

The
Updated
Classic
Edition

the UNIVERSAL TRAVELER

a Soft-Systems
guide to
creativity,
problem-solving
And
the process of
reaching goals

by Don Koberg *And* Jim Bagnall

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INTRODUCTION



The UNIVERSAL TRAVELER is more than a guide to creative problem-solving and clear thinking; it is your passport to success. The process described is universally relevant; based on the premise that any problem, dream, or aspiration, no matter its size or degree of complexity, can benefit from the same logical and orderly 'systematic' process employed to solve world-level problems. Only the wording and methods vary and then, in appearance alone. Systematic process, derived from the study of human control systems known as Cybernetics, forms the basis for modeling most social, industrial, and economic problem situations. To provide an everyday application of method leading to a more orderly life process, we have translated the technical terminology of systematic problem-solving into conversational language and simplified techniques. The resulting 'user-friendly' approach to problem-solving is called SOFT SYSTEMS. Once learned and internalized with practice, the Universal Traveler "soft systematic" approach will allow anyone to deal more logically and orderly with all manner of problem situations or goals.

INTRODUCTION to CREATIVITY

Life is a continual sequence of encounters. Some are unavoidable; to be enjoyed or suffered by choice. Others can be controlled consciously. Creative problem-solving is a process of dealing intelligently with those situations that can be controlled. A creative problem-solver is a 'designer'; a person intending to improve what exists or to find clear paths through dilemmas or challenging situations and arrive at satisfying solutions.

In general, in order to improve something and do it creatively, it is necessary, first, to identify what it is that actually needs improving; second, to understand the interactive factors involved; and third, to develop the required skills and tools (methods) to manage the task.

Creative Behavior differs from normal behavior which is either primarily objective or primarily subjective. Creativity requires a willingness to join subjectivity with objectivity. It involves learning to think and behave "wholly" instead of one way or another; to alternate between what you sense or feel, what you already know or think you know, and what you might discover by trying something new. The primarily OBJECTIVE person, for example, knows everything by name. Once named, no further examination of content is required thereby eliminating the potential for deeper understanding and innovation. The primarily SUBJECTIVE person, being a here-and-now sense-response mechanism, continually delights in sensory experience and cares little for names or other fixed conclusions.

TO COMBINE THE TWO, thus creating a more natural balance between the extremes of sensing and knowing, IS TO GAIN MORE THAN BOTH. The combination allows you to deal more completely with any encounter.

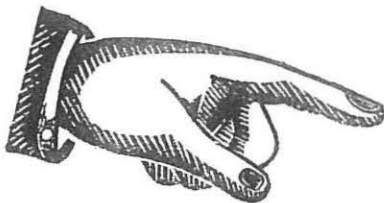


Creative wholeness leads beyond the here and now of sensory response and remembered experience and knowledge. It opens the gate to a deeper understanding of the natural balance between divergent and convergent thinking and the freedom to control your behavior.

Allowing yourself to alternate between thinking and feeling may be difficult at first. Adults live in social virtual worlds of words and symbols. It is only human to become more objective and less subjective with age. Knowing the names of things saves you lots of time and stopping to smell the roses or enjoy reality is considered a waste of time. It may require frequent practice to overcome the habits related to 'normal' behavior. It is far more 'normal' to "think" all day long and save "feeling" for "after work" or the weekend. Because of being unique, balanced behavior is often viewed as careless or maladjusted and even at times subversive to the institutions that normalcy creates to perpetuate normalcy. Since conformity is the shortest route to acceptance in a mass society, behaving uniquely is a sure way to become an outcast. But acceptable unique behavior is possible for anyone, who by intention is adventurous, pride-less, self-disciplined and self-believing, who has interest in resolving problematic conditions, and who continually develops an ability to be "whole." When learned, the new behavior will seem every bit as natural as the old.



In brief, CREATIVITY doesn't come free. It is not a gift or quirk of birth. Some people don't "just have it" while others do not. Nor does it come from luck or magic. Creativity is learnable behavior requiring steady and determined effort. If you accept the fact that the goal of creativity is innovation, you should realize that creating something "new" is NOT NORMAL but DIFFERENT from normal, perhaps even 'abnormal.'



CAUTION!! If you believe you are behaving creatively and your behavior is readily accepted in normal society, one of two conditions is probable: either you have conditioned society to accept your abnormal actions or your input is really not as unique as it seems.



Some keys to Creative Behavior

Practiced creative behavior breeds automatic creative behavior. Said another way, creativity and consciousness of procedures (process) and methods go hand in hand. If you become more aware of your position relative to what has gone before and what is yet to come, your ability to decide from both the broad view and the specific view is increased allowing you to become more accurate in your predictions and choices throughout every journey.

Proven suggestions for developing consciousness of creative procedure and methodology are:

1. FREEDOM FROM PRIDE (SELF-DISCIPLINE)
2. BELIEF IN SELF AND THE ABILITY TO SUCCEED
3. CONSTRUCTIVE DISCONTENT
4. WHOLENESS
5. ABILITY TO CONTROL HABIT

FREEDOM FROM PRIDE (SELF-DISCIPLINE)

1

Pride, other than as respect for quality or achievement, is destructive counter-creative behavior and detracts from the attainment of goals. It is difficult to see clearly with your nose in the air. PRIDE stands in the way of creativity by inhibiting you from asking key questions, thus stifling the key requisite for curiosity. It restricts a change of mind or direction which thereby fixes a preconceived and prejudicial course. And it runs counter to the true selflessness

required for the "giving" of oneself to the task! Pride joins the other "deadly sins" to detract from improvement. SELF-DISCIPLINE, i.e., "being true to your self", on the other hand, is a truth-revealing behavior. It requires courage of conviction and fearless acceptance of the responsibility for being what you are, and taking steps to insure improvement. Modifying behavior to meet specific situations need not limit freedom or work against the needs of others involved.

2 BELIEF IN SELF AND THE ABILITY TO SUCCEED

Be self-motivated! Belief in your ability to succeed is necessary for both motivation and the maintenance of creative inertia. If you wait for someone else to move you, you might find yourself headed in a wrong direction.

Ego-strength and leadership are closely related. Leaders with low self-belief are rare. The norm is to subdue ego and become a follower; to play the social game of self-denial and make less of your abilities and potentials. Hiding your ego from others results in denying it to yourself. The deeper you bury it, the less it serves you as part of your behavior. Begin to believe in your own creative potential and you will begin to behave more creatively."

3 CONSTRUCTIVE DISCONTENT

Discontent is as prerequisite to meaningful problem-solving as is dissent to being a good citizen. Adolescence is usually all that is required for achieving half of this important attribute of creativity. A "contented" teen is rare indeed; discontent goes with that time of life. To the young, everything needs improvement. Yet, it is usually the lack of a constructive attitude that wins out in the end, turning potentially healthy "discontent" into nothing more than moans and groans.

Constructive discontent is a necessity for the creative problem-solver. With maturity, your discontent wanes. Society teaches that "fault-finders" disturb the status quo. It soon seems "good" not to "make waves" or "rock the boat" and "let sleeping dogs lie" and "be seen but not heard." Only a constructive attitude can maintain the once dynamic condition.



WHOLENESS

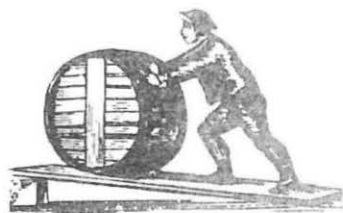
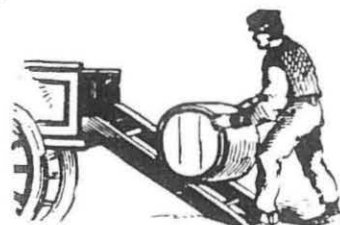
Everyone both senses and knows. It is natural to both feel and to think or decide. With age the more you know, the less you tend to feel. It's faster that way. A normal adult will smother sensitivity in favor of automatic judgment and moving on to new knowledge. But remaining sensitive doesn't mean re-learning the same things over and over again. It simply allows for a more balanced whole. By alternating between feeling and knowing, between sensing and deciding in a conscious way, you maintain control of your **WHOLE** potential.

4

ABILITY TO CONTROL HABIT

Behavior in general is a combination of habits. Habits simplify life. They develop from discoveries turned to beliefs and actions which, when repeated until memorized, become automatic. Since the majority of basic discoveries occur during childhood, most habits and resultant behaviors form early and strengthen with age. As habits work for you, they can also work against you. The habit of believing you know something so well that it preempts discovery always works against you in terms of behaving creatively.

5



In order to see things differently and become more innovative, it is necessary to be in control of habits...always ready to take an unknown path and to chance the unproven by developing new, replacement habits when the old ones get in the way. In the end, only your value judgment determines how helpful or hindering your habits are in terms of personal problem-solving ability.



Blocks to creativity

It is normal to hold back because of being wary of making mistakes or asking 'dumb' questions. Yet few errors carry stiff penalties and the asking of any question, no matter how innocent, suggests willingness to learn. The most common barriers to creative behavior are self-generated pride, fear, jealousy and competitiveness. The creatively active person is not put off by such demons.

fear

The thought of having a truly new idea can be scary. By definition, the inventor (creator of new ideas) is automatically a minority of one.

FEAR of making mistakes
FEAR of being seen as a fool
FEAR of being exposed as ignorant
FEAR of being criticized for failure
FEAR of offending others
FEAR of being "alone"
FEAR of making waves
FEAR of being associated with taboos
FEAR of losing the security of habit
FEAR of losing the love of the group
FEAR of taking a stand and having to defend it
FEAR of being unable to take the heat



fear

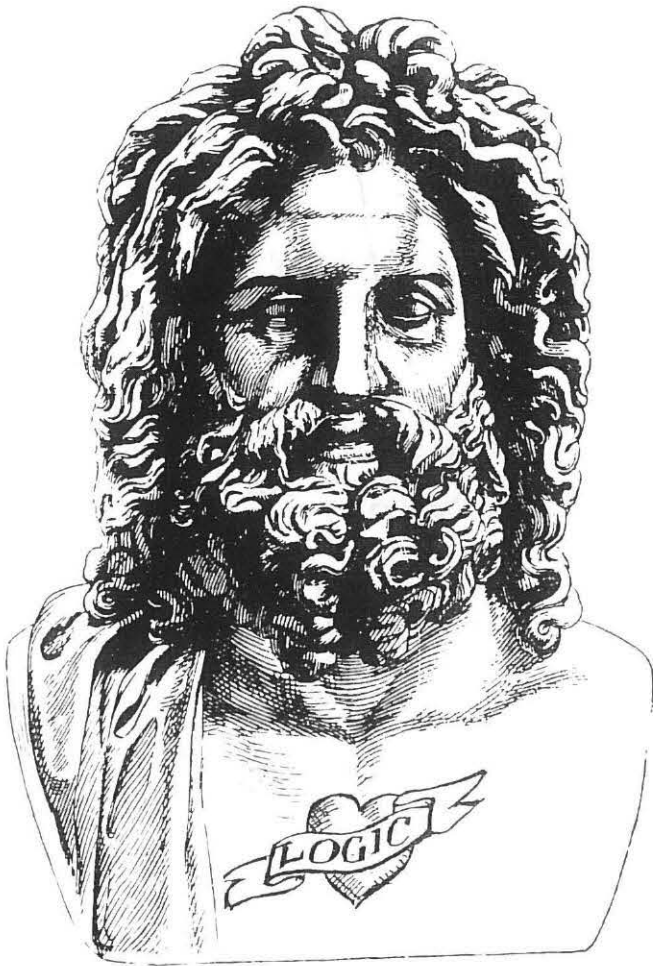
Fear stems from lack of preparation and the accompanying anxiety when dealing with the unknown.

Since creative problem-solving suggests diving head-first into the unknown, fear might be your most formidable enemy. Being afraid is both natural and normal. Trying to be fearless is risky business since fear evokes caution which at times can be a life-saver. But when caution deters progress and creativity through misdirecting your energy, it is working against you.

It's unreasonable to imagine escaping fear altogether. But by changing your focus from "I'm afraid to be wrong" to "I'm trying to be right," the positive point of view can help in overcoming this major block to a more creative life.

Humans are social creatures and no healthy person would enjoy being an outcast. But behaving 'off the wall' or 'out of the box' can make you just that. Fear of being alone, apart from the norm, stops most people from even considering doing or saying something that might be judged as unusual.

Then again, what if you do try something unusual which turns out to be all wrong? Will you be judged as a fool? The mere thought of wearing a dunce cap is enough to stop normal people in their tracks. It is true that the plane could crash and the boat could sink but the odds against either disaster happening keep air and sea lanes busy. Only self-belief, the hope of being right instead of wrong, can outweigh such fears.



In essence logic helps us to understand how all things are or can be organized and inter-related. It is a basis or foundation on which to build. It is an ordering system within which we can deal with pieces and not lose sight of the totality that contains them. Logic is a way, an orderly way, to include sensory response in a conscious process.

IN SHORT...

LOGIC makes SENSE

(Organized knowing develops meaningful feeling.)

LOGIC is both basis and context for order.

LOGIC is a guide for mental activity.

LOGIC is devoid of everyday linguistic content...It has no semantics.

LOGIC is syntax rather than definition.

LOGIC is a structure for reason.

LOGIC is a series of operations or methodical transformations.

LOGIC is neither metaphysical nor philosophical.

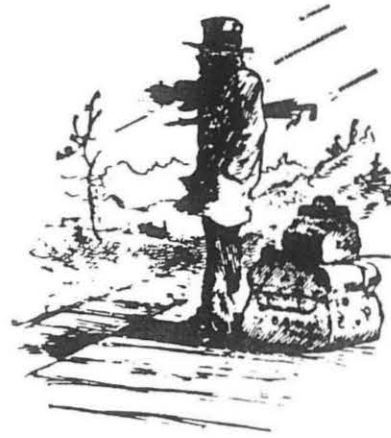
LOGIC is the basis of scientific methodology.

LOGIC provides an organizational framework.

LOGIC is in flux.

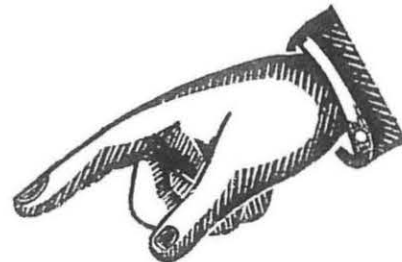
LOGIC simplifies process.

The DESIGN PROCESS is a Problem-Solving JOURNEY



Gym teachers and geologists, writers and truck farmers, movie makers and motorcyclists, audiophiles and elevator operators, xylophonists and sci-fi fans are all problem-solvers. Everyone is a problem-solver. Some just do it better than others, by design. By generating unique and/or particularly satisfying solutions, a designer is said to behave creatively. Since problem-solving is intertwined with living, you are ever embarking on a problem-solving journey of one sort or another. The more you understand DESIGN as being closely related to the life process the better you'll be as a creative problem-solver or 'designer'.

The creative problem-solving (design) process is most easily understood as a sequence of stages or stopovers on a journey to a given destination. A full round-trip itinerary offers experience at each of those places. Once internalized through experience, design process oriented travel involves the conscious application of incentives, intentions, decisions, actions and evaluations.



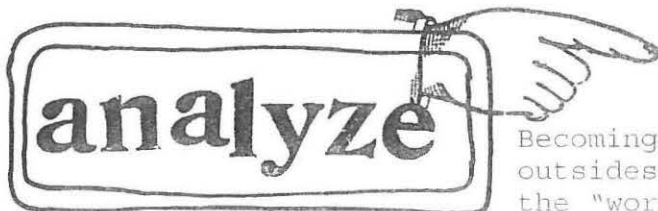
Note: The design process presented here is a design in itself; developed by extracting the essential characteristics of many specific problem-solving processes, including the works of Wallas, Dewey, Rossman, Guilford, Osborn, Stanislawski, Barnes, Gordon, Kepner-Tregoe, Arnold, Churchman, Zwicky, General Electric, the Military, and PERT (Program Evaluation Review Technique).

A COMPLETE SYSTEMATIC PROBLEM-SOLVING JOURNEY includes a SEVEN STAGE ITINERAPY.



GETTING STARTED

Stating initial intentions; accept the problem as a challenge; allowing the problem to become the generator of process; self-motivation.



GATHERING FACTS AND FEELINGS

Becoming familiar with the insides and outsides of the problem; discovering what the "world of the problem" contains.



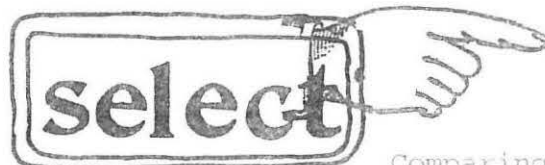
DETERMINING THE DESTINATION
(ESSENTIALS FOR SUCCESS)

Determining the main issues of the problem; conceptualizing and clarifying aims, ends, and goals of problem resolution.



GENERATING ALTERNATIVES

Identifying all possible ways of realizing the goals.



CHOOSING FROM THE OPTIONS

Comparing the destination with the possible ways of getting there; determining the best match(es).



TAKING ACTION

Giving form to the selected "best ways;" "realizing" intentions.



MEASURING SUCCESS

Reviewing the journey to determine the degree of success and its overall value; what was learned? How can the experience be used to make future travel more meaningful and/or enjoyable?

About ANALYSIS and SYNTHESIS

When comparing varied approaches to problem-solving it soon becomes clear that certain common-denominators exist which unite them all. In particular, two "basic" stages emerge. The first is ANALYSIS or breaking the whole into parts for closer examination. The second is SYNTHESIS or resolving the examined parts to form a new whole.

analysis → **synthesis**

The need to apply what is learned from Analysis to form a Synthesis, a third connective link or bridge is often suggested. When included, the basic process becomes

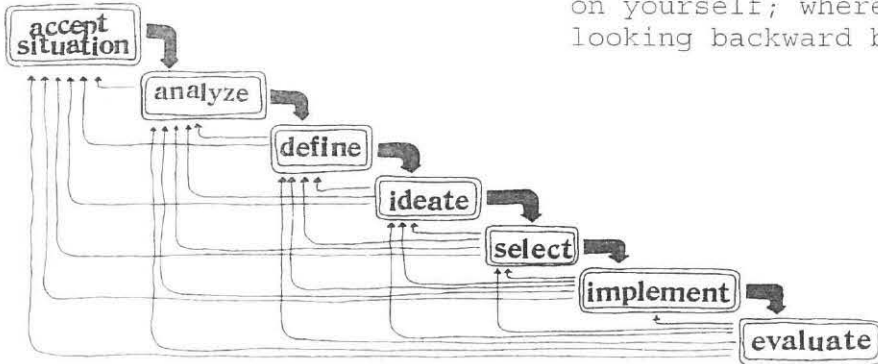
analysis → **definition** → **synthesis**

Further sub-division becomes personal and specific or dependent on the type of problem considered. In general terms, Synthesis, for example, breaks down into idea-finding, idea-selecting and action-taking. If Acceptance is added at the beginning and Evaluation tacked onto the end, a sequence of seven activities evolves. That seven stage process is presented in the following pages.

accept situation → **analyze** → **define** → **ideate** → **select** → **implement** → **evaluate**

If orderly thinking seems as if it might hamper your creative freedom, try to realize that most procedures can be viewed or applied in a variety of ways. How you see something is largely up to you. Procedural stages need not follow one another linearly like coaches of a train where moving forward depends on passing through successive cars one at a time. There are other versions.

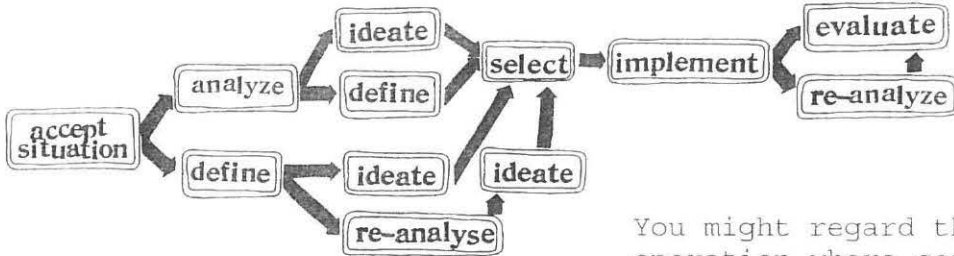
feedback



You might view the stages of process as a back and forth action where you never go forward without always looping back to check on yourself; where progress only occurs by looking backward before moving forward.

branching

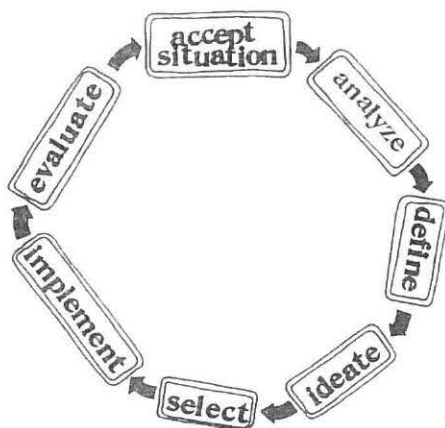
You might go on and on, never stopping, solving one problem after another or dealing with the same problem again and again, and always getting a bit closer to perfection.



You might regard the design process as an operation where certain events occurring at various stages determine more than one connection and progress to a resolution is more expansive than direct.



circular



Of course the most natural way to view process is as a scattering of pieces with each stage progressing concurrently with the others rather than as a connected chain of events...more like a horse race—with each stage competing for attention—than like a mule-train - which is straight-forward and linear but more easily controlled.

In all cases, the important thing to realize is that although only one horse may be out front at any moment, the others are also part of the race and that each stage is always in process, i.e., the problem-solver is rarely relieved from dealing with all stages of accepting, analyzing, defining, ideating, deciding, acting, and evaluating throughout the process.

In reality the conscious solving of problems and the PROBLEM-SOLVING PROCESS does proceed endlessly. The ultimate version would have to be SPIRAL—a continuum of sequential round-trips progressing ad infinitum like entwined atoms within a DNA molecule.

a word about Problem-Solving Methods

Because travel usually entails trying the untried, it can at times be complex and frustrating. Learning 'how to' travel becomes a necessity. Much like selecting the route, side roads, and overnight stops for travel, choosing and tailoring methods to fit both problem and problem-solver is a separate task within each problem-solving journey.

Along with their other supplies, experienced travelers (creative problem-solvers) usually keep notes to remind them of the best ways to get from place to place. Such information regarding technique or approach is called 'method.'

DESIGN METHODS are practical ways for getting from one design stage to another. Creating your own design methods is easy once you realize they need not be complex or formal. You already have favorites, perhaps not consciously named or controlled, but ways that are particularly yours from previous use. Giving names to methods is an ideal method in itself. It is a way to improve remembering a particular technique. There are as many different methods as there are people with needs for methods. A universally common method of making notes, for example, is called by dozens of different names.

Observation suggests that complex problems may require complex techniques while simple problems might be handled more basically. Then again, in spite of logic, the reverse might also be valid. In any event, you should understand that just as you wouldn't choose a moving van to go get the groceries, you wouldn't choose computerized techniques in order to make a decision from a lunch menu...but you could if it became appropriate to a specific situation like selecting for thousands of delegates at a political convention.



Tourist Traps



1

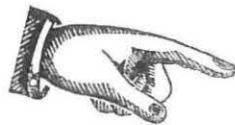
INTUITION CAN GET IN YOUR WAY

Trust and respect your intuition. It embodies your background knowledge and is your basic reference data-bank. Being insightful is to allow your past to serve as a guide to your future...but don't allow insight to control every decision. Fresh analysis can change everything you think.



2

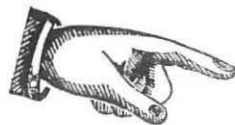
TOOL UP IN ADVANCE. Don't be caught without your camera or other record-keeping device such as a notebook, sketchbook, recorder, etc. Good records often eliminate the need to re-discover experiences over and over before realizing their importance. Merely talking about an experience is a proven method for learning its benefits and shortcomings.



3

SLEEPING AT THE WHEEL

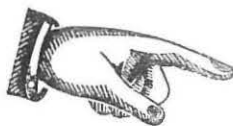
Don't wait until you're half-way there to realize you've been missing much of the action. Attempting to recreate experience without "sensory notes" can cause you to miss even more. **KEEP ALL YOUR SENSES AWAKE** and you'll increase the value and enjoyment of any process.



4

PUNY TRAVELERS MISS A LOT

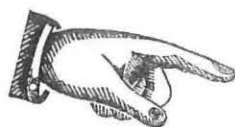
Problem-solving travelers need to rely on both physical and mental health in order to function completely and properly. It's a cinch that when you don't feel well, whether consciously or subconsciously, you won't operate at full potential.



5

TRY TO STAY CALM by self-control. Too much coffee or tea will only shatter your nerves.

SNACK CAUTIOUSLY. A high-protein peanut butter sandwich can help you stay the course longer than a high-energy short-lasting candy bar.

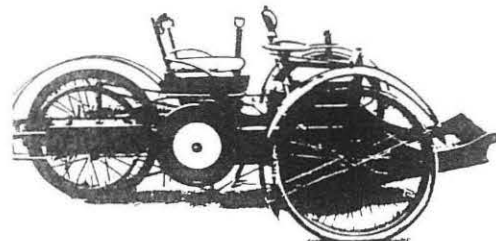


6

DON'T EXPECT SUCCESS FROM WORK WITHOUT

REST. When tired, take a break. Then proceed on your journey with renewed energy.

BEWARE OF OVERVALUING EARLY SUCCESS.



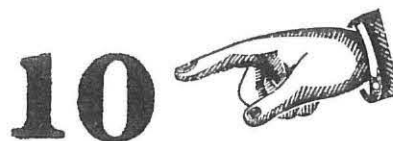
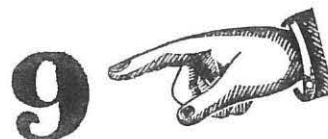
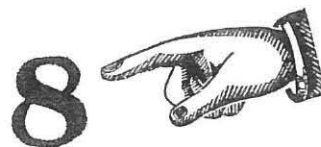
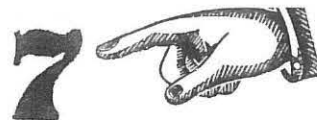
After the inertia is broken there is usually much more traveling to do. Similarly, if a "first" idea is not properly evaluated in terms of overall objectives and ends up being your "only" idea, it can cause even more trouble. Remaining conscious of the entire PROCESS at every stage allows you to consider new alternatives and to make your limitations and your objectives as you go.

DON'T BE FRIGHTENED BY BIGNESS. There are tools for dealing with all contexts, large or small. Seek the tools that fit the task. A consciously-applied PROCESS-METHOD combination can smooth out even the most unfriendly or unfamiliar appearing situation.

EXPERIENCE IS THE BEST TEACHER. Relax and learn. You will only be "at home" with what you discover to be true yourself.

DON'T BE HALF-WITTED. Knowledge acquired with age creates a tendency to cease exploration and to become a KNOW-IT-ALL or SENSE-IT-NOT. Remember that wholeness requires both sensitivity and knowledge. It helps to enhance curiosity, uniqueness, doing the unexpected and adventure. The older, more educated and experienced you become, the more you know and the less sense you imagine to need.

THINK BEFORE YOU LEAP. Quick solutions to unstudied and undefined problems can be even more problematic after the fact. When problem situations arise take some side trips to Analysis and Definition before jumping to answers and conclusions. Instead of asking "What can I do about some apparent problem" stop to question whether or not a true problem exists.



Basic Methods

In the world of ways-to-do-things there seems to be an unlimited number of variations on two fundamental methods:

Perhaps you'll recognize the following basic 'techniques' in your personal behavior.

Trial and Error

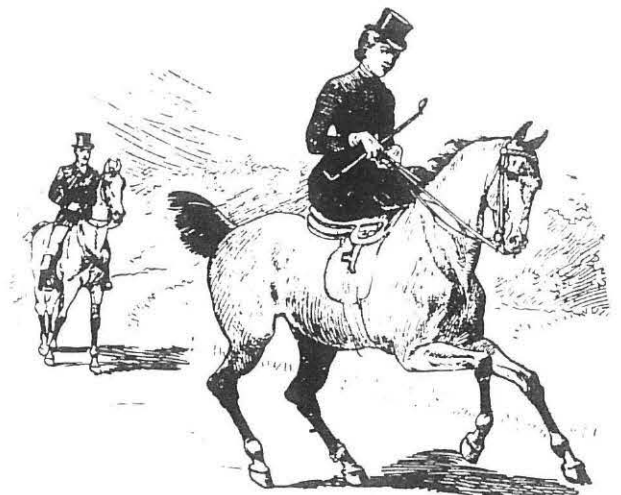
The most basic of scientific methods is known by all as 'trial and error.' If at first you don't succeed, try and try again. Trial and Error is the seed that breeds hundreds of simple and complex offspring.

Checklists

List-making has many variations including checklists, lists of components or parts, lists of purposes and reasons, lists of options and possibilities, lists of cautions and fears, lists of things to do, etc., etc. Brainstorming, possibly the most popular among consciously applied design methods, is a list-making technique.

Learning to make lists is fundamental to becoming more methodical and process-aware. Shopping lists and other daily "to-do" lists are good places to begin. Become a better list-maker and you'll be on your way to more successful (creative) problem-solving.

There are no limits at the outset of solving any problem or turning any dream into reality. Everything about the 'situation' is open-ended.



Process Specific Methods

Like Nature with its dynamic changing seasons, nothing is static about creative problem-solving. The dynamic alternation between convergent and divergent thinking involved in the following sequence of generic methods is a 'natural' progression. Conscious 'focus' on any detail of a 'big picture' requires that you first broaden your scope to see the whole, then narrow down to see the parts.

ACCEPTANCE

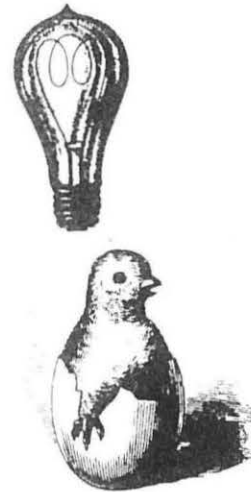
The start of any eventually satisfying journey is a willingness to go. I'LL BUY THAT is the basic method. It requires assigning a percentage of your assets to a particular activity; narrowing (converging) choices from everything potentially possible to the few that are realistically doable. How you get started is a personal matter. Knowing what drives you to accept a challenge and become involved becomes all-important to success. Reward moves some; some depend on threat. Which will it be - a carrot or a whip?

ANALYSIS

The basic method is WHAT'S INVOLVED? Before you can develop an understanding of any situation, you need to get the facts. Often cloaked within the fuzzy issues of initial problem statements, you'll need to apply some variation of this method to uncover them. Finding facts and how they interrelate requires searching for related information...questioning all sides of the situation...examining the details...involvement in fair and impartial, open-minded research. (Divergence)

DEFINITION

The basic method is ESSENCE-FINDING. This convergence method involves the digesting of information to reveal "essential" guidelines. When boiled down to the important aspects or interrelationships, those "essences" allow you to formulate a "concept" or basis for further options, decisions and actions. Once identified, the essential ingredient(s) provides direction to a successful conclusion. This key stage often requires forming an attitude or taking a stand.



IDEATION

The next basic step, a divergent phase, is IDEA-FINDING; the search for all possible "means" to translate definitions to reality. The task is to develop a spectrum of choices or "options." Finding ideas depends on your ability to widen your thinking from the narrowed definitive stage that came before it. Deferring judgment until a sufficient number of options is generated is all-important at this phase.

IDEA-SELECTION

The basic method, THE BEST WAY, entails comparing what you want with what you can have. From analysis you uncovered the facts. From facts you determined essence. With ideation, a variety of ways (options) to realize that essence was revealed. Where before, ideas were without clear purpose, they are now more or less meaningful in terms of the 'definitions' stated. What remains is to decide (converge) which of those "ways" will best do the job.

IMPLEMENTATION

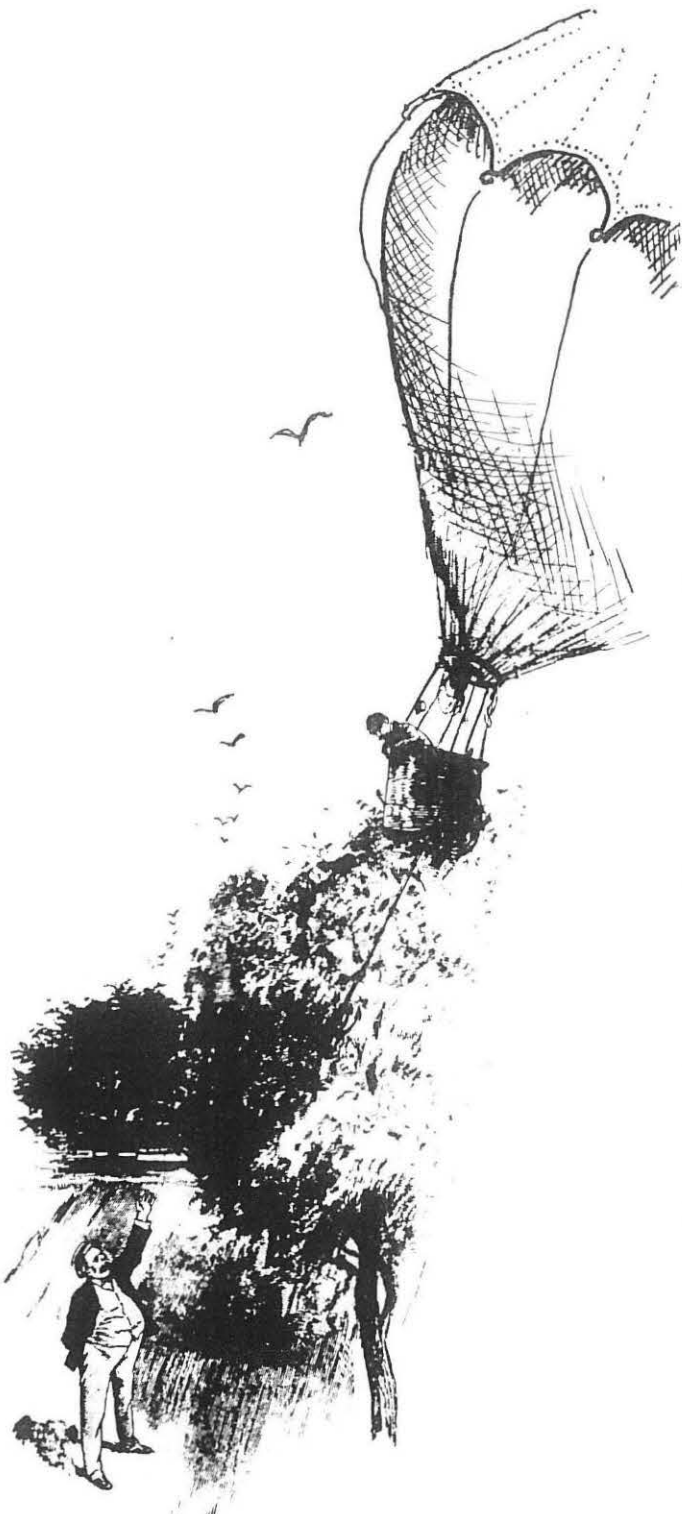
MAKE IT REAL!, the next basic method, is another divergent experience. It evokes action by formulating plans and translating abstract 'virtual' thoughts and words into concrete reality. It's almost like returning to "Go" except you now know where you're headed and the path you plan to take. Making it happen can entail many more decisions. It is here where sub-problems are most likely to occur and where beginning problem-solvers often lose sight of the stages in the process that led them this far...almost to the end.

EVALUATION

For the final convergent stage of the process, the basic method is HOW'D I DO? Since evaluation involves comparing aims and intentions with attainment and achievement, it is here where plans for improvement are formulated. But why wait until the end to check on progress when ongoing evaluation can serve as both guide and travel companion throughout the journey? ACCEPTANCE is the logical initial Design or

Which specific situation bothers you?

Some lessons learned from Problem- Solving...by experience



1. Don't believe everything you hear ...or read.
2. If you haven't been there before, you may have to feel your way slowly.
3. Having been there before can stop you from finding new ways to get there.
4. The solution of one problem might transfer to other kinds of problems.
5. Programmed process need not rule out "chance."
6. When Analysis leads to Definition, once impossible situations turn into solvable problems.
7. If you want insight, you have to break through the surfaces of things.
8. Obvious answers are often the hardest to find.
9. Different points of view are seen through different sets of eyes.
10. It is easy to look. To see takes effort. Creative thoughts come from seeing with 'fresh' eyes.
11. There are more ways than one to get to the same place.
12. Facts and understanding are closely connected.
13. One thing leads to another. Follow the clues.
14. Until translated into lessons, unpleasant memories can block discovery.
15. Intuition is the subconscious accumulation of past experiences. Great experiences lead to deeper feelings.
16. All experience is permanently locked in the brain waiting to be called into service.

by logic

1. A subconscious random sample of thoughts can stimulate a need for order.
2. It makes sense to set limits to every intention.
3. Thinking in itself does not evoke creativity which also depends on feeling
4. Trying to solve one thing is often accomplished by solving something else.
5. When you examine only part of a problem, it's a good idea to keep the whole problem in mind.
6. Proper assessment of all ideas is essential.
7. Losing your guide (security and habit) is one way to discover new paths.
8. A successful problem solution is dependent on the relationship of many sub-solutions.
9. There is always some form of relationship between all things.
10. The solution to one problem often opens the possibility for new problems to occur.
11. It is easier to reach a goal when the path of objectives is clear.
12. A weak understanding can lead to an ineffective conclusion.
13. Clear judgment requires clear standards.
14. The "playful you" is always there to help when the "logical you" gets stuck.
15. Solving the components can solve entire systems.
16. To determine the solution to a mystery, you must find the essential clues.
17. Some problems require side-trips into strange new territory before they can be resolved.
18. Finding simple ways to deal with complex situations is always possible.
19. Some problems are so connected to other problems that they cannot be considered by themselves alone.
20. A well-kept journal of a process provides an automatic product.

by planning

1. Principles and rules take many different forms.
2. Experiments can be costly but worth every cent.
3. Unrelated principles can block relevant principles.
4. Unpleasant journeys leave few good memories.
5. Perfect balance is theoretical. Reality is dynamic.
6. Complex problems can be simply defined.
7. A unique point of view is often found within existing points of view.
8. Some things just can't be dealt with properly when taken out of context.
9. Experience can sometimes lead to premature and incorrect conclusions.
10. Playing-around will at least get you moving.
11. To learn by doing you must first get started.
12. Clear thinking relies on balancing logic with experience.
13. Unproven principles can get you into trouble.
14. Expect the unexpected. Change is the only constant.
15. Know what you don't know. Dealing consciously with your ignorance develops awareness.
16. Perception and reality are never equal.
17. Good record-keeping prolongs the appreciation of experience.

