTANDING on one (or more) Primary goals, and is not INADEQUATE on all (most) Secondary or on any other Primary goal attributes.

2. "ACCEPTABLE" -- Alternative is not judged INADEQUATE on all (most) Secondary and all Primary goals, and is NOT DOMINATED by another ACCEPTABLE alternative, in the Active Roster.

3. "ACCEPTABLE PENDING SPECIFIC INFORMATION" -- Alternative has not been judged INADEQUATE in all (most) Secondary and Primary goals, but information about possibly INADEQUATE readings on one or two Secondary (or Primary) goals is yet forthcoming.

4. "ACTIVELY REJECTED" -- Alternative is judged INADEQUATE on at least one Primary goal or more than two Secondary goals.

5. "POTENTIALLY REJECTABLE" -- Alternative is judged NOT INADEQUATE on all (most) Secondary and all Primary goals, but is POTENTIALLY DOMINATED -- i.e. is LESS than or EQUAL to another alternative on Dm's Primary goals -- by another ACCEPTABLE alternative.

6. "PASSIVELY REJECTED" -- Alternative was judged "POTENTIALLY ACCEPTABLE" by Dm, but he was instead turned fown by the Alternative.

The following proposition is at once the most pedestrian and also the most startling hypothesis of GDP-I:

HYPOTHESIS VIII-D -- IMPLICIT CHOICE

a. Dm will immediately select as his Implicit Choice Candidate whatever alternative becomes rated as FAVORITELY ACCEPTABLE, but he will at that point in time not REJECT the other Acceptable Alternatives in his Active Roster.

b. If Dm finds he has been presented with two or more FAVORITELY ACCEPTABLE alternatives simultaneously, then Dm will immediately REJECT all his other alternatives explicitly.

c. If no FAVORITELY ACCEPTABLE alternatives have yet been found, then Dm will continue processing new possibilities presented by his Search Generators until his budgeted Computational Resources run out.

A pedestrian interpretation of this hypothesis is that "it's exactly like the traditional Satisficing prediction," namely that Choice will be made if and when an alternative is judged to be ACCEPTABLE by Dm's (scalar) goal function. The surprising implication of the above hypothesis in the context of multi-dimensional decision goals is that Dm does not need to "weight" or otherwise compare various goal attributes in order to arrive at a Choice in multi-dimensional space, that Dm simply utilizes only one -- perhaps two and never more than three -- such dimensions, i.e. his Primary goals, as lexicographically overriding any other considerations, provided only that the overriding alternative is not glaringly INADEQUATE along any other Primary or along most of Dm's Secondary goal dimensions.

This process, if true, obviously simplifies Dm's decision processing enormously, to such an extent in fact that most Dms appear not willing to admit either to themselves or to an observer that their Alternatives Selection was indeed "that simple." (See Hypothesis X).

Hypothesis IX -- Search Termination and Choice-candidate Selection

Dm's Decision to Terminate Search is a passive one on his part. He simply resolves not to activate new Search Generators, nor reactivate old ones if they "run out," and not to Investigate new alternatives yet to be presented by the inertia of his old Generators -- unless such alternatives exert Active Pressure on Dm to interview them and/or clearly promise to be OUTSTANDING on one of his Primary goals. Dm will however follow up the remaining Investigation and Screening -- and thus gain a "closure" of sorts -- on those of his In-process alternatives not yet "fully investigated," i.e. which he has not yet been able to assign to one of the above six Evaluation Equilibirum categories.

HYPOTHESIS IX-A -- SEARCH TERMINATION

Dm will Terminate Search for new alternatives if:

i. an alternative becomes classified as FAVORITELY ACCEPTABLE and Dm is QUITE CERTAIN of receiving an Offer from that alternative, or

ii. the Computational Resources assigned to this Problem -- particularly TIME in the present Problem context -- threaten to run out and Dm has been able to locate a Full Roster of (two or more) ACCEPTABLE Alternatives.

If Computational Resources threaten to run out and Dm has not yet acquired a Full Roster of Acceptable Alternatives, then Dm will consider (e.g. apply for) an extension of the Computational Resources assigned to this Problem. If the latter is Not Possible, then Dm will express a conflict whether to "postpone solution" or to "compromise his choice" by limiting selection to the one or two of the merely Acceptable Alternatives (if any) that have been identified so far.

It seems indeed paradoxical that Dms should feel free to select from among one of two or more "less than outstanding" alternatives, yet will seriously consider postponing choice and withdrawing from the problem if given "only" a single presumably Acceptable Alternative to choose from. A rather far-fetched explanation of this phenomenon may be that Dm's having no alternative against which to Confirm a bland decision alternative makes it quite difficult for him to construct an adequate decision rule with which to "defend" his choice should he make it. See Hypothesis XI.

The decision process whereby Dm determines his Choice-Candidate in cases where a. he finds himself offered two or more Favoritely Acceptable alternatives, or b. where he finds himself running out of Computational Resources and has terminated Search with full Roster of mutually non-dominating Acceptable Alternatives, is hypothesized to be of the following form:

HYPOTHESIS IX-B -- CHOICE-CANDIDATE SELECTION

1. Consider the top-ranked set of the mutually non-dominating alternatives along their Primary goal-attributes only.

2. Consider (one of) the alternative(s) which has the highest reading on any one of the Primary goal-attributes.

3. Compare that alternative to the next-highest ranked alternatives on that Primary goal-attributes.

4. Dm will now reach a judgment that, either

   i. there's "NO PERCEIVABLE DIFFERENCE" between the two alternatives;

   ii. one is "A LITTLE BETTER" than the other;

   iii. one is "SIGNIFICANTLY BETTER" than the other; or

   iv. one is "OUTSTANDINGLY BETTER" than the other, on that Primary goal.

5. Compare the same pair of alternatives on any other Primary goal-attribute, and iterate for all other Primary goal-attributes, if Dm has any more.

6. During that process Dm will successively compare his paired comparisons as follows -- in order to decide which of the pair is the DOMINANT alternative:

   j. "A LITTLE BETTER" on two Primary goal comparisons is NOT PERCEIVABLY DIFFERENT from a "SIGNIFICANTLY BETTER" converse comparison, along a third Primary goal-attribute (if Dm indeed has that many).

   jj. "SIGNIFICANTLY BETTER" on two Primary goal comparisons is NOT PERCEIVABLY DIFFERENT from an "OUTSTANDINGLY BETTER" converse comparison, along a third Primary goal-attribute.

   jjj. For all other combinations of Primary goal-attribute values simple "ordinal dominance" among comparisons is then unambiguously defined.

7. Compare the DOMINANT alternative of the present pair with any one of the remaining alternatives in the original set that may yet dominate the former on any other single Primary goal-attribute, by iterating 3. through 7. for the latter pair.

8. Continue 7. until no more single-goal-dominant alternatives remain in the original set.

9. If the final result is a "tie," i.e. yields NO PERCEIVABLE DIFFERENCE between two or more alternatives, break such "tie" by comparing a simple cumulative count of all HIGHER ordinal scores on all Secondary goal-attribute readings of the tying alternatives. (If still "tied," resort to exogenous choice device -- such as coin or mother-in-law).

10. The finally DOMINANT alternative will be Dm's Choice-candidate.

Note, GDP-I proposes that Dms as a rule do not use cardinal-like comparisons of goal-attribute scores of alternatives, but that he is able to and will in fact do so in the quite rare instance of genuine multi-dimensional INCOMPARABILITY Conflict among Favoritely Acceptable or exclusively Acceptable alternatives (Hypothesis VIII-C), and that Dms then perform a series of paired comparisons among alternatives with respect to Primary goals-attributes only, using for that purpose no more elaborate metric than a trinary-interval scale of Value for evaluating such admittedly cardinal differences.

PHASE V -- CONFIRMATION

The Confirmation Phase of decision making runs from Dm's Receipt of Promised Offer from his Favorite Atlernative, to the moment of truth when finally he admits he has in fact Made a Decision and is willing -- and able -- to announce his Choice publicly. The purpose of Confirmation seems to be fourfold:

1. To provide a final check-out of the Choice-candidate, to enable Dm
   i. to see to it that it will indeed "produce" according to his estimates on Primary and Secondary goal-attributes, and to solve remaining, perfectly "rational" problems still remaining with respect to the Choice-candidate --(Uncertainties or unfortunate Low values of the alternative along sundry goal attributes),
   ii. to make marginal improvements on the Choice-candidates, if that is at all possible.
2. To provide a Rationale, i.e. a decision rule or line of reasoning, that is acceptable to Dm as well as to his potential audience of the reasons:

i. why the Choice-candidate is in fact "the best solution" to Dm's decision problem, and

ii. why either of his other Acceptable alternatives "should not possibly have been selected."

3. To give Dm a chance to look around in his task environment "once more," in order to assure himself that there are in fact "no better" alternatives forthcoming which, with his present Resources, he may have missed looking into.

4. To give Dm time to "get used to" the idea that the Choice-candidate is indeed to be his Decision, in a non-threatening context where Dm feels that he "could still back out of it if he wanted to."

The Confirmation Phase is separated from the post-choice Implementation Phase by Dm's act of explicit public Commitment to his Decision. Festinger's Dissonance Reduction theory is a statement of what the latter believes takes place during Dm's post-choice Implementation Phase: A necessary condition for Dissonance Reduction to occur, as Festinger states explicitly, is that Dm is de facto committed to obtaining or living with his Choice.(17) Dms will however have made no such Commitments as they are seen to enter the GDP-I Confirmation Phase of decision making. The latter process is described by the following sets of propositions:

Hypothesis X: Confirmation Commencement;

Hypothesis XI: Nature of Confirmation Processes;

Hypothesis XII: Confirmation Propensity;

Hypothesis XIII: Post-confirmation Phenomena.

Hypothesis X -- Confirmation Commencement

Termination of Search behavior and Confirmation Commencement do not necessarily coincide in time. Hypothesis IX-A indicates two conditions under which Search is expected to terminate. In the second of those cases -- when Dm runs out of Computational Resources with a full Active Roster of Acceptable Alternatives -- Search Termination and Confirmation Commencement will coincide. In cases where Dm is FAIRLY CERTAIN that he will receive an offer from his Favoritely Acceptable Alternative, but has not yet been informed what the terms of the offer will be, there will exist a Limbo period of waiting between Search Termination and Confirmation Commencement.

HYPOTHESIS X -- CONFIRMATION COMMENCEMENT

Dm will Commence Confirmation as soon as he has actually received the Offer(s) from his Favorite Alternative(s). In all other cases Confirmation will Commence when Search is Terminated, i.e. according to Hypothesis IX.

(Independent measures of the fact that Dm at the point of Confirmation Commencement indeed has selected his Choice Candidate implicitly will now be described.)

Hypothesis XI -- Nature of Confirmation Processes

As indicated above, the main purpose of Dm's Confirmation processing is to assure himself and others that the Choice Candidate he finally ACCEPTS is "better" than any alternative he thereby has to REJECT. It seems a bit paradoxical perhaps that this eminently rationalizing -- in the sense of being "irrational" -- phase of decision making is motivated largely by Dm's professed need to be, or to believe that he has been, sufficiently "rational" in making his choice. Yet, as indicated, Dm also has some other, quite sensibly "rational" reasons for spending a good deal of time and effort Confirming his implicit Choice. More specifically, Dm will characteristically report that bona fide problems exist with respect to certain of his Choice Candidate's constraints or goal-attributes that need be straightened out before Acceptance can become complete, or else, more obliquely, Dm feels a need to be able to defend or "explain" his decision to himself as well as to this own social environment, and/or to the alternatives which he thus REJECTS -- in terms which are both personally and socially accepted as being perfectly "rational."

HYPOTHESIS XI -- CONFIRMATION PROCESSES

During Confirmation Dm will characteristically exhibit the following forms of behavior:

1. Dm will focus attention on his Choice Candidate, attempting to resolve remaining problems, uncertainties, or low values of its attributes, paying comparatively little or no attention to similar problems associated with the Confirmation alternatives.

2. Dm will proceed to collect additional, but now biased, information about his Active alternatives -- by Dm's asking selected questions of a few of them, the answers to which Dm expects will be either FAVORABLE to the Choice Candidate and/or UNFAVORABLE to his Confirmation alternatives.

3. Dm will re-emphasize his Choice Candidate's Good points, make favorable interpretation of the Choice Candidate's AMBIGUOUS or SOMEWHAT UNCERTAIN points; and, if possible, "explain" the Choice-Candidate's LESS THAN GOOD points.

4. Dm will compare his Confirmation alternatives, one by one if more than one, to the Choice Candidate along Primary and most of his Secondary goal-attributes -- but will not make similar comparisons among his other Active alternatives -- in an attempt to arrive at a Decision Rule which clearly yields the Choice Candidate as the "best," i.e. Dominant, alternative.

5. In the event of a "close race" Dm will consider entering into a bargaining relationship with the Choice Candidate in the hope of increasing its LESS GOOD points. No such relationship will be contemplated with respect to the Confirmation alternatives -- presumably for fear that the latter might make concessions, which would only complicate Dm's further Confirmation processing.

6. Dm will revise his opinion of the felt Importance of selected Secondary and Auxiliary goals: increasing felt Importance for goal attributes on which Choice-candidate is DOMINANT, and decreasing it for attributes on which Confirmation alternatives are DOMINANT.

7. Dm will search for, explicitly enumerate, and include in his Decision Rule selected Auxiliary goal-attributes on which the Choice-candidate scores HIGH.

8. In the event there still are Secondary goal-attributes along which the Choice Candidate is less-than-Good, i.e., that have thus not yielded to Dm's biased additional-information collection, direct problem solving attempts, or bargaining efforts, Dm will express a "need to compromise" -- often in the form of an explicit "resignation to the fact that he can't get everything" by settling for the Choice Candidate.

9. Dm will Test-commit himself to the Choice candidate by trying out his new-found Rule on his immediate social environment, and by Role-playing his acceptance of the Choice Candidate, "getting a feel for how it will be to live with it."

Hypothesis XII - Confirmation Propensity

In attempting to predict whether a particular Dm is likely to engage MORE or LESS DIFFICULTY, alternatively in LONGER or SHORTER Decision Confirmation, GDP-I focusses on two sources of variation, namely: i. the type of Planner Dm is, and ii. the nature of his Active Alternatives Roster at the time of Choice-candidate selection:

HYPOTHESIS XII-A -- CONFIRMATION PROPENSITY BY TYPE OF PLAN

Career Explorers will tend to engage in LONGER and MORE DIFFICULT Confirmation procedures (since they still have to resolve the issue of which basic career Plan to adopt).

Career Agnostics and Institutional Career Incumbents tend to engage in SHORTER Confirmation procedures, provided of course such is also predicted by Hypothesis XII-B.

Entrepreneuring Career Incumbents will be highly variable in the Length and reported Difficulty of their Confirmation procedures, depending in part on how effective they perceive their Choice to be in enabling them to reach their Ideal Solution.

HYPOTHESIS XII-B -- CONFIRMATION PROPENSITY BY TYPE OF ACTIVE ROSTER

i. Dms who are faced with a single Favoritely Acceptable alternative, or

ii. who are rejected by their Confirmation Candidate after Confirmation has begun,

will engage in SHORTER Confirmation procedures.

iii. Dms who are faced with a choice among two or more Favoritely Acceptable alternatives, or

iv. who are REJECTED by a Potentially Favoritely Acceptable alternative, or

v. Dms who have merely a Full Roster of Acceptable alternatives, but no Favoritely Acceptable alternatives,

will all tend to engage in LONGER and MORE DIFFICULT Confirmation procedures.

vi. Dms who find merely one Acceptable Alternative will engage in LONGER and MORE DIFFICULT Confirmation procedures, and will frequently withdraw from the Task Environment, unable to Commit themselves to a final Decision.

PHASE VI -- DECISION COMMITMENT AND IMPLEMENTATION

When Confirmation processing has passed its peak intensity Dm will quite frequently become aware of what he is actually doing, namely rationalizing a preconceived Choice, and will so be able to report to an observer. Whenever this realization occurs we can expect that Confirmation Termination and Commitment will not be far away.

HYPOTHESIS XIII -- COMMITMENT PROCESSES

Dm will go through the following steps when Committing himself to his Confirmed Choice:

1. Dm will feel (report) Anxiety, i.e. pressure, to perform an act of Irrevocable Commitment -- such as a public pronouncement -- to his Final Decision as quickly as possible.

2. Dm will simultaneously announce his Final Decision and the Decision Rule he has constructed for having made it, either to himself or to his immediate social environment, and at the same time seek social support for his Decision.

3. Having thus Committed himself irrevocably, his Post-Choice Anxiety will be momentarily released. Then Dm will feel (report) moments of Doubt about the prudence of having thus Committed himself to the Decision, the Severity of which will vary with the Difficulty of his Confirmation. (This Anxiety will in turn be countered with self-consolation of the form "but now I'm committed, so there's nothing more I can do about it.")

4. At this point Dm will spontaneously express Relief as well as Happiness with his Decision. As a rule Dm will now feel (report) that he has "made the best possible Decision under the circumstances."

5. In retrospect, when all his Post-Choice Housekeeping details have been cleaned up after Decision Commitment, Dm will usually express spontaneously that he cannot understand "why" it should have been so difficult for him to make this Decision.

The Confirmation hypothesis just stated goes a long way toward explaining the often noted asymmetry in human decision Making versus Remaking behavior: Once a man has "made his decision" in the sense described above, he is likely not to be very "open-minded" with respect to any other alternative that comes along "too late," even if the latter is actually BETTER than Dm's Choice on goal-attributes that Dm had actually utilized for making his decision originally. The rationalized "defenses" that such a come-lately alternative will have to fight are formidable: Dm will have effectively "jammed" his choice mechanism with the partially irrelevant Decision Rule that he in fact constructed post-hoc in order to be able adequately to Confirm his Final Choice.

And it may take some time, or his behavior in another related decision context, for Dm's presumably contrived "re-evaluations" of the relative Importance among his various goal-attributes to be returned to "normal," if indeed such a "normal" condition could justifiably be said to exist (and could be measured a priori), and furthermore if Dm's "having to live with" his Decision will indeed permit such "normalization" to take place. We have considered the latter questions in considerably more detail elsewhere.(18)

The following then is the final set of hypotheses presented by GDP in its current version:

HYPOTHESIS XIV-A -- POST-CHOICE RECONSIDERATION

The LONGER and MORE DIFFICULT Dm's Confirmation processing was, the MORE RELUCTANT Dm will be:

a. to entertain a review of or questions about his Rejected alternatives after his act of Decision Commitment; and

b. to Reopen the problem for reconsideration, for example in order to take into account new information or additional alternatives that would be clearly relevant to how Dm might have resolved the settled Decision Problem.

HYPOTHESIS XIV-B -- DISSONANCE REDUCTION (BY FESTINGER)

Dm will continue to increase his rating of Overall Liking for his Choice, relative to his Liking for Rejected alternatives, for quite some time after his act of Decision Commitment. (Festinger does not indicate for how long this process will continue.)

FIRST GENERALIZED DECISION PROCESS MODEL

(GDP-I)

PROTOCOL CODING SCHEME (A)

Processes to be Observed

PHASE II -- PROBLEM DEFINITION

1. Ideal Solution (Career) Description
2. Reality Testing for Problem Definition

PHASE II -- PLANNING

1. Type of Plan Identification, either:
   a. Role Commitment,
   b. Means-Ends analysis,
   c. Commitment Postponement,
   d. Goal Elaboration,
   e. Other.
2. Resource Allocation to Problem
3. Reality Test for Availability of Planned First Job
4. Search Generator Enumeration, Evaluation, Selection

PHASE IV -- SEARCH

1. Reality Testing for Screening Strategy
2. Screen Adaptation
3. Generator Regulation
4. Decision to Investigate an Alternative Further:
   a. REJECT.
   b. INVESTIGATE MORE.
5. Alternative Investigation and Evaluation
6. Plan Revision
7. Implicit Choice Candidate Selection

PHASE V -- CONFIRMATION

1. Confirmation Processes :

   a. Collection of Additional Biased Information ;

   b. Interpretation of Choice-candidates Good, Ambiguous, Less Good Attributes ;

   c. Bargaining with Choice Candidate ;

   d. Revision of Felt Importance of Goal-attributes ;

   e. Enumeration of Auxiliary Goal attributes ;

   f. Construction of Choice Decision Rule -- Enumeration of Pros and Cons of Choice-candidate ;

   g. Expression of "Need to Compromise" on Choice candidate ;

   h. Test-committing Choice candidates .

PHASE VI -- DECISION COMMITMENT AND IMPLEMENTATION

1. Post-Choice Reconsideration

2. Commitment Processes :

   a. Need-for-Announcement of Choice ;

   b. Choice and Decision Rule Announcement ;

   c. Anxiety Release ;

   d. Happiness with Choice ;

   e. Retrospective Appreciation of Difficulty of Reaching Decision .

FIRST GENERALIZED DECISION PROCESS MODEL

(GDP-I)

PROTOCOL CODING SCHEME (B)

Variables to be Measured

PHASE II -- PROBLEM DEFINITION

A. Explication or Importance Evaluation of

Ultimate Career Qualities ;

B. Explication or Appraisal of

Own Potential Career Contribution Qualities ;

C. Explication or Estimation of

Inducement Qualities and Success Requirements of Career Types .

PHASE III -- PLANNING

A. Plan meta-criteria:

1. Effectiveness
2. Personal Sacrifice
3. Take-home Benefits
4. All-inclusiveness
5. Organizational Mobility
6. Other

B. Length and Difficulty of Planning

PHASE IV -- SEARCH

A. Initial Search Propensity

a. HI
b. MED
c. LO

B. Initial Search Strategy -- (Initial Screening Tightness)

a. TIGHTER
b. INDETERMINATE
c. LOOSER

C. Evaluation Equilibrium Categorization

a. INVESTIGATE MORE
b. POSTPONE EQUILIBRIUM EVALUATION
c. REJECT
d. REJECTED BY ALTERNATIVE
e. POTENTIALLY REJECTABLE
f. ACCEPTABLE PENDING SPECIFIC INFORMATION
g. POTENTIALLY ACCEPTABLE
h. POTENTIALLY FAVORITELY ACCEPTABLE
i. FAVORITELY ACCEPTABLE

D. Search Termination

Point in Time

PHASE V -- CONFIRMATION

A. Confirmation Commencement

Point in Time

B. Confirmation Propensity

a. LONGER/SHORTER
b. MORE/LESS DIFFICULT

C. Decision Made

Point in Time

PHASE VI -- DECISION COMMITMENT AND IMPLEMENTATION

A. Dissonance Reduction-Adjustment

a. INCREASED LIKING FOR CHOICE
b. DECREASED LIKING FOR REJECTERS

II: PROBLEM DEFINITION

Input Dm's personal value structure, i.e. "what he wants in life", and his knowledge of the (occupational) task environment, derive: a description of the "ideal solution" (in this case, "ideal ultimate job, or career").

(See detailed hypotheses.)

OUTCOME:

Description of Ideal (Career) Solution

III: PLANNING

Input the design criteria for the ideal solution (career), derive:

1. a set of specifications for Dm's "next move" (in this case, "first job after graduation");
2. a set of alternate ways of looking for, or generating, prospects for such a "move".

(See detailed hypotheses.)

OUTCOME:

A. Operational Design Specifications for Next Move (Job), in terms of Primary, Secondary, and Auxilliary Goal Attributes.

B. Set of Search Generators.

C. Resource Allocation

START LOOKING FOR PROSPECTS

IV: SEARCH

Input the operational specifications (constraints on alternatives) and set potential alternatives generators then:

1. Reality Test Constraints
2. Activate Alternatives Generators;
3. Screen Out Alternatives;
4. Investigate and Follow Up Screened Alternatives
5. Evaluate Alternative, by either:
   a. Rejecting outright,
   b. Accepting into Active Roster,
   c. Iterating Investigation, until either a. or b.

(See detailed hypotheses)

OUTCOME:

"Dm's Implicit Choice"

STOP LOOKING FOR PROSPECTS

V: CONFIRMATION

Input the implicit choice and the active roster of alternatives, then:

1. Check out choice on all Goal Attributes;
2. Collect Biased Information of Top-most Alternatives in Active Roster -- "Good" on Choice, "Bad" on Others;
3. Revise "Importance" attached to Secondary and Auxilliary Goals so as to favor Choice;
4. Construct Argument why Choice is "The Best Alternative".

(See detailed hypotheses)

OUTCOME:

A. "Dm's Explicit Choice"
B. "Dm's Decision Rule"

MAKE DECISION COMMIT CHOICE PUBLICALLY

VI: IMPLEMENTATION

Input the explicit choice and Dm's decision rule, then:

1. Defend Choice against all comers, even against clearly better alternatives;
2. Reduce Dissonance by forgetting relevant items on Top-most Alternatives -- "Bad" on Choice, "Good" on Others;
3. Refuse to Reopen Reconsideration of Choice (unless put under "Heavy" pressure to do so).

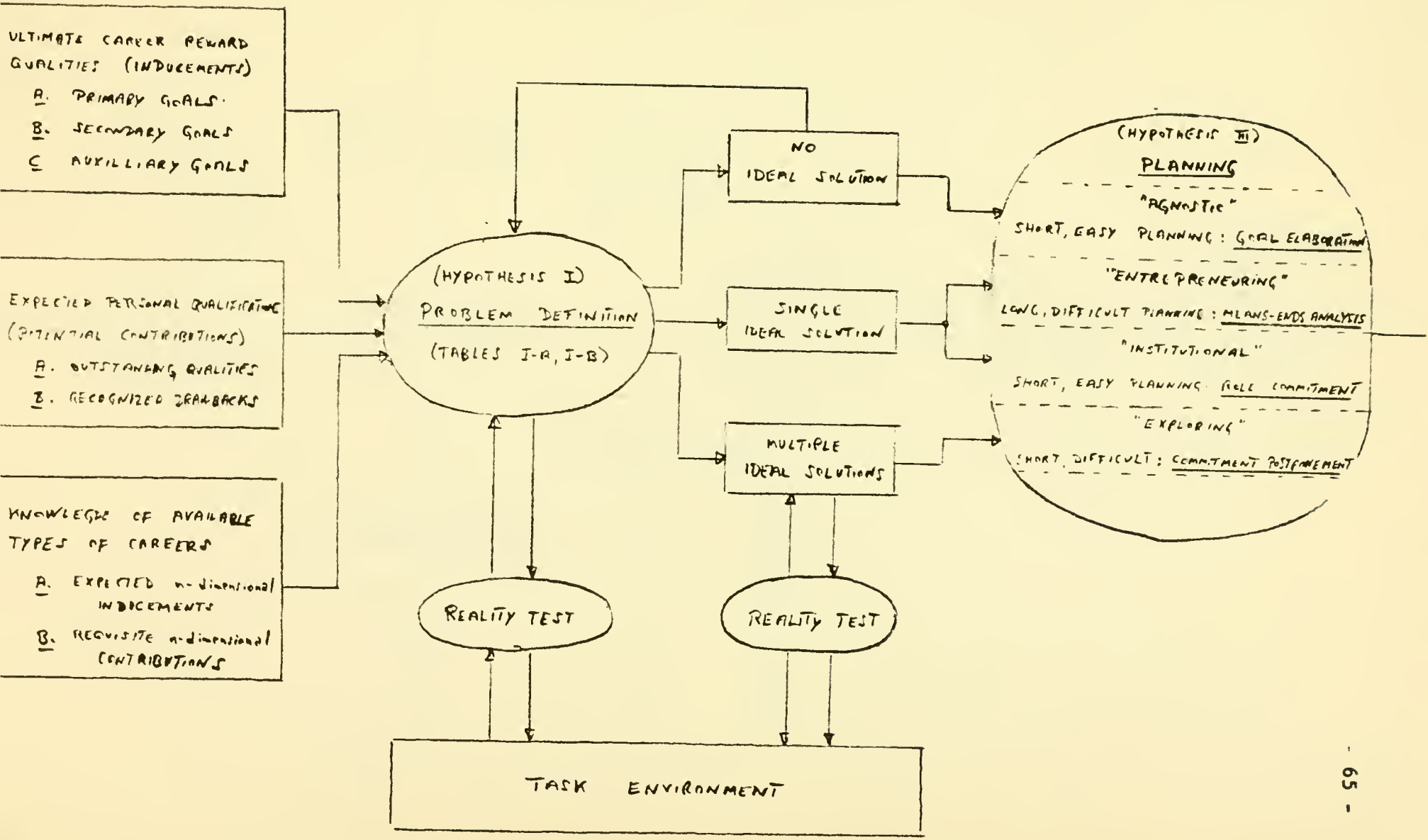
(See detailed hypotheses)

OUTCOME:

"Peace of Mind"

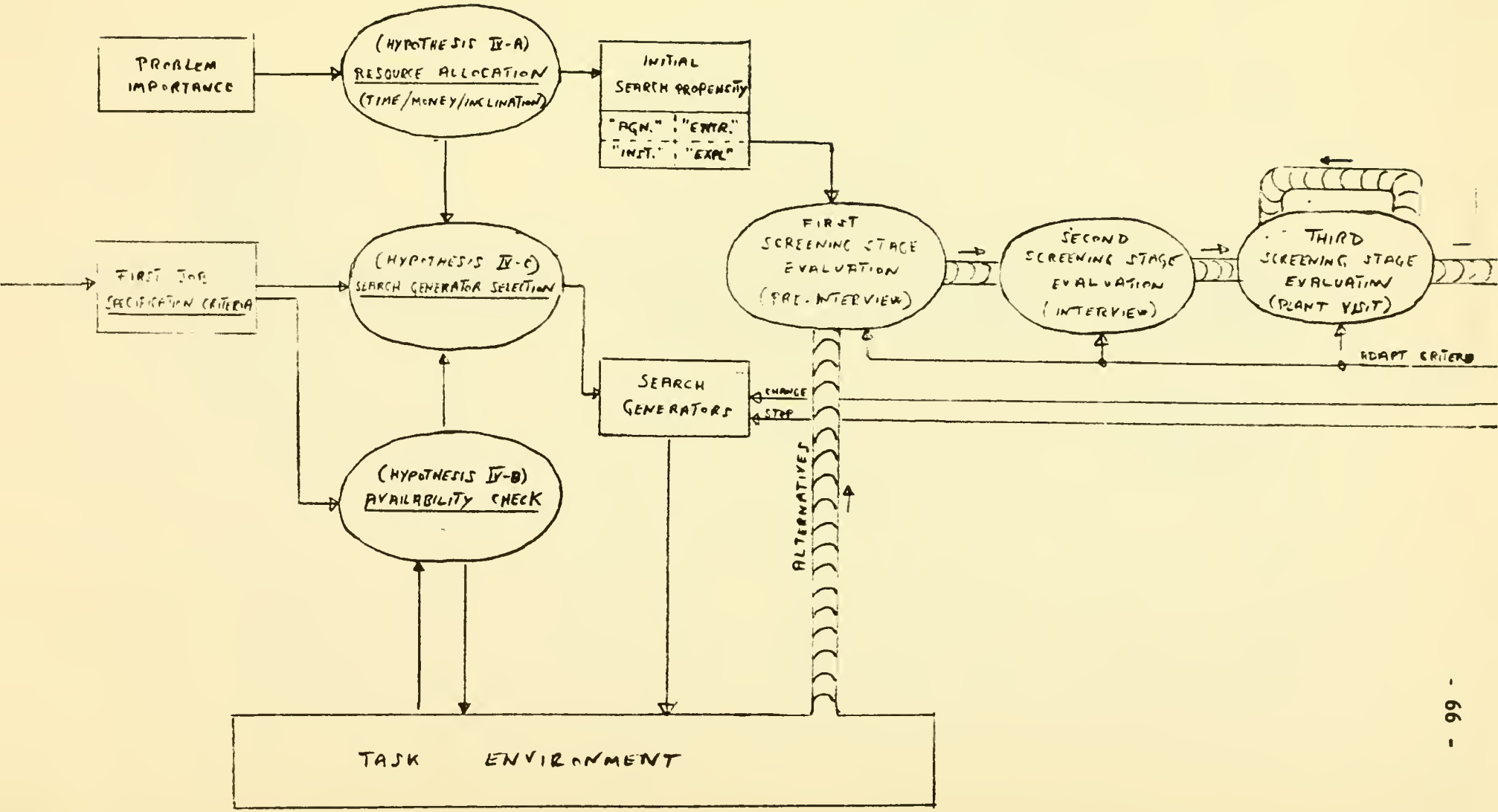
FIRST GENERALIZED DECISION PROCESS MODEL

(GDP-I)



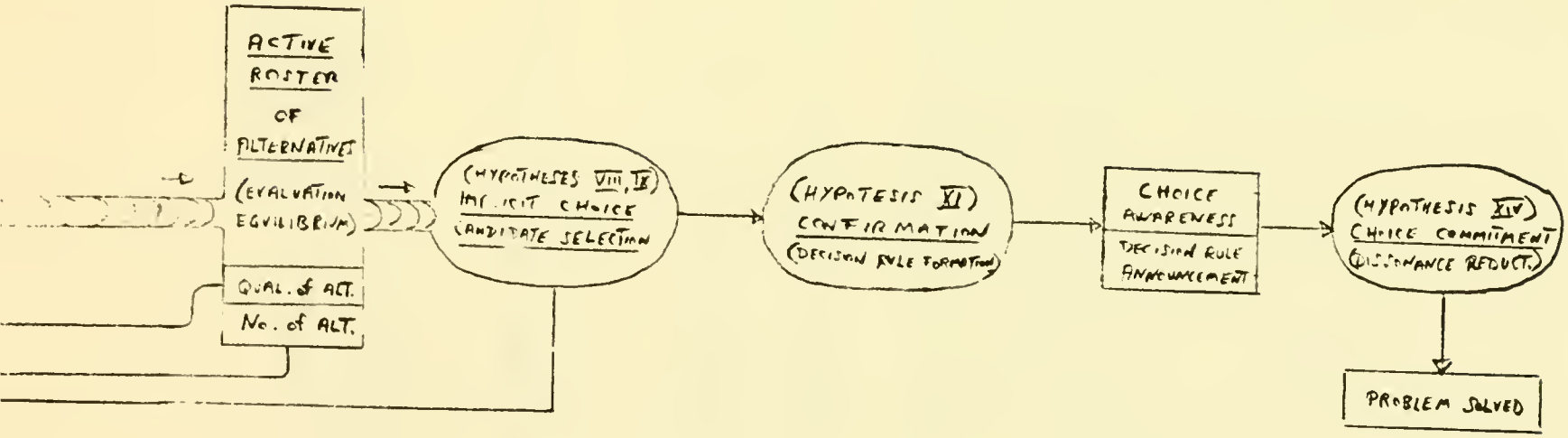
FIRST GENERALIZED DECISION PROCESS MODEL

(GDP-I)



FIRST GENERALIZED DECISION PROCESS MODEL

(GDP-I)



IV NOTES AND REFERENCES

1. Most theories of decision making and problem solving assume that the decision maker's (Dm's) task environment, his definition of the problem, and the methods a heuristics with which he attempts to find solutions to the latter are somehow "given" a priori. See for example W. Edwards, "The theory of decision making," Psychol. Bull., 1954, 51, pp. 380-417; A. Newell, J. C. Shaw, and H.A. Simon, "Elements of a theory of problem solving, Psychol. Review, 1958, 65, pp. 151-166; and D. W. Taylor, "Decision making and problem solving," in J. G. March (ed.), Handbook of Organizations, Chicago: Rand McNally, 1965, pp. 48-86. But see W. F. Pounds, "The problem of problem finding," Sloan School of Management, Massachusetts Institute of Technology, 1965, who suggests viewing Problem Recognition and Problem Definition not as separately distinct decision phases, but in terms of a number of different social forces and problem sources that simultaneously and differentially compete for Dm's attention and solving-resources.

2. For a brief description of the computer-management environment in which Dms were studied by means of on-line verbal "thinking-aloud" protocols see P. Soelberg, "Progress reports," in "Organization research program: progress reports," School of Industrial Management, Massachusetts Institute of Technology, 1962 and 1963.

3. See the subjectively ad hoc conceptual vocabulary of, for example, G. W. Allport, P. E. Vernon, and G. Lindzey, Study of Values, Boston: Houghton Mifflin, 1951.

4. Ibid; J. G. Darley and W. J. McNamara, Minnesota personality scale, N.Y., 1941; Thurstone interest schedule, New York: Psychol. Corp., 1947; T. French, Summary of factor analytic studies of personality, Princeton, New Jersey: Educational Testing Service, 1956.

5. e.g. as assumed in von Neuman-Morgenstern utility theory (Theory of games and economic behavior, Princeton University, 1947), or in Arrow's social utility theory (Social choice and individual values, New York: Wiley, 1951).

6. See for example Hypotheses III, VI, and XI, below.

7. See P. Soelberg, "A critical review of theories of problem solving and decision behavior: Part B," Sloan School of Management, Massachusetts Institute of Technology, 1966.

8. e.g. as in A. Newell, "The chess machine, an example of dealing with a complex task by adaptation, 1954, Santa Monica; California, the RAND Corp., P-620.

8a. See P. Soelberg, "Interview process analysis of occupational decision behavior," Sloan School of Management, Massachusetts Institute of Technology, 1966.

9. Newell, op. cit.

10. Soelberg, "Interview process analysis ...," op. cit.

11. Ibid.

12. However, a snag with this sort of hypothetical role-playing manipulation, which is usually under-played by laboratory experimenters, is that Dms cannot give, or somehow refuses to exhibit, his "true" reactions to E-defined hypothetical job alternatives: See Hypothesis No. 14, in Soelberg, ibid., the data for which tend to support a belief in the latter proposition.

12a. See W.H. Starbuck, "Level of aspiration," Psychol. Rev., 1963, 70, pp. 51-60.

13. As in H.A. Simon, "A behavioral model of rational choice," Quatr. J. of Econ., 1955, 69, pp. 99-118.

13a. ibid.

14. e.g. von Neuman and Morgenstern, op. cit.; Arrow, op. cit.

15. e.g. J. G. March and H. A. Simon, Organizations, New York: Wiley, 1958, pp. 47-50.

16. e.g. B. O. Koopman, "The theory of search: Part III, the optimum distribution of searching effort," Opns. Res. 1957, 5, pp. 613-626; A. Charnes and W. W. Cooper, "The theory of search, optimum distribution of search effort", Management Science, 1958, 5; J. deGuenin, "Optimum distribution of effort", Opns. Res., 1961, 9, pp. 1-7.

17. L. Festinger, Conflict, decision and dissonance reduction, Stanford University, 1964.

18. P. Soelberg, "Longitudinal questionnaire analysis of occupational choice", Sloan School of Management, Massachusetts Institute of Technology, 1966.