



**HOW TO THINK LIKE A KNOWLEDGE WORKER**  
**A guide to the mindset needed**  
**to perform competent**  
**knowledge work.**



**William P. Sheridan**

**Thinking involves the separation of relevant information from irrelevant information. Knowledge consists of concepts that are available to process information and guide action. So, thinking requires knowledge. The Human Knowledge MindMap presented herein will give you that knowledge – the thinking is up to you!**

Frontpiece: The Firebird - Russian Iconographic Art

"Firebird symbolizes the marriage of human wisdom and divine power."

-Mike Leslie, THE MAGICAL PERSONALITY

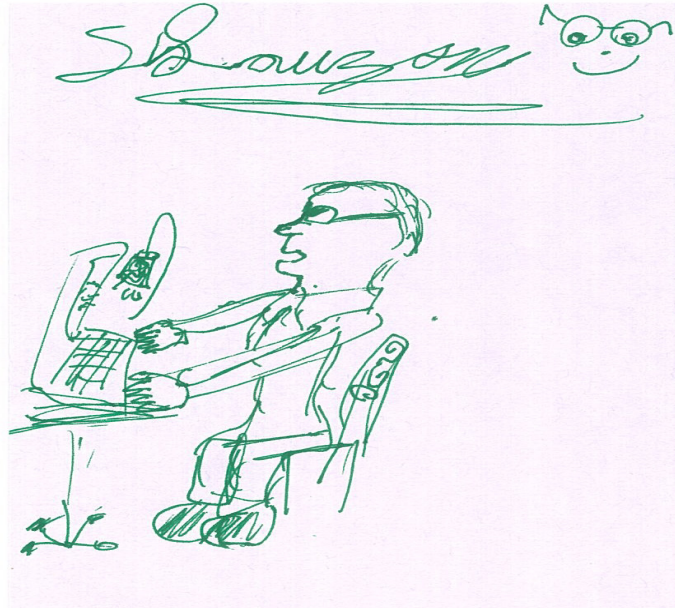
# **HOW TO THINK LIKE A KNOWLEDGE WORKER**

**A guide to the mindset needed to perform  
competent knowledge work**

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**Printed and bound in Ottawa, Canada**



the author at work

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First edition 2008

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ISBN: 978-0-9810814-0-3

## Preface

The Human Knowledge MindMap, the core construct of this book, was developed over a 35-year period. It was begun while I was an undergraduate in the interdisciplinary program Technology/Society/Environment (TSE) at Carleton University in the early 1970s. It has been ruminating in the back of my mind ever since I read Clarence Irving Lewis' book MIND AND THE WORLD ORDER.

By that time (the early 1970s), the transition to a Knowledge Society was well underway, although the naming of that phenomenon had to await the coming of the personal computer and the Internet. Based on what we now know, it is obvious (to me at least) that the systematic application of knowledge to standardize social processes began during the First World War, to facilitate component compatibility and supply logistics. The major impact of this early knowledge engineering was in product and process design.

With the coming of the personal computer and the Internet, work organization and workflow began to be modified on the job, and simultaneously personalized products led to successive alterations in lifestyles. We went through phases of evolutionary development, from technology management, to data management, to information management, and most recently knowledge management. In each of these phases however, most of the expertise behind both consulting and publications referred to organizational applications. For their individual use, people either tried to apply what they learned on the job to their home computers, or they learned by reading manuals and by trial-and-error. In most cases however the on-the-job training was only partially transferred – the way most people manage their own technology, data and information is quite amateurish and sloppy. As for knowledge management, whether on-the-job or on a personal basis, many people still ask “What’s that?!”

So what is it? Knowledge consists of concepts available to process information and guide action. Knowledge Management refers to “smart use of know-how.” In a knowledge economy more and more tasks involve “think work.” Thinking involves the separation of relevant information from irrelevant information. Therefore, “think work” is a component of “knowledge work,” specifically the information processing part – the other part is the “informed action” part.

What the Human Knowledge MindMap offers to the Knowledge Economy is similar to what W. Edwards Deming offered to the Industrial Economy. Just as Deming developed a method for quality assurance for industrial output, the Human Knowledge MindMap is a method developed to provide quality assurance for knowledgeable output. When the United States shunned Deming's approach, he was invited to Japan where he taught the kind of quality control that enabled Japanese manufacturers to successfully challenge the American domination of the global automobile and electronics markets. The knowledge-based start-up companies everywhere in the world are looking to provide the same kind of challenges in the future, and having a workforce trained in knowledge work skills will be part of their strategy!

William Sheridan

# How To Think Like A Knowledge Worker

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## Don't miss this INTRODUCTION

This book is about HOW to think, not WHAT to think. Let me clarify that. This book does not deal directly with the issues or concerns you will encounter and deal with during your education, on the job, or in your life. But no matter what you are doing, your ability to deal effectively with your issues or concerns will depend on how you approach them. Let me give an example. If at any point you have an issue or concern about what you or anyone else has learned and/or knows, what that is about is what is called *epistemology*, “theories of learning and knowing.” The implication of your issue or concern is the question “How does anyone learn or know anything?”

There are three generic forms of epistemology: (1) empiricism (observe the facts); (2) rationalism (think things through); and (3) constructivism (formulate new ideas). We all do all three to some extent – but most people emphasize one of the three, and de-emphasize the other two. Those habits of emphasis and de-emphasis only lead to partial and inadequate learning and knowing. After reading this book however, such partiality is no longer necessary. Herein the three epistemologies are explained and illustrated. By the use of the three epistemologies you gain cross-training in the concepts needed to deal with the complexities of the world you experience. Henceforth every epistemological issue or concern will involve the recognition of, and need to blend all three forms of learning and knowing. With this wider perspective, you are at an *epistemological advantage*. You can understand learning and knowing issues and concerns in a comprehensive sense. Epistemologically you will have become an effective thinker.

In a similar way this book will provide you with an outlook on your other beliefs and values, as well as a deeper understanding of the processes of asking questions, and drawing conclusions. For instance, most people's concept of "Reality" (ontology) is also focused on only one of the alternatives (either materialism, or idealism, or behaviourism). Once you cross-train yourself to use all three versions of ontology, you are then also at an *ontological advantage*, with a comprehensive perspective on reality.

It's the same for all the other concepts that are displayed on the Human Knowledge MindMap. But for this to work, you have to keep the concepts in mind (or the diagram in front of you) whenever you do knowledge work. If you were a high-level knowledge worker, you would be doing a lot of this intuitively already, but probably not explicitly. However, to be really competent in knowledge work you must not only be able to use the techniques, but be a *reflective practitioner*.

Everything I have said above can be reduced to one theme: Ideas without context are like people without responsibility – you just can't trust them. Ideas have a history, implications, and consequences, all of which should be borne in mind when you encounter them or use them. Otherwise you are simply sleep-walking through the knowledge society, going through the motions without ever being self-conscious about what you are doing. As a result your narrower perspective will cognitively disable you from working at the leading edge of creativity and productivity.

## Benjamin Franklin's Response to a Request for Advice

To Joseph Priestly

London, September 19, 1772

In the affair of so much importance to you, wherein you ask my advice, I cannot for want to sufficient premises, advise you *what* to determine, but if you please I will tell you *how*. When those difficult cases occur, they are difficult chiefly because while we have them under consideration, all the reasons *pro* and *con* are not present to the mind at the same time; but sometimes one set present themselves, and at other times another, the first being out of sight. Hence the various purposes or inclinations that alternately prevail, and the uncertainty that perplexes us.

To get over this, my way is to divide half a sheet of paper on a line into columns; writing over the one *Pro*, and over the other *Con*. Then during three or four days consideration, I put down under the different heads short hints of the different motives, that at different time occur to me, *for* or *against* the measure. When I have thus got them all together in one view, endeavour to estimate their respective weights; and where I find two, one on each side, that seem equal, I strike them both out. If I find a reason *pro* equal to some two reasons *con*, I strike out the three. If I judge some two reasons *con* equal to some three reasons *pro*, I strike out the five; and thus proceeding I find at length where the balance lies; and if, after a day or two of further consideration nothing new that is of importance occurs on either side, I come to a determination accordingly. And, though the weight of reasons cannot be taken with the precision of algebraic quantities, yet, when each is thus considered, separately and comparatively, and the whole lies before me, I think I can judge better, and am less liable to make a rash step; and in fact I have found great advantage from this kind of equation, in what may be called *moral* or *prudential* algebra.

Wishing sincerely that you may determine for the best, I am ever, my dear friend, yours most affectionately,

*Ben Franklin*

## HOW TO USE THE MINDMAP

### What is it?

Knowledge consists of concepts available to process information and guide action. The core concepts of human knowledge are depicted in a series of lists organized as a MindMap. As Tony Buzan (THE MINDMAP BOOK, BBC Books, London, 1993), the inventor of the MindMap concept explains, this display technique gives a graphical integration of knowledge that words alone cannot provide.

### How to use it?

Read the book through once - it is short, modularized, and will provide a sense of the content of the message, and of how it is presented. Using reference sources on any topics under consideration will also likely prove helpful; then apply the concepts and consider the implications henceforth.

### Who should use it?

Anyone whose job requires knowledgeable processing of information (students, intellectuals, support staff, managers, service staff, professionals, operational staff, experts, etc.) will find the MindMap useful. It enables a person to sort experience into conceptual categories, the basis of thinking. Every situation can be 'deconstructed' into the concepts on which it is based or which it incorporates. You can use the MindMap construct to explore situations, or find issues elsewhere and assess them with MindMap concepts.

### What are the implications?

The core premises for the design of the MindMap are Conceptual Pragmatism and Cognitive Economy i.e., our ideas should have maximum use-value and minimum complexity. The concepts in the MindMap allow the user to triangulate the issues that are involved in whichever situation is encountered. If your question is "How do I know?" then it will involve some combination of elements of empiricism, rationalism, and constructivism. Such cognitive amalgamations do what makes "knowing" possible; other aspects of experience can be deconstructed and reconstructed just as readily using the MindMap.

Once concepts are identified and categorized, what then? In the process, one often finds that issues appear incommensurable because the ideas on which they are based seem incompatible. In such cases, there are three ways of negotiating commensurability: (a) reduction (to a common standard, i.e., money, energy, votes, etc.); (b) separation (into distinct dimensions/judgments, i.e., beliefs, values, preferences, etc.); and (c) innovation (synthesize an encompassing alternative, i.e., bisociation<sup>1</sup>, lateral thinking<sup>2</sup>, thunks<sup>3</sup>, etc.). Innovation has the highest commensurability potential.

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## 1. Conduct an Inventory of Your Own Cognitive Processes

In Systems Analysis, the place to begin a project is to inventory the existing arrangement(s) that you are trying to improve or replace. The same principle applies to adopting or improving your own approach to personal knowledge management.

(a) as you read through the outline of each concept in the MindMap, note when and how you currently use that concept, AND how you might revise or extend its use in the future – if it's empiricism (see section on Epistemology), do you get and assess the relevant facts about a task before moving on “to do something”? Could you do better in this respect in the future? If it's behaviourism (see section on Ontology), do you clarify “how people do things” in the relevant context before assuming you know what is and is not acceptable? Could you do better in this respect in the future?

(b) in the description of each concept in the MindMap it will be possible to formulate similar questions about how you presently might (or might not) use it, and what you could do to either begin to use it, or to more effectively use it in the future. The goal is to begin monitoring yourself on what concepts you engage when you begin to think, AND to prompt yourself to either start to use the relevant concepts or to use them more effectively.

## 2. Conduct a Similar Inventory of Incoming Messages

Other sources of information are NOT, in all likelihood, monitoring the use of concepts as described above. So, incoming messages will likely have large conceptual gaps in them, which is something you should also notice and monitor.

(c) messages can be interpreted as “information packets” that function to persuade you of something – some facts, or principles, or propositions, or proposals or whatever. The questions to ask yourself are: What is the topic of persuasion? How is the persuasive case being made (what evidence is being presented)? What evidence is NOT being presented that is, nevertheless, relevant?

(d) the aim here to is to track the persuasive intent of the incoming messages, so as to discern any shortcomings and/or hidden agendas. If the messages contain misinformation (insufficient evidence) or disinformation (incorrect assertions or assumptions), and they may very well, then the next question is, Does it matter? That is to say, are there egregious errors that should be and can be confronted? “Speaking out” may or may not be feasible, but it is good practice to be on the alert for deficient messaging so that you will be able to recognize it and take appropriate action when that is necessary.

## 3. Audit Your Inventory to Clarify Your Thinking

Reflect on your cognitive inventories to see if your thinking is (i) comprehensive; (ii) coherent; and (iii) consistent – use the MindMap for comparison. Decide which parts of your thinking you could work on, and make some effort to align your conceptual framework so that you develop a more effective capability for processing information and guiding action.

## A Generic Strategy For De-coding Issues and Messages

All of human culture is written in code – this is the conclusion of Structural Anthropologists based on their numerous case studies of all types of cultures throughout the 20<sup>th</sup> century. The “code of culture” consists of deeper semantics and pragmatics than are apparent based on a simple interpretation of the explicit meaning of the signs and symbols that are communicated. The purpose of the Human Knowledge MindMap is to crack that code. The Human Knowledge MindMap can be divided into two columns (recall Ben Franklin’s technique), with the concepts on the left (Perspectivity, Methodology, Axiology and Semiology) labelled Divergent Strategies, and the concepts on the right (Quintessential Questions and Inferential Operators) labelled Convergent Strategies.

<b>DIVERGENT STRATEGIES</b>	<b>CONVERGENT STRATEGIES</b>
The overall strategy with the use of this list is to look for, and recognize opportunities to expand upon the use of these concepts when assessing incoming information.	The overall strategy with the use of this list is to look for, and recognize opportunities to narrow down the use of these concepts when assessing incoming information.
The reason you are trying to expand upon the use of these concepts when assessing information, is that conventional thinking in these areas is only partial, i.e., it does not take into account all of the aspects needed to assess the full range of experience.	The reason you are trying to narrow down the use of these concepts when assessing information, is that it is both unnecessary and counter-productive to try to ask every question or make every inference about a situation, i.e., inquiries and inferences must be prioritized.
An example may be helpful: If you are trying to assess an aesthetic (artistic) experience, it is important to keep in mind that there are three premises for artistic appreciation, not just one, i.e., <b>romanticism</b> (the artist’s self-expression), <b>populism</b> (the audience’s response), and <b>formalism</b> (the technique of the art form). All of these considerations are required to provide an adequate assessment.	An example may be helpful: If you are trying to discover how a process or mechanism works, it will NOT be relevant to ask <b>who</b> the operators are, or <b>where</b> they were born, or <b>what</b> they do in their leisure time, or <b>why</b> they were selected to do the job in the first place. These questions should be excluded, because the focus of inquiry is the configuration of the procedure or mechanism itself.
How does one decide <b>which concepts are intrinsic</b> to any particular issue or message? Intuition will usually generate a preliminary categorization – if the topic is learning or knowing, it’s about epistemology; if the topic is right or wrong, it’s about ethics, etc. If there is too much ambiguity, use a dictionary, thesaurus or reference book for guidance, or confer with someone.	How does one decide <b>which questions or inferences are intrinsic</b> to any particular issue? Intuition will usually provide a preliminary sense of “what I want to know”, “what I need to ask”, “where all this is going”, and “what I can reasonably conclude”. Follow up by balancing costs (time and effort) and benefits (reducing uncertainty and clarifying implications).
How does one decide which concepts to apply to which issues or messages? Begin with intuition - then refer to this list. <b>Every concept on this list represents some aspect of every topic</b> – you have to choose which aspects to prioritize – there are always perspectival, valuational, categorical, and appreciative aspects to every issue – which aspects will you focus on, and why? <b>Within a category, deal with ALL aspects!</b>	How does one decide which questions or which inferences to apply to which issues or messages? Begin with intuition – then refer to this list. Focus on what you <b>need to know</b> , rather than on what you want to know, when asking questions. Focus on <b>the purpose of the outcome</b> when deciding which inferences to make. In both cases cognitive resources are limited, so pursue the strategy of satisficing ( <b>set reasonable limits</b> ).

### What is the larger purpose?

What can a user of the Human Knowledge MindMap expect to be able to accomplish that would otherwise not be possible? That will be the capability to THINK EFFECTIVELY. Most peoples' thinking, most of the time, is not clear enough, focused enough, or systematic enough to perform "knowledge work" competently. The purpose of the Human Knowledge MindMap is to give users the wherewithal to do exactly that. Whether during education, or on a job, effective thinking consists of a set of components as depicted below.

EFFECTIVE THINKING: parallel tracks and alternate tacks	
<i>Topical Processes</i>	<i>Integral Processes</i>
1. clarifying premises (why premises?)	i. checking assumptions (whose assumptions?)
2. inferring explanations (inferring how?)	ii. asking questions (which questions?)
3. following implications (following where?)	iii. coordinating conclusions (what conclusions?)

The Topical Processes are applicable to the subject matter under consideration. The Integral Processes are intrinsic to the thinking activity itself. What effective thinking requires is tacking back and forth between these parallel tracks so that both sets of considerations are covered in the larger endeavour. The elements to do this are available in this document.

This Human Knowledge MindMap document has been written to cover appropriate sets of assumptions, questions, premises, and inferences, together with the implication and coordination techniques that are needed in thinking. The pages taking the user through this material are organized in a particular sequence, although the reader may read the material in any order. For the practice of EFFECTIVE THINKING the requirement is to go through the topical and integral processes comprehensively. Here too, there is no necessity order in which to do this. One may encounter, contrive, or be assigned a concept, problem, or situation to which any one of these processes may be applied to begin with, but regardless of the starting point, all of the other processes have a contribution to make to the eventual outcome. The arrows in the table above suggest one sequence through the thinking processes, but the order can be varied to fit alternate styles of thinking, different individuals, and changing circumstances. The contrast to the sequential approach might aptly be called "The Pinball Methodology" - bounce the concepts and constructs around until you create an effective ensemble - history confirms that it works!

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(Conceptual Pragmatism)

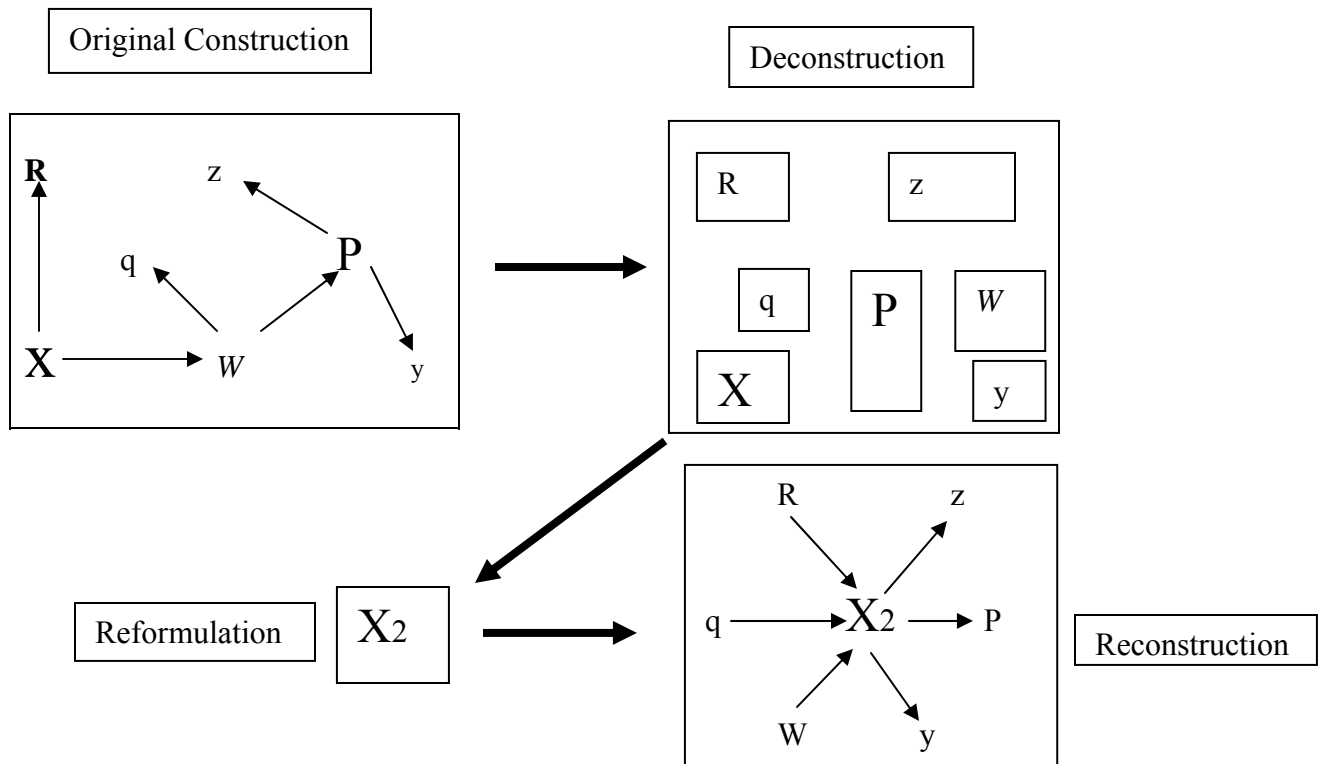
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### MindMap Methodology: Concept R&D

As encountered in messages from a variety of sources (conversation, text, etc.), a construct may consist of several concepts, related to each other in a variety of ways, depending on the context. Various views may be vague, or inconsistent, or both. Deconstruction consists in separating and clarifying each of the component concepts as to their individual etymology and their pragmatic use. One (or more) of these concepts may then be reformulated to enhance its inclusiveness, exclusiveness, range, or whatever. Whereupon this newly reformulated concept may then be used as a basis to reassemble the entire construct, but in a way that brings new order, generality, explication or whatever to the entire ensemble of ideas.

This idealized version presents the process as a somewhat formal, public sequence - however it can just as easily occur informally and intuitively in the mind of a practitioner. In either case the process is an art rather than a science. The definitions in the deconstruction phase may be as wide or narrow as the practitioner prefers, the choice as to which one(s) are to be reformulated is also up to the practitioner, as is the configuration of the reassembled construction. Two different individuals or groups, using the same original construction, may then settle on alternate definitions, reformulations, and reconstructions, yet be entirely correct within the logic each has employed. Good craftsmanship requires only consistency and transparency.

### Application of Concept R&D

Read the entire Human Knowledge MindMap through once.

Pick a situation, problem, challenge, decision or choice of interest or concern to you (on whatever basis you regard as appropriate). Then proceed with the following steps:

1. Identify which aspects are of most interest or concern to you.
2. Prioritize (rank) your interests or concerns.
3. Using the Human Knowledge MindMap as a visual guide, apply the relevant concepts to the most important (prioritized) aspects of your interest or concern (limit it to the top three aspects on your list to begin with).
4. If you don't recall whether or nor a particular concept is relevant, refresh your memory by re-reading the one-page outline.
5. From this point apply the methodology as outlined above (this may, in addition to other things, require reading more materials to acquire the necessary depth of understanding in the issues you are trying to deal with).

Initially this may be a slow and somewhat cumbersome process. Learning to think by applying the right tools to the right circumstances often is an initially slow process! With practice however the process will become intuitive, and you can begin to use the MindMap for periodic refreshment, and to plan for some more in-depth study of concepts, if this interests you. A good way to proceed with this more expanded goal, is to read the reference books mentioned in each of the concept pages, and then begin using your new insights to find additional materials, and/or to apply your accumulating schemata to what you read or otherwise find. Do not regard any of the references suggested as being "the gospel" on a topic - each is simply recommended as "food for thought".

Concept R&D is a dynamic process, but the key to its successful use is to recognize that the responsibility for the dynamic aspect of the process lies *with the user*. The MindMap can inform a user about the conceptual basis of knowledge, and about the way in which it can be most appropriately utilized. BUT, *you gotta really wanna!* If your interests in, or concerns with issues are not sufficient to motivate the cognitive effort to master and apply the Concept R&D methodology, then this MindMap is not for you – you will be wasting your time with it. If you decide this effort is worth your time and attention, this MindMap should be helpful. If you think that you can do any of this better than what you read herein, prove it - do it!

*Universal Disclaimer: Firstly, the author of this material is not responsible for motivating users to want to think – that is their responsibility. Secondly, the author is not responsible for any action whatsoever that users may take based on what they regard as the implications of this material. Users must always take responsibility themselves, not only for deciding whether or not to think, but also for choosing what action to take (or not to take). The one claim which the author does make irrespective of any situation or user, is that being a knowledgeable decision-maker or choice-taker is ALWAYS better than being an ignorant one!*

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## THE MINDMAP RATIONALE

When receiving information (watching, reading; listening, touching, or any other kind of observation), **DO NOT JUST ABSORB PASSIVELY**. Some New Age Analysts have been known to advise to “clear the mind” while attending to incoming sense-data so as not to impose one’s own categories or standards. This is a profoundly foolish and counter-productive piece of advice. The way to effectively absorb information, *to make it your own* is through active listening - by fitting it into what is already known. What the active listener needs to remember is to keep the attributed characteristics and categories **TENTATIVE** rather than **PERMANENT**. Every incoming piece or stream of information has a context and implications. Whether stated or not, such information reflects or entails certain beliefs (what is this, and how do we know?) and certain values (what should we do, and why?). Buried in the incoming information are clues to help answer these questions, but those answers will only be revealed if the information recipient deconstructs the message and categorizes its components. The function of every message is persuasion, whether implicit (a statement) or explicit (an argument), whether intended (social source) or unintended (natural source).

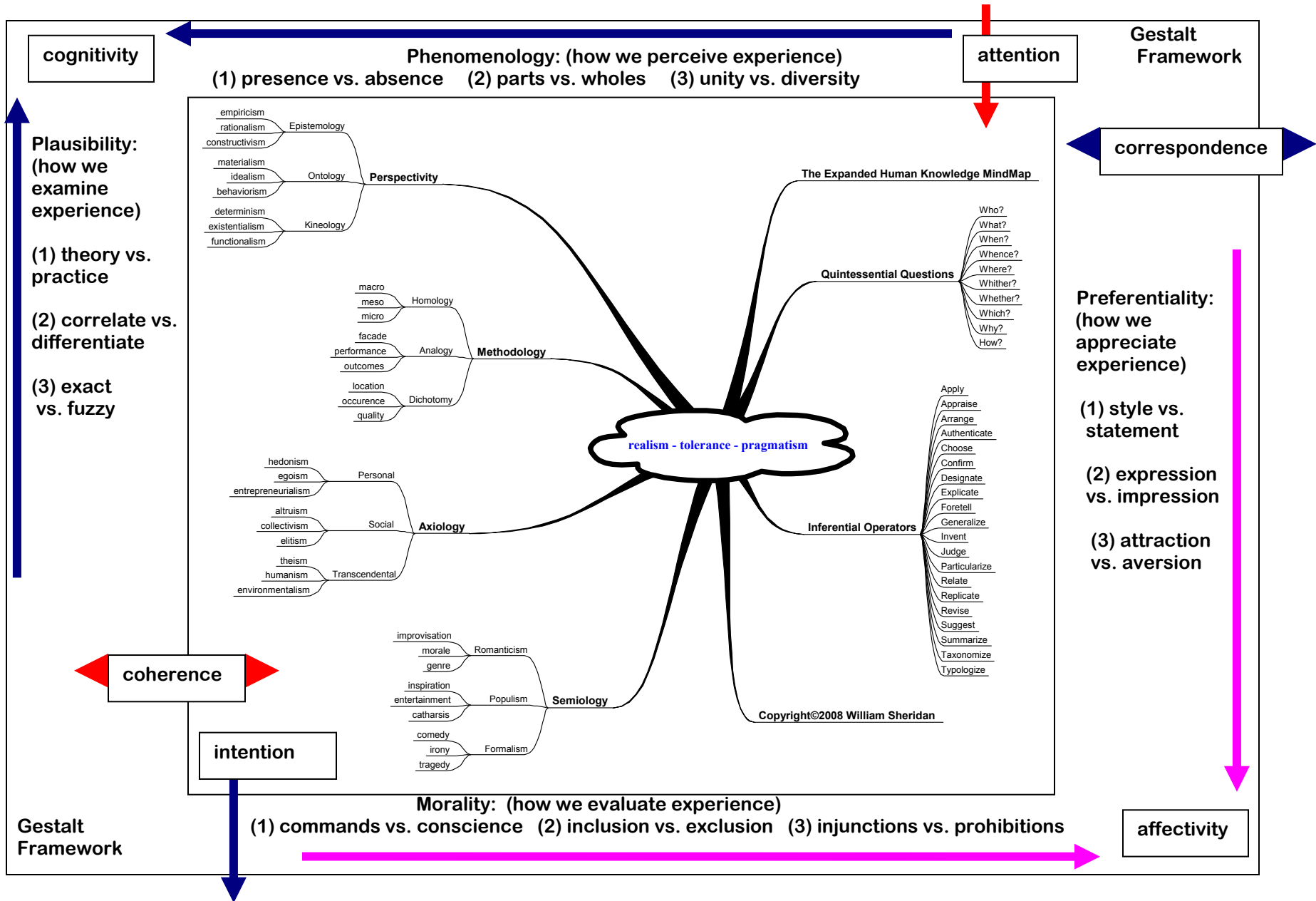
There are nine types of beliefs at the core of our sense of reality, three types of methodology whereby we categorize our experience, nine types of values we hold, and three types of modes to our sensibilities. Statements or situations are usually blends rather than being composed exclusively of a single type, but within such a blend one type tends to dominate. Little or none of this may be explicit however – it is the task of the *reflective practitioner* to begin to deconstruct the conversation **in real time** and identify the premises **as they are articulated**. In other words, being an active listener takes some real, and continuous effort, and considerable practice – you have to pay attention, **AND** try and make sense of the incoming messages. How is this done? Start by paying attention to those components of the message that occur most frequently or are emphasized most emphatically.

Why bother? Because the incoming information, no matter what the source or content, has the effect of controlling your behaviour, even if you ignore it. But no matter what you do as the result of that incoming sense-data, you can make better decisions and choices if you are capable of *informed action*. Like *informed consent*, informed action involves a state of mind that has aligned the content and context of incoming messages so that you can understand and control some of the aspects of your experience [even adjusting your attitude to the prospect of the inevitable is a form of empowerment – and often there is considerably more that you can do].

Use of the MindMap will foster an attitude of Contrarian Thinking: *there is no necessity to take conventional wisdom at face value*. This is a way of positioning yourself and what you know so that incoming messages are not naively accepted as *the truth*, or *the facts*, or *just a description*, or *with nothing more implied or intended*. Something more is **ALWAYS** implied and intended. There is no “unequivocal truth” or “straight facts” or “simple description”. Every person and idea has a history, implications, and consequences. To the extent that you don’t think about any of this, you don’t understand what is going on, and you don’t know what you are doing. The Human Knowledge MindMap helps you counter-act gullibility and complacency.

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## REALISM – TOLERANCE – PRAGMATISM

Conventional wisdom in philosophy and most other scholastic subjects, raises a number of objections to any attempt to create a new architectonic for post-modern thought. I disagree.

1. **There is no methodology (or even guidelines) for such an endeavor.** Throughout this project's conceptualization, research, writing, and final formatting, I "made up" the methodology as I went along (performing as an epistemological *constructivist*). Only after I had completed everything except the final editing did I read the book PHENOMONOLOGY AND THE THEORY OF SCIENCE by Aron Gurwitsch. At one point Gurwitsch considers the possibility of undertaking a project like mine, and recommends the following: *Abiding by the plurality of life-worlds entails endorsing a sociohistorical relativism. For that relativism to be overcome, the question may, and must, be raised of whether there is a world common to all human beings and all sociohistorical groups, a world invariantly the same over and against the diversities of the multiple life-worlds and in that sense "beyond" the latter. To attain that world, an abstractive [i.e., conceptualizing] procedure is required. Starting from any concrete life-world, one disregards specific interpretation and comprehension it receives in the corresponding sociohistorical group and retains only the remainder which is left after the abstraction has been performed* (Gurwitsch, 1974, pgs. 144-145). That was exactly how I developed the MindMap.

2. **Other cultures, especially those from the "EAST" have a very different philosophy of life, and their categories of experience are so distinct from "WESTERN" ones, that the two traditions are simply "incommensurable" and not amenable to being mapped one to the other.** As it turns out however, these discrepancies are usually overstated. In their book EASTERN PHILOSOPHY FOR BEGINNERS, Jim Powell and Joe Lee give an overview from which it can be ascertained that both eastern and western philosophy confront the same phenomena but each sorts experience into somewhat different categories. Dealing with all such differences and negotiating commensurability between them are covered by Edward De Bono in his book THE USES OF LATERAL THINKING. My approach concurs with these latter views.

3. **There is no comprehensive, coherent, or consistent basis for thinking since the rise of Complexity and Chaos Theories.** Such claims confuse granularity with generalizability. The details of experience have ALWAYS tended to be overwhelming and unintelligible when taken in their particularity. It is the role of **concepts** to provide a basis to prioritize certain features, aspects or characteristics and then group the instances into categories enabling consistence, coherence, comprehension and creativity. John Wilson explains THINKING WITH CONCEPTS, and in CREATIVE COGNITION Finke, Ward & Smith show that "although the content of creative ideas may indeed reflect a society's values and concerns to some extent, the cognitive processes that give rise to those ideas should still apply to any society." Hence, *Concepts* in the MindMap.

**Realism** is an attitude, the attitude of assessing a situation accurately rather than on the basis of delusions or denial. **Pragmatism** is an attitude, the attitude of appraising one's prospects on the basis of feasibility rather than wishful thinking. **Tolerance** is an attitude of forbearance towards ideas and practices one disapproves of, within the limits of reason - the reasonable limit being "no consequential harm". On the charge of deliberately harboring these three attitudes, I plead guilty!

## PART I PERSPECTIVITY

### What is perspectivity?

The meaning of perspective used herein is, **a specific point of view in understanding things or events** (one of a number of definitions in Webster's New World Dictionary). Hence, perspectivity is the mind-set for framing one's point of view.

In philosophy this mind-set is called metaphysics. In traditional approaches to philosophy such perspectives were regarded as essentials, the foundation of thinking. Modern approaches regard such perspectives as postulates (tentative premises), without reifying (concretizing) any of them. The approach used herein will be the modern one. There are three categories used in perspectivity: (1.) epistemology - how we know about reality; (2.) ontology - what reality consists of; and (3.) kineology - how reality changes. Each category contains three concepts.

### How is perspectivity used?

Within each category, there is usually a blend of the three concepts involved in knowing something. In any particular instance, one of the concepts is likely to account for a larger proportion of a person's perspective than the other two, although the blend may shift between different people, circumstances, and occasions. Furthermore, the individual blends are, more often than not, implicit rather than explicit.

A person can begin by examining one's recent judgments in retrospect, and with practice it is eventually possible to be more deliberate in "managing" one's perspective. Why? Because, as Einstein said, what we believe determines what we see, and NOT visa versa. People who are unaware that what they believe determines what they see, often assume that they are simply observing "reality" for what it is. This is both naive and inaccurate. Most human perceptions are labeled, and this labeling is governed by "the perspective" we bring to each situation. As the Torah stated some 2,500 years ago, "We see things not as they are, but as we are."

Some phenomena have a "substantial" physical component (for instance, rocks, machines, animals, plants, etc.) and the terms and concepts which we use to label them are just convenient signs for reference. Other phenomena are either symbolic social entities (contracts, conventions, institutions, etc.), or symbolic scientific creations (the concepts of gravitation, entropy, systems, energy, etc.). In all cases though, conceptual thinking uses the labels, and labels are based on perspectives. We always know more than we can say, but even knowing is largely conceptual.

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## EPISTEMOLOGY

### What is epistemology?

Epistemology is the part of perspectivity that deals with **how we know about reality**. A philosophical dictionary defines it as *The branch of philosophy concerned with questions of knowledge, belief, opinion, certainty, doubt, etc. Epistemology is sometimes called **theory of knowledge** but **theory of cognition** would be better* (TALKING PHILOSOPHY by A.W. Sparkes). Conceptually speaking, there are three basic ways whereby we can know about reality: (1) empiricism - knowing based on observing facts; (2) rationalism - knowing based on thinking or calculation; and (3) constructivism - knowing based on inventing ideas. These approaches are "ideal types" in the sense that Max Weber meant the term - they are archetypes of knowing that can be used to assess the different knowledge claims that various people make. By applying alternate epistemologies, the rationale for different explanations becomes apparent.

### How is epistemology used?

Some people have adopted a "public persona" regarding their epistemology that emphasizes one or another of the basic concepts. Empiricism gets its name from *an ancient school of physicians who claimed that all their rules of practice were derived from experience alone. To say that a philosopher is an empiricist is to say that he places particular emphasis on experience, observation, and perception in his account of knowledge and belief* (TALKING PHILOSOPHY, A.W. Sparkes). In the modern age, such a person would both **gather information** from existing sources, and engage in experiments to **discover information** where it was not recorded previously. In speaking knowledgably, such a person would always refer back to "the facts" as the reference point from which to make any claims believed to be correct.

Rationalism emphasizes the cognitive component of knowing - thinking and calculation. This is why Descartes is often considered the modern archetypal rationalist - his maxim "I think, therefore I am" seems to epitomize the rationalist perspective. The rationalist doesn't deny the use of information, but reserves the term "knowing" for those cognitive processes that deal with the information after it is received (i.e., thinking and calculation).

Constructivism is an epistemology based on the recognition that all of the signs, symbols, concepts, and frameworks whereby human knowledge is stored, retrieved, and manipulated, are socially created and conventionally used. In other words, the medium for knowledge is invented rather than discovered - so knowledge products are artifacts rather than naturally occurring entities. The implication of this approach is that when different people define the same term differently, they may be using the same words but meaning quite different things. And, when people attach different labels to the same things, they may be assuming or implying different characteristics or consequences regarding preferences or policies.

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## EMPIRICISM

### What is empiricism?

Empiricism is an epistemology (theory of knowledge) based on the contention that knowing is an evidence-based activity, the evidence being that of the senses. Those convinced of the strong version of this epistemology claim to rely solely on the observations of experience and experiment for their knowledge of reality. Philosophers David Hume and John Locke were famous 16<sup>th</sup> century exponents of this claim, viewing it as a modern alternative to both mysticism (intuitively ineffable) and rationalism (synthetic a priori).

In other words, there is no knowledge intrinsic to the human mind, only what we learn from the environment. This view was developed to counteract claims to knowledge based on faith, divine revelation, or spiritual insight. Empiricists maintain that whatever faith, divine revelation, or spiritual insight might provide to the human mind, it was NOT true knowledge. The implication of their position is that the content of knowledge is the practical wherewithal for control. What their claim amounts to, is that the cognitive content that informs the exercise of control requires an exclusively factual basis. Initially this seemed a plausible claim, but as it turns out, even such practical aims as control in the "here and now" requires more than just the facts of the case -- additionally what is needed is some sense of the context AND an awareness of the purpose for which the control is being exercised.

### How does empiricism work?

Initially modern empiricism was very liberating, summed up in that famous Americanism "I'm from Missouri, I've got to be showed". It is most effectively applied to the areas covered by the physical sciences, or to be more exact, material objects. But even forces (i.e., gravity, etc.) or processes (i.e., entropy, etc.) cannot be directly observed - only their consequences. We can see things fall so we hypothesize gravity, and we can measure the decline in free energy so we hypothesize entropy. Biological entities are still physical, but their complexity complicates the observational process to such an extent that hypothetical processes and functions are a necessary part of every description. Semiotic phenomena (involving symbols) add further layers to this complexity. Most human behaviours have hypothetical aspects as basic parts of their very existence and definition (i.e., money, marriage, meaning, etc.).

In every case, there are still facts, but although what we know is grounded in the facts, how the facts are gathered, processed, and interpreted is as important as the semantic content of those facts. So, in a comprehensive sense, what we know is partially empirical, but not entirely. Knowledge about the mass or density of a rock may be predominantly empirical, but knowledge about the size or density of a problem may be only marginally empirical.

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## RATIONALISM

### What is rationalism?

Rationalism has been used in two ways: (1) in a formal sense, it refers to systematic thinking (abduction, induction, deduction); and (2) in an informal sense, it refers to the practice of developing, having, and using good reasons for actions. Each of these refers to the "rationality of means", but the Ancient Greeks also had the concept of the "rationality of ends", the idea that reason could guide the choice of goals as well as the choice of the wherewithal or instrumentality to achieve such goals. Both versions are epistemologies, theories of knowledge. Most modern notions of rationality tend to focus exclusively on the means, either ignoring ends altogether, or arguing that commitment to goals is not a "rational" decision but rather an "emotive" one. Toulmin and Searle argue otherwise.

### How does rationalism work?

Formal rationalism does not deny the role of sense-data in informing knowledge, but insists that "knowing" itself is the product of thinking rather than perceiving. So, the distinction with empiricism is that empiricism refers back to the grounds for knowing (sense-data) whereas rationalism refers to the cognitive processes of knowing (thinking). Since both are essential for a complete view of knowledge, the historical dispute between empiricists and rationalists regarding which is pre-eminent, is just an example of philosophical chauvinism. The distinguishing feature of systematic thinking is that elaborate rules and an esoteric jargon are used, often over-used. Informal rationalism, reasonableness, involves having good reasons for both means and ends, thinking things through to the extent feasible, anticipating implications and consequences, and inferring an explanation or action to the best of one's ability - in other words, being mindful of one's circumstances, and seeking and applying life-lessons learned.

The older concept of "reason" covers both formal and informal versions. In ancient philosophy one used reason by drawing on whatever relevant knowledge was available to make decisions and choices. In the case of technical subjects, algorithms for processing variables were developed, and are the basis for theory today. In the case of ordinary experience, heuristics that serve as guidelines to clarification are often sufficient. Knowing what kind of a situation you are in, and when either formal or informal approaches are appropriate, is the goal that all practitioners strive for.

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## CONSTRUCTIVISM

### What is constructivism?

Constructivism is the epistemology (theory of knowledge) that what we know is based on the ideas that we invent. From this perspective, knowing is more than an awareness of facts (empiricism) or thinking about facts (rationalism) - it is ideas we create to interpret our sense-data and thoughts. But since concepts and language are part of everyone's mentality, some constructivists make the claim that every aspect of all knowledge is invented rather than discovered. The implication is that if "we make it all up" then we could re-make it into something quite different if that suited the "knowledge-creation gatekeepers". Is the epistemological enterprise really so arbitrary? The extent to which knowledge-creation can be arbitrarily controlled depends on the context. Because social behaviour is largely governed by convention, multiple, discrepant interpretations are possible and plausible - physical and biological processes are more "factual".

When technological procedures are invented and scientific principles are discovered, the processes of summarizing, systemizing, and synthesizing also have constructivist components, but in these cases facts and thinking have important involvement as well. Those who argue or insist that science is largely or predominantly constructivist, are confusing function with origins. The institution of science was itself "invented", but the role of science is to discover, explain, and forecast phenomena, and the role of technology is to explain, forecast, and control those same phenomena for human purposes. Constructivism cannot account for all of epistemology.

### How does constructivism work?

Although empiricists were often fond of the claim that "the facts speak for themselves", this was never actually true, and has recently become demonstrably false. If reliable data are available, it can be processed with spreadsheet software to identify "best fit" to a curve representing a particular pattern or principle. However, one can choose to have the software "interpret" the data in a variety of ways, so that the same data will display "best fit" to a number of different types of curves - the configuration of these best fits can vary considerably, demonstrating positive correlation, negative correlation, linearity, non-linearity, etc . So, one can "invent" one's preferred explanation, and get the software to interpret the data accordingly. By examining previous research we can now see that before the availability of such software, scientists settled on their own preferred explanations in their own minds, and proceeded accordingly. Since some basis for interpretation is always necessary, the construction of knowledge will always be partly arbitrary - and this is where deconstruction (see MindMap Methodology in the Introduction) can help.

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## PRACTICE IN USING EPISTEMOLOGIES

This section on Epistemology covers the three archetypes of knowing, namely Empiricism, Rationalism, and Constructivism. Having read through them first (each covered in a page), then try some of the following suggestions (or do similar things that will also illustrate the desired points): Take any one of the postulates and apply it to an issue of interest to you. The issue might occur in a media story, in a book or magazine you read, in a conversation you have, or in a presentation you attend.

In the case of Empiricism, ask yourself “What **evidence** is presented to support the *facts* or *theories* or *conclusions* or *propositions* presented?” How was the evidence acquired? Who can vouch for it? Is the evidence accurately reported [how do you know]? Is the evidence plausible? Is the evidence credible? Again, in any case, how do you know? How does the source know about the viability of any of this evidence? It is conceivable that a particular instance of evidence can meet all of the standards of good collecting and reporting that one could hope for – but in the vast majority of cases, *not likely!* So instead, there is some **interpretation** and some **hype** involved in the presentation. Whatever evidence is used may be for limited numbers of cases, over a short period of time, in situations where other intervening variables are operating. So, be a little skeptical, and don’t “bet the farm” until you have multiple, independent, cross-confirming sources for the evidence presented. Let this be a rule for any claims of evidence that you personally have not examined and verified. There are a hundred-and-one ways that evidence can be messaged, with virtually no traces left of who had their hands in it!

In the case of Rationalism, ask yourself “What **concepts** are included in the **construct** (theory, principle, proposition) being presented?” Are the concepts being used complementary to one another, or contradictory? Are the definitions of terms conventional or esoteric? Are the steps in the thinking process arranged in a credible sequence, or was something left out, or something else arbitrarily included? Often there is hype in these presentations too, consisting of the claim that some argument proves some conclusion which infers some other point and implies some action on your part! These claims are often convoluted and a little baffling. So your best response is to say “I’ll think about it.” Arguments are usually staged to either get your agreement or your action, which on further thought you may not want. So ask yourself (or your interlocutor) “What does it matter whether “the argument” is correct or incorrect?” If it doesn’t matter, then it doesn’t matter! If it does matter, clarify what is at stake in “the bottom line.”

In the case of Constructivism, ask yourself “Is some **other** juxtaposition of concepts, or principles, or theories, etc. just as credible?” Usually the answer is yes – that is, some other idea has also been invented which could just as easily express or explain as the one being proposed. In many cases you can still use the concepts or terminology being suggested, but keep it clear in the back of your mind that alternatives exist, and these alternatives may also be useful at some point. Most constructs only cover part of the data, or emphasize part of a problem or situation. Other constructs may cover other parts of the data, or prioritize other aspects of interest.

Next, take an issue and try all three epistemologies on it. See how the “look and feel” changes as each of the different epistemologies is applied to it. It all depends on your perspective.

## ONTOLOGY

### What is ontology?

Ontology is concerned with the question "**What does reality consist of?**" *The word 'ontology' is derived from the Greek word for 'exist,' 'is,' etc. Ontology is concerned with questions about existence and being. What kinds of things can be said to exist? What does it mean to say that something exists? Are there different senses of the verb 'to exist', different types of existence?* (A.W. Sparkes, TALKING PHILOSOPHY).

It turns out that the answers that are provided to ontological questions fall into three types of approaches: (1) materialism - the belief that only things that have physical substance are real; (2) idealism - the belief that reality consists of the concepts that underlie the facts of experience; (3) behaviorism - the belief that reality consists of how things (including people) behave. To avoid getting stuck in "ontological fundamentalism" use all three views on beliefs about reality.

### How does ontology operate?

Although some people may claim to be predominantly or exclusively convinced of one or another of these ontologies, in practice they will blend these archetypes, much as in epistemology. Materialists will try to find the physical basis for any and all of the phenomena of interest to them. So instead of accepting the terminology of conventional psychology for human behavior, they will look for genetic or physiological explanations. And if they look hard enough, or are patient enough, they will find (or discover) such explanations, because for "materialist true believers" this approach is the only credible one.

Idealists discern a "deeper reality" beneath the facts and foibles of experience, because appearances are so changeable, but their concept of reality is "changeless". Plato saw ideal "forms" as the basis of mundane experience, while Noam Chomsky sees cognitive structures behind human language capabilities, and Claude Levi-Strauss finds kinship templates governing all human cultures.

Behaviorists see human reality (the baseline for them) as consisting of the accumulated habits and traditions whereby societies condition people. The mechanism of "classical conditioning" consists of associations that are built up between reinforcing stimuli and subsequently acquired routines. The other mechanism is "operant conditioning", wherein behavior is shaped through a combination of (a) positive reinforcement of emergent behaviors that are acceptable, (b) negative reinforcement (benign neglect) of neutral behaviors, and (c) aversive reinforcement of unacceptable behaviors (discouragement). The rationale behind this approach is that reality is a human construct, so reality consists of how humans behave.

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## MATERIALISM

### What is materialism?

The conventional definition of materialism is an ontology (theory of reality) based exclusively on physical things. An alternative, and perhaps better statement of the sense of this concept is that reality consists only of facts (i.e., phenomena that have been observed and recorded as data points by appropriate methods). This is the view that once premised a particular version of science, namely positivism. Those practicing positivistic science claimed that science must have a factual basis, so they either rejected idealist and behaviourist concepts and labels, or tried to reinterpret these other views in materialist terms. Positivists regarded speculative thought as long on theory but short on results, something they were dedicated to reversing. Those who have a materialist focus to their lives are primarily concerned with the acquisition, possession, and consumption of things (goods and the services these provide), and that kind of lifestyle becomes their major source of gratification. The problem with a materialist approach is that there is a limit to how much one can consume, beyond which the acquisition of more becomes compulsive (a form of psychopathology).

One of the implications of materialism that positivists drew, was that many (perhaps most) of the concepts in philosophy and psychology were hypothetical and "unreal" - they rejected these as nonsense, but to others this meant science was "cold and mechanical". In hindsight it is apparent that the problem was that positivists were trying to apply the paradigm of classical physics to all phenomena, whereas other concepts and other methods were needed for other subject-matter.

### How does materialism work?

Science can no longer be composed exclusively of "material" facts because so many concepts in all scientific disciplines are now "hypothetical" rather than directly observable. Hence the definition of science has expanded to include both facts and principles. And human beings cannot really live on things alone, because emotional needs must be satisfied symbolically and socially, not just with more things. Where does that leave materialism? Material things can still be distinguished from other phenomena (ideas and behaviours). Consumption of a certain amount of material things (food, clothing, shelter, etc.) is necessary to satisfy basic physiological and social needs. Beyond certain levels however, compulsive searching for more "material facts" (science) or material objects (lifestyle) reaches a point where the additional utility gained is no longer worth the effort expended. So, materialism is one aspect of reality, but not the whole of it.

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## IDEALISM

### What is idealism?

Idealism is an ontology (theory of reality) that claims what actually exists consists of the concepts we use to understand our experiences. According to the idealist perspective, reality is more than our behavioural patterns or the material conditions of our existence - our sense of reality is something we achieve through active use of our minds, not something we simply infer from the facts or acquire through cultural conditioning. The place where idealism is most applicable is in the sphere of human relations. Money is not a natural phenomena, nor is the idea of money a reflection of natural phenomena - the idea for this institution was developed by people to serve certain purposes. In a similar way, all other institutions were contrived: the idea of contracts was invented, as was that of writing, government, trade, science, marriage, justice, etc. These things are "made-up" by defining them (what they are, how they will work) and declaring them (committing to such practices, promoting compliance). All human folkways and mores are built in this way.

The major problem with the idealist ontology is the attitude of "reification" which often arises to accompany the ideals in use. Reification is what philosopher Alfred North Whitehead called "the fallacy of concretization", the assumption that the ideals in current use are "real" in a material or supernatural sense. However, social institutions are NOT things or forms (like tools or templates), and scientific principles are NOT facts or myths (like data or parables). Rather, social institutions are guidelines, and compliance is negotiable, so gradual changes are occurring all the time, and compulsive commitment is not a necessary implication of idealism, but rather an indication of a "fundamentalist" temperament.

### How does idealism work?

One of the most enlightening lessons in idealism is to "deconstruct" the social institutions in everyday use, and see the large role that convention and constraint play in human behaviour. Most of our ends (goals) and means (methods) are based on traditions and habits, NOT natural or necessary processes. For instance, we do have to eat, but - what we eat, what we don't eat, how we eat, etc. are part of our folkways and mores, not physical laws. Other societies, in other times and places have had somewhat different traditions and habits, sometimes radically so. Hence, we could change our traditions and habits for the better without that necessarily subverting our societies. If that were to become desirable, we might look for guidelines to other examples of social change, and to the experience with different traditions and habits - life lessons on which social ideals are worthwhile, and how to implement them, are wherever you find them.

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## BEHAVIOURISM

### What is behaviourism?

Behaviourism is an ontology (theory of reality) founded on the premise that what appears to exist depends on how people are conditioned to behave and not behave. What about non-human reality? The answer to that (according to the behaviourist perspective) is that any "reality" that people experience depends on what and how they observe (a type of behaviour) and how and what they understand (also a type of behaviour). So, according to this perspective, ALL reality, of whatever type, depends on the content and pattern of human conditioning.

The response of some to this perspective is one of incredulity and scorn - these critics claim that behaviourism implies that humans are little more than automatons. But the terminology of behaviourism can be changed to alleviate most of these concerns. If we replace "conditioning" with "learning" then this seems to "round-off" and "humanize" the perspective, BUT with largely the same implications as with the original vocabulary.

### How does behaviourism work?

In a basic sense, there are two types of conditioning: (1) Classical Conditioning was discovered by Ivan Pavlov in the early part of the 20<sup>th</sup> century; and (2) Operant Conditioning was discovered by B.F. Skinner in the middle of the 20<sup>th</sup> century.

In classical conditioning of dogs, food was presented to a hungry animal and a bell was rung simultaneously, after which the dog salivated. Eventually through "habituation" the ringing of the bell would produce salivation in the dog even without the presentation of food. Dogs could be conditioned with a limited number of these routines - people could acquire greater numbers of more elaborate behavioural routines than other animals, and this is what accounted for the amazing human learning capacity. The results of culture in general, and teaching in particular, were to condition people with all of the various habits and traditions humanity displays.

With operant conditioning, the organism's behaviour was observed and preferable instances of performance were encouraged by positive reinforcement, while neutral performance was ignored, and undesirable performance discouraged by aversive reinforcement. Through such conditioning schedules of behaviour could be shaped into quite elaborate routines, and then through random reinforcement the behaviour could be sustained indefinitely. In the case of operant conditioning, humans were also capable of acquiring and retaining considerable more routines, of a more elaborate nature than other animals. Between classical and operant conditioning, most, if not all of human behaviour could be accounted for. Despite continuing criticism, this perspective is still credible to those who accept its premises.

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## PRACTICE IN EXAMINING ONTOLOGIES

This section on Ontology covers the three archetypes of being, namely Materialism, Idealism, and Behaviourism. Having read through them first (each covered in a page), then try some of the following suggestions (or do similar things that will also illustrate the desired points): Take any one of the postulates and apply it to an issue of interest to you. The issue might occur in a media story, in a book or magazine you read, in a conversation you have, in a presentation you attend, or it might be something that just springs to mind.

In the case of Materialism, ask yourself “What are the units of analysis in the argument (or story, or case history, or whatever)?” Is the claim that everything is composed of atoms, or atoms and energies, or what (else)? Or is the argument that reality consists of “facts”. If so, what kinds of facts (physico-chemical, biological, sociological, psychological, or what)? Whatever the materialist unit of analysis in use, how are communication, observation, and concepts explained in this analysis? And how does a materialist analysis explain the non-material assumptions in materialist theories and explanations? Think of the many aspects of human and biological life that a materialist account cannot explain (there are so many, and they are so obvious), and ask yourself why anyone would want to rely on an ontology that leaves so much out. Then think about the appropriate uses of materialism, and the inappropriate ones, and remember that.

In the case of Idealism, ask yourself “Can I eat ideas, or sit on them? Will they provide shelter from the cold, or heat, or nosy eyes?” You get the idea. Ideas help you organize your activities, but in most cases they cannot satisfy the needs of the body, either personal or social. So what is their proper role? And why do we so often see their role in life blown out of proportion? Think about how they relate to, and complement material considerations. For every idealist explanation, think of some materialist aspect of the case as well. And for every materialist explanation, think of some idealist aspect of the case as well. Never mind the “grand arguments” but just ask yourself how long anyone would survive without both materialism and idealism working together all the time.

In the case of Behaviourism, ask yourself “What about those aspects of reality that are not susceptible to conditioning – such as gravity, or electricity, or entropy.” Behaviourism applies to any organism, because they can all, to one extent or another, learn from interaction with their environments – even plants bend towards the sunlight. But non-animate entities don’t learn, so the concept of conditioning is moot in those cases. Since the total mass of the earth includes a far larger non-animate proportion than animate proportion, Behaviourism has important but very limited spheres of use. Examine peoples’ behaviour, and ask yourself these questions: To what extent is their behaviour learned, and to what extent innate. Does everyone learn as easily [no], or retain lessons to the same extent [no]. So, what schedules of conditioning produced the results we see? How do ideas affect habits? How do material facts affect behaviour?

Next, take an issue and try all three ontologies on it. See how the “look and feel” changes as each of the different ontologies is applied to it. What proportion of each of the ontologies is involved in accounting for different instances of reality? It all depends on your perspective.

## KINEOLOGY

### What is kineology?

Kineology (from the root word kinetics, the study of motion) refers to the processes by way of which reality changes. According to the philosopher who makes the rationale for this label, kineology is *that part of metaphysics which attempts to describe the most general characteristics of change in the universe* (PHILOSOPHY, Ronald J. Glossop). The ancients conceived the topic in terms of "alpha and omega", the beginning and the end of all things, and as such it included Cosmology (the big bang) and Eschatology (heat-death of the universe). Modern versions are far less poetical, and consist of three basic processes: (i) determinism - the rule of cause and effect; (ii) existentialism - the occurrence of choice and chance; and (iii) functionalism - teleonomy (implementing plans) and teleology (fulfilling destiny). Here too reality consists of a blend, with determinism applying to mechanical aspects, existentialism applying to optional alternatives, and functionalism applying to consequential trajectories. It isn't necessary to assume that one type of change process fits or explains all instances of transformation - reality is more diverse than that.

### How is kineology manifest?

Change processes that are confined to mechanical aspects of the universe operate on the basis of cause and effect. Celestial systems (planets, asteroids, stars, galaxies, etc.) have their masses and orbits which usually display a high degree of regularity and continuity. So do many geophysical, ecological, and technological processes. Since a variety of causes and effects are operating simultaneously, some of the effects may offset other in certain respects - the rates and results must be studied and measured very carefully to get an accurate sense of their full dynamics. Part of the human condition is governed by cause and effect, in so far as mechanics and energetics govern life processes. Choices and contingencies operate within these parameters, NOT outside them.

Existential aspects of change are indeterminate in their outcomes - things could go a number of different ways. Even in physical processes, there are occasions on which alternate outcomes are probabilistically equivalent, so single occurrences could go either way, and multiples could be distributed approximately evenly. Human choice, which some philosophers find puzzling, occurs because cognitive processing can (1) deal with alternatives, (2) anticipate outcomes, and (3) formulate plans, all of which could lead to different directions of change.

Functionalism consists of processes wherein future results govern current actions - either something or someone is operating according to intention, or a larger purpose is at work that is guiding events. The kinds of "larger purposes" usually implied are either supernatural (God) or systemic (Nature). Intentions are either individual (goals) or institutional (policies). Every change objective is premised on anticipation, so functionalism is the way we control the future.

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## DETERMINISM

What is determinism?

*All that is needed in order to maintain determinism in a general sense is to hold the hypothesis that events happen in one or more definite (determinate) ways, that such ways of becoming are not arbitrary but lawful, and that the processes whereby every object acquires its characteristics develop out of pre-existing conditions* (Bunge, 1963). The earliest version, "cause and effect" was introduced with the celestial mechanics of Isaac Newton - a good effort, but only the beginning.

As more complicated systems were eventually studied and described, the causal model of determinism (simple causes producing simple effects) required more sophistication as probability was included in explanations. The outcomes of many events were unpredictable, either because existing methods were not capable of discerning complex causes, or because the balance of different causes lead to a range of outcomes rather than a single type. Was the probabilistic calculus covered by causality or not? Physical scientists couldn't decide. Regarding social phenomena however, other concerns rendered causality a moot point: What could account for the kind of situation where the same cause produced different effects? And, what could account for the other kind of situation, where different causes produced the same effects? These anomalies were dealt with in the Systems Approach by replacing "causes" with "contributions", and "effects" with "results". The size, kind, and timing of contributions can produce either similar or dissimilar results in complex systems, so either determinism is obsolete because it is based on cause and effect, OR an expanded definition of determinism is required, based on contributions and results. If you opt for the second alternative, keep your expectations modest.

How does determinism work?

The best results come with a flexible approach - think of determinism as a systemic property rather than an exact description of particular occurrences. Look for both "causes and effects" AND "contributions and results". Focus on careful observation and accurate description, rather than single causes or single effects. If past experience is any indicator, then even the facts from a good study can be interpreted in a variety of ways, sometimes contradictory or inconclusive. Above all, remember the three laws of forecasting: (1) forecasting is difficult; (2) methodology is over-rated; and (3) foresight requires **insight** (Ascher and Overhold, 1983).

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## EXISTENTIALISM

### What is existentialism?

Existentialism is premised on the postulate that *Existence precedes essence*. *What you are (your essence) is the result of your choices (your existence) rather than the reverse. Essence is not destiny. You are what you make yourself to be* (Flynn, 2006). To generalize from this personal instance to a wider perspective, existentialism is a kineology (theory of change) premised on the notion that some alterations are initiated through the operation of intrinsic rather than extrinsic drivers - in other words, control is exercised internally. Some consider the 20<sup>th</sup> century French philosopher Jean-Paul Sartre to be the quintessential existentialist, but 19<sup>th</sup> century Dane Søren Kierkegaard is perhaps a better example because he both stated the original rationale, and experienced a life plagued with the dilemmas it can lead to.

As the pre-Socratic philosopher Heraclitus pointed out, everything in existence is in constant flux to one extent or another. We can either ride with that change, like a wood chip on a flowing river, or we can choose to take action to chart our own course. If we "go with the flow" we are letting determinism set our course - to the extent that we choose what to do, how to do it, and why, we are existentialists. However, just as a human life without any exercise of choice whatsoever is hardly imaginable, so is a life in which every aspect is consciously chosen. Sartre's contention that "everything" is up for choice, does NOT represent the experience of real people (including Sartre himself), but neither does the contention that we are entirely at the mercy of outside, overwhelming forces. We can and do make choices - what we should strive for is "informed choices". Reality is, to a considerable extent, the outcome of the implications and consequences of those choices.

### How does existentialism manifest itself?

To be in a position to make choices, it is necessary to be aware that alternatives exist for which decisions can be made. If a person is not conscious of such alternatives at any particular juncture, the whole consideration of choices is irrelevant. To the extent that one is aware of alternatives, but is not fully informed about either the implications or the consequences of any particular choice, one can hardly be held "fully responsible". But being unaware or uninformed is the state of mind of most people - so expecting radical existentialism from them is "unrealistic"! Individuals can, however, decide for themselves to inquire about their alternatives, and reflect upon what they will do, and why, and where this will lead, and when. In doing so, the biggest challenges they are likely to encounter, are conflicts of values, within and with others.

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## FUNCTIONALISM

### What is functionalism?

Functionalism is a kineology (theory of change) the obverse of determinism. Just as the elements of determinism are sequential ["cause → effect"], so there is a sequence to functionalism, but in the opposite direction, namely ["effect → cause"]. Positivistic science viewed this sequence as either imaginary or inexplicable, and therefore "not scientific". However, if systems are designed to display goal-seeking behaviour and feedback correction, they can be both real and explicable.

The root of functionalism is, of course, the concept of function. Although function is one of the main concepts in modern mathematics, science, and engineering, it was actually "invented" by Aristotle in ancient Athens. There is considerable irony in this point of origin, because many in positivistic science considered "function" to be a quintessentially modern concept, owing nothing to pre-modern cultures or thinkers. The connection between function and functionalism is that in systems exhibiting functionalism, their behaviour is a function of goal-seeking processes.

### How does functionalism work?

In human behaviour, either individual or organizational, the notion of goals guiding behaviour is at least understandable, even if some instances of patterns may be unintentionally and inadvertently generated. The major controversies arose in situations where goals were implied even when no conscious purpose was demonstrated. Was the "hidden hand" of the market a metaphor or an actual description? Was the homeostasis of organisms or the dynamic equilibrium of ecosystems just convenient heuristics or were they credible explanations? The simplest, most straight-forward answer is also the one many find most distressing: Such action can be interpreted either way.

In cases like this, the role of explanation is NOT to provide "the one correct answer" but rather to develop an understanding of the situation. To the extent that a functionalist account of a process helps to achieve such an explanation, it can be useful. Since there are also those who would prefer to use a deterministic explanation even where goals clearly are in operation, and this too might achieve certain insights, ruling a functionalist approach completely out of bounds does seem rather churlish.

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## PRACTICE IN USING KINEOLOGIES

This section on Kineology covers the three archetypes of changing, namely Determinism, Existentialism, and Functionalism. Having read through them first (each covered in a page), then try some of the following suggestions (or do similar things that will also illustrate the desired points): Take any one of the postulates and apply it to a situation of change that interests you. The situation might occur inter-personally (between family, friends, classmates, etc.), socially (in your community, city, or region), politically (in your local or national government), or globally (in international relations, in the transnational economy, or the global environment), or any circumstance similar to those listed. Or it might just be something that springs to mind.

In the case of Determinism, ask yourself “What aspects of the situation under consideration can be considered of a mechanical nature?” That is to say, to what extent does gravity, the laws of mechanics, thermodynamics, etc. apply, and account for the outcome of interest to you? There is never any point in criticizing or questioning an outcome where the predominant source of change was natural forces that made the course of events inevitable. Nor is there any point in asking for, or expecting something which natural forces make an impossible outcome. So, distinguish the extent to which cause and effect determine the course of events, and what real possibilities exist for alternatives, and which do not. What is possible through technological intervention, and what is not? What is possible by setting different causal chains in motion, and what is not? If some causes inevitably produce certain effects, can these causes be avoided, and should they be avoided?

In the case of Existentialism, the question to ask is the exact opposite to that for Determinism, namely “What choices are available in this type of situation?” Choices are available because the resources to implement them can be mobilized, they do not contravene natural forces, and their various outcomes are equivalent in terms of possibilities. How many of the available choices are actually within the field of awareness of those involved? Gravity is not a choice – it exists everywhere, varying in intensity with local conditions. Are habits or traditions equally binding on choices? Not necessarily an easy question to answer – it seems to depend on who is involved, when, where, and why. A history of previous behaviour will likely give some indication of an answer in cases like this. To what extent do we project our choices onto others? If I commit to an ideal for myself, does that choice imply that I believe it is equally applicable to others? [No.]

With Functionalism, the question concerns “Is there a conscious (to the participants) purpose behind this change (teleonomy), or larger forces guiding the sequence (teleology)?” Some people see a “hidden hand” behind market processes, biological evolution, and human development. The challenge with these types of hypotheses is to show the mechanisms that are mobilized to actually implement the “larger plan”. Ask for, or look for the way the “purpose” is supposed to work – how do facts, events, processes, and forces interact and interlock to give the string of outcomes that produces the plan over time? Are there alternative “bigger plans” that could explain similar outcomes? Would “God” or “Mother Nature” or “Human Nature” serve as equally plausible explanations? Would “no purpose, just chance happenings” also explain?

Then apply each postulate to a single change, and see if they concur or contradict.

## PART II METHODOLOGY

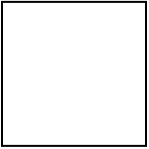



### What is methodology?

John Dewey's writings include the idea that one way to understand thinking methodology is to conceive of it as an act of categorization, whether into sets, or types, or varieties, or kinds, or groups, or whatever. Regardless of the particular basis for any specific categorization, the process whereby it is done consists in distinguishing the elements in terms of some aspect or characteristic regarding which they are homologous (equivalent instances), dichotomous (distinctly different), or analogous (somewhat similar).

### How does methodology work?

Since categorizing entities is contrived rather than natural, generalizing them as homologous is premised on shared features at a certain level of granularity (size or scale). By the same token, on the basis of other features, entities may be considered as dichotomous, distinctly different, depending on where the boundaries are drawn. There are no ultimate criteria for either generalizing amongst or discriminating between various entities - it all depends upon the purpose for the categorization, and the features chosen as the basis of the sorting. Analogous instances are based on what Wittgenstein called "family resemblance", degrees of similitude, ranging between homology and dichotomy. There are three scales of categorization: Macro, Meso, and Micro. There are three aspects to similarity: Facade, Performance, and Outcomes. There are three facets to differentiation: Location, Occurrence, and Quality. Try them all as the need arises. Whether it's dividing a pie or assigning people to groups or tasks, we categorize on some basis. Whatever that basis, to render the choices or the decisions clear, it is helpful to make the sorting characteristic(s) explicit, and to rely on those categories consistently throughout a task.

<p><u>Reference</u></p> <p>Geoffrey C. Bowker &amp; Susan Leigh Star SORTING THINGS OUT MIT Press, Cambridge, 1999</p>
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Categorize along any dimension of your choice.		
	<i>Large</i>	<i>Small</i>
<i>Tall</i>		
<i>Short</i>		

## HOMOLOGY

### What is homology?

"Homologous" is a technical term, defined by Webster's New World Dictionary as meaning *agreeing, matching in structure, position, etc.* The concise way to say this, is that things are "equivalent instances" - but that immediately raises complications. No two (or more) things can ever be "exactly the same" because each is composed of its own individual elements. What "homologous" identifies, therefore, is the sharing of certain features, which means that the members of the category display certain characteristics or patterns. Conceivably a number of things with a dozen features might only share one of them in common, but that one shared feature could be the basis for categorizing them as homologous ("equivalent instances") for some particular purpose.

Since things (or sets, or patterns, or structures, or situations) may display a multitude of features, the categorization process is more credible IF the criteria for the grouping is identified, and the rationale for the grouping is plausible (i.e., does it make sense, and does it [really] serve the purpose?). The possibility of a feature being shared only makes sense if the feature itself has a range of acceptable variation - blue things, even those of the "same" hue, are rarely all of precisely the same wavelength in Angstrom units - so this range of acceptable variation also needs to be specified. Inclusion on the basis of some variable also implies exclusion in the absence of the same variable.

### How is homology used?

Homology is most often used to "qualify" something (in the sense that the term is used in marketing). To "qualify" as a good prospect, a customer must possess certain characteristics: sufficient disposable income to afford the product, an intrinsic or induced need for the product, etc. During categorization, those entities that qualify as homologous are equivalent enough to serve as the plausible basis for grouping together. Pose the questions: Why is this categorization necessary? and What will the grouping achieve? Problems often occur because the basis of categories is not clearly defined, nor their implications sufficiently thought through.

One of the maxims of mensuration (the act, process, or art of measuring) also serves for categorization: Let the degree of exactness reflect the purpose of the task. Measuring for the tolerance of components in a piece of precision machinery may require calipers or even electronic measuring devices. Estimating the length of one's stride while out walking does not require specification at the level of centimeters. Categorization should be practiced in the same pragmatic way. If the attribute for grouping is an important one, define it as exactly as needed for the grouping that is contemplated. If "close" is close enough, it may be best to keep the boundaries variable.

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## MACRO

### What is macro homology?

Macro homology refers to superficial sameness, usually on the larger scale (macro level) of the phenomena under consideration, more particularly to the matching exterior of instances being compared. Entities “look alike” or have an “identical feel” or match in which ever other sensory modality being used for observation. Coins from the same jurisdiction, of the same denomination and year, will usually exhibit macro homology between them, except in the rare case when two or more versions of the same coin are minted simultaneously, or a change in the design is introduced part way through a particular year of issue. Figurines from the same mould, painted in the same way, also display macro homology.

There will, of course, likely be minor differences, even between identical coins or figurines; so the variation in the standard of comparison must be settled so that those instances within the acceptable range of variation will “count” as identical, and those outside this range will not.

### How is macro homology used?

The utility of a macro comparison occurs when the primary concern is only with the “look and feel” of the phenomena in question. If a person is looking at the colouring and size of figurines (or instances of any other standardized product), then differences in materials from which they were fashioned may not count against homology at all – if some are made of plastic and others of ceramic, but all have the same size and colouring, these two aspects may be enough for a judgment of macro homology. Even a set of ceramic figurines may, in fact, have been moulded from two slightly different mixes of ceramic paste, yet the finished products have macro homology because of their shape, size, and colouring. It all depends on the standards employed, and in judgments of macro homology the exterior or outward show is the focus.

In many cases of comparison in every-day life, crude or superficial macro standards are quite acceptable, because even “statistics is based on common sense” (Henkel, 1976, pg. 9). So when technical criteria are being employed (weight, size, temperature, etc.), the claim for identical instances, in only a very loose sense, may still be acceptable. This will hinge not on the exact characteristics of the phenomena being compared, but rather on the context of the comparison. The process of comparison and the judgment of “sameness” or “difference” are humanly contrived rather than naturally occurring. Therefore it would be appropriate to append all such matching with the phrase “for the purposes of this comparison...” – this is certainly the implicit qualifier that actually accompanies comparing.

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## MESO

### What is meso homology?

Meso homology refers to intermediate sameness, usually on the middling scale (intervening level between macro and micro) of the phenomena under consideration, more particularly to matching the parametric characteristics of instances being compared. These entities are “designed alike” regarding their “anatomical” characteristics or “operational” procedures. Wing bones have the same meso homology as arm bones in various animals. Tires on cars, trucks, and battlefield troop carriers have the same meso homology. The first year university curricula for science students have the same meso homology almost everywhere in the world (a mathematics course, an introductory science course, an introductory social science course, a communications course, and an elective).

Not every detail has to be identical to qualify for meso homology – the entities must have the same kind of “configuration.” In practice what this means is that the “internal construction” must fit within the confines of a “generic template” that specifies what elements are present and what role they perform within the system under consideration. All load-bearing columns in buildings are designed and used according to certain structural standards (type of materials, strength of materials, use of fasteners, assembly of components, etc.).

### How is meso homology used?

The utility of a meso comparison occurs when the main concern is primarily with structural parameters. The parameters are the “constants” in a system, with the “constant” aspect being the role they fulfill. There may be some variation in the way parameters are composed, but regardless of these variations they are constant in the service they provide to the system. In a building, vertical columns may be variously present as steel beams or reinforced concrete pillars, but their parametric role is to provide support for the entire structure, a service which they must perform if the building is to remain standing.

Meso homology is a deeper type of comparison than macro homology in that it looks “beneath the surface” of the phenomena in question. The point is to confirm that entities not only look alike, but to assure structural equivalence. The question guiding this assessment concerns how “deep” one has to look to find the presence (or absence) of the structural equivalence being sought after. Building and other structures are notorious for passing “safety tests” only to collapse shortly thereafter because the inspection was only superficial and did not adequately determine the viability of the parametric components concerned. Lives have been lost and professional careers ruined as a result of such incompetence. It is in such instances as these that “due diligence” must be a priority for inspections and safety tests. As technology has diminished natural risks, it has concomitantly increased the risks of infrastructural malfunctions.

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## MICRO

### What is micro homology?

Micro homology refers to intrinsic sameness, usually on smaller scale (micro level) of the phenomena under consideration, more particularly to matching the essence of instances being compared. These entities display identical configurational characteristics on the “genetic” scale - organisms having the same molecular structure; integrated circuits having the same components and layout; materials having the atomic nano-structures. At this level the observations and analyses must be carried on through instrumentation (electronic microscopes and computers) because the features are too small to discern with the “natural senses.” However, in the era of genetic medicine, micro-electronics, and nano-technologies, the properties that can be discovered in, or designed into materials can only be implemented with such sophisticated instruments (Drexler, 1987).

There is another instance of micro homology that involves a “close reading” rather than a microscope. What this consists of is a careful perusal and elaborate interpretation of cultural phenomena. “Hermeneutics” and “Discourse Analysis” are two instances of this search for micro homology in the Humanities, as are “Cultural Case Studies” and “Phenomenology” in the Social Sciences. In these instances the aim is to observe, study, and report on micro-cultural, micro-psychological, micro-sociological, and micro-anthropological patterns of behaviour and interaction. The conclusions may not be generalizable, but they do provide an in-depth report of specific human actions in specific circumstances. What the micro homology consists of in these instances is a comparison between behaviours or individuals within these small groups to determine to what extent they are identical (on whatever dimensions are studied).

### How are micro homologies used?

Those looking for micro homology at the “genetic” level and looking to turn the knowledge they acquire into new commercial products and processes. They believe (and considerable evidence supports them) that nano design will give more effective products whose functionality is at the microscopic level – medicines and supplements that can absorb faster and work better; materials that are stronger, more durable, and have other desirable industrial properties. There are even plans for genetic engineering with nano-technology, wherein aging, metabolism and immunity are altered for the better through micro-manipulation.

The “close-reading” version of micro homologies is used (a) to argue that humanity actually has more characteristics in common than any that differentiate them; and (b) to argue that those characteristics that do differentiate humanity are more important than any that they share in common. Matching methodologies can be used to support opposing objectives – ironies abound.

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## ANALOGY

### What is analogy?

"Analogy" is a technical term, defined by Webster's New World Dictionary as meaning *similarity in some ways, [with] the inference that certain resemblances imply further similarity*. The concise way to say this, is that things are "somewhat similar" - but that immediately raises complications. On what basis must things be similar, and to what extent must they be similar in order to qualify as analogous? Given that analogies are widely used, but just as widely criticized, it therefore becomes important to be clear about what they are. What "analogous" identifies, is the sharing of certain functional similarities, which means that the members of this category resemble each other regarding certain features or patterns, but do not necessarily have the same structure or mechanism.

One of the rules of traditional logic was that of "the excluded middle" - either something was "right" or it was "wrong", it was "sacred" or it was "secular", etc. Regrettably, this was not a very accurate description of much of reality, but the practice persisted for centuries. The criticism that arose about this practice likened it to the "Procrustean Bed" in the ancient Greek story about travelers who were offered "one size fits all" sleeping accommodations, and those not of a precise stature were either "cut down to size" or "stretched on the rack" to lengthen them up. This two-valued approach to logic, the "either-or" approach, was fine and well for theorists, but practical people had to live with much more uncertainty - most things were neither black nor white, but rather shades of gray. Philosophy finally caught up with these practical concerns when "pragmatism" was developed in the United States (Dewey, 1929) and "practical reason" in Europe (De Bono, 1973). It is not necessary to assume or demand that everything sort neatly into homologous or dichotomous categories - in reality boundaries often shade off into one another so that something may qualify "more or less" for inclusion or exclusion depending on how the lines are drawn. In real life, most people think this way intuitively all the time anyway. This does NOT imply that "anything goes" but rather allows diversity to be accommodated in analysis.

### How is analogy used?

By analogy, computer information storage is metaphorically called "memory", but computer "memories" are not based on the same components as biological memories, nor do they operate in the same way. There is, however, enough resemblance that the analogy is retained. Criticisms about analogies arise from "purists" who want to insist that descriptions should preserve a degree of technical exactness which would preclude using "free and loose" terminology (i.e., analogies) to make questionable comparisons. The appropriate reply is that for some purposes such analogies are quite suitable and very convenient, so long as the user doesn't forget that such categories are based on appearance rather than equivalence.

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## FAÇADE

### What is an analogous façade?

Any entities that display resembling appearances can be considered to have analogous façades (similar demeanour). A “rubber duck” is not really a duck, although it may resemble a duck in certain limited respects – it is a duck by analogy. Such resemblances are often “in the eye of the beholder” and may result in what others consider pretty far-fetched likenesses, but analogies have this variable property by their very nature. How much of a resemblance is necessary in order to qualify as an analogous façade? It all depends. It may be as little as possession of a single characteristic in common, for instance colour, size, shape, etc. In many cases combinations of these factors will be used to suggest analogous façade. Of course, the more characteristics entities share in common, the nearer they move to being considered homologous. The utility of the idea of analogous façade is to permit loose resemblances to still be categorized together.

However, appearance is nothing more than it seems. Having analogous façades does not mean that entities are otherwise similar beyond these superficial respects. Even in terms of analogy, façades represent the minimum of correspondence.

### How are analogous façades used?

Analogous façades are often used “to pretend.” People who are look-alikes to famous personalities may act as impersonators. Cheap knock-offs of expensive fashions permit status wannabees to pretend they can dress in the manner they aspire to. Novels often pretend to be authentic memoirs or investigative reports. People who are illiterate often pretend they can read and write by glancing at printed matter and then getting someone to read it to them or write it for them later in private. Less expensive automobiles often are designed with appearances that resemble more expensive vehicles (serving status wannabees again). Forged currency and artwork pretend to be the authentic articles. Pirated software and movies pretend in the same way. More and more expensive products are being forged and/or pirated, so that those with down-scale budgets can pretend they are up-scale consumers. Advertising and hype try to make a virtue out of pretending, and this provides analogous encouragement for less legitimate pretence (stealing, lying, forging, pirating, etc.).

Industrial designers have incorporated such pretence into the consumer products they design, in the form of stylistic changes. Regrettably this often has the result of producing shoddy merchandise and encouraging a “throw-away” culture. Pretending we can afford such waste is a primary cause of resource depletion and environmental degradation.

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## PERFORMANCE

### What are analogous performances?

When people are “faking it” they are engaged in analogous performances. Lip-syncing to a pre-recorded song is an analogous performance. (Most) fights in movies or other theatrical productions are analogous performances. So is any acting out of the role of a real person. These kinds of analogies are usually harmless, and often quite entertaining.

Some analogous performances however, are not harmless. Those who “go through the motions” of swearing to tell the truth, and then lie to courts or public officials, are often trying to conceal nefarious behaviour or the knowledge thereof. People who pretend to be eligible for social benefits when they are not, and who then apply for them under this pretence and actually receive the benefits, can bring the benefits program into disrepute, and waste the tax-payers money. Those who act as upright citizens by day and then break the law at night are anything but harmless.

Analogous performances of a more functional nature are those in which similar operations occur although by entirely different mechanisms. The circulation of traffic, or water, or sewage through a city, is a performance analogous to the circulation of the blood through a body, but the similarity is vague rather than exact. In the same way, the movement of water through pipes and traffic through streets is a performance analogy because the mechanisms of propulsion are distinctly different.

### How are analogous performances used?

If the desire is to plan a procedure, a familiar performance analogy is often chosen as a metaphor so as to readily illustrate the objective. When explaining voltage in electrical wires, the performance analogy of “water pressure in a pipe” is often used in the hope that people from non-technical backgrounds will understand the objective of using electrical voltage in the same sense as using water pressure. When rehearsing (for a wedding, or a public function, or a complicated activity, etc.), the performance is analogous to “the real thing”, but that is perfectly acceptable because the objective is to eventually perform the actual event properly.

The drawback with using analogies that give explanations of performance is that it is all too easy to “slip into” the mistake of assuming that the similarities involved are actually substantive, and can therefore be understood and controlled by identical mechanisms or techniques. Computer memory is only a performance analogy to human memory, not a replication. One of the advantages of human memory is its capability to forget as well as to recall – but computers never forget, which creates data storage limits for them, and retrieval problems for us.

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## OUTCOME

### What are analogous outcomes?

Any events that have resembling results can be considered analogous outcomes (somewhat similar in this respect). Events that have somewhat similar beginnings, or similar periodicity, or similar progression, or similar endings, may for any of these reasons be considered analogous. If events have similar kinds or rates of success, or failure, it can be argued that they have analogous outcomes. If the implications, impacts or consequences of certain happenings are somewhat similar, we may categorize them as analogous outcomes. The processes or techniques which produced these outcomes need not be identical or similar in any way – a “successful” robbery and a “successful” rescue may both still be considered “successes.”

The most problematic analogous outcomes are of a functional nature. Does, or should social or governmental budgeting have an analogous outcome to personal budgeting? Do events in the real world have outcomes analogous to those simulated in a model? The more general question is: Do analogous outcomes scale or transfer well? In other words, how far can you push the analogy before it begins to give results which are completely discrepant from experience? In theory, practice follows theory – in practice it doesn't.

### How are analogous outcomes used?

A major use of analogous outcomes is to set goals. In business strategy the metaphor often used is that of military strategy – “dominate” and “destroy” your competition. In sports, the same metaphor is also popular – “beat” and “humiliate” your opponents. A more benign rendition is usually used for symbolic contests – “strive to be number one” or “let's climb that Everest!” Here too however, what are usually advocated are only the outcomes and not the processes. If an exemplary outcome is later proven to have been achieved through fraud, theft or intimidation, then only the success and not the method will be advocated. Mussolini's regime is often credited with getting Italian trains to run on schedule – no doubt a worthy outcome, but not a recommendation to use the regime's other methods!

Another longstanding use of analogous outcomes is in functional justifications – the end justifies the means. Examples of this kind of thinking are the following: (1) Businesses provide jobs and prosperity, so whatever they ask for from societies or governments should be granted. (2) The police protect citizens from criminals, so their transgressions of the law should be overlooked. (3) The military fights for national security, so their maltreatment of foreign civilians and combatants should be ignored. (4) Skilled immigrants may be more competitive workers than a nation's citizens, so the immigrants' accreditation should not be recognized to protect jobs. (5) Some corruption and theft is inevitable, so such victimless crime as white-collar crime should be generally tolerated. All of these views are quite prevalent, but so is resistance to them.

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## DICHOTOMY

### What is dichotomy?

"Dichotomy" is a technical term, defined by Webster's New World Dictionary as meaning *division into two [or more] parts*. The concise way to say this, is that such things are "distinctly different" - but that immediately raises complications. No two or more things can ever be "completely contrary" because each fits into the general category of "entities". What "dichotomous" identifies, therefore, is the absence of certain features in some cases, and their presence in others. Conceivably a number of things could share a dozen features, but one half of them would possess an additional feature which the other half lacked - and on the basis of the presence or absence of that additional feature two categories might be proposed for some particular purpose.

Since things (or sets, or patterns, or structures, or situations) may display a multitude of features, the categorizing process is more credible IF the criteria for the dichotomizing is identified, and the rationale for the grouping is plausible (i.e., does it make sense, and does it [really] serve the purpose?). Referring to the presence or absence of a feature only makes sense if that feature itself has relevance to the purpose of the task at hand - categorizing on the basis of shapes or sizes, whether vastly or barely different, should not be used if these features have no bearing on what the practitioners are seeking to accomplish. However, exclusion in the absence of some variable also implies the possibility of inclusion in another category.

### How does dichotomy work?

Dichotomy is most often used to "disqualify" something (in the sense that the term is used in marketing). To "disqualify" as a good prospect, a customer will lack certain characteristics: sufficient disposable income to afford the product, an intrinsic or induced need for the product, etc. During categorization, the entities that are dichotomous, as opposed to being equivalent with those being grouped according to certain features, may either be left out of consideration entirely or be placed in a category distinguished for being "without" the feature, or one possessing other features. Pose the questions: Why is this categorization necessary? and What will the grouping achieve? Problems often occur because the basis of categories is not clearly defined, nor their implications sufficiently thought through. There was a time when science (the positivistic version) was rationalized (in part) as a framework to demonstrate common features shared by many entities. All life-forms were "energy-consuming devices" and all modern habitations were "machines for living". Since the Second World War and the onset of post-modernism however, the rationale has switched to "la difference". Since every form used and every choice made excludes the other alternatives that are not engaged, differentiation can occur ad infinitum, until the distinctions made make no difference at all. One effective way to avoid this pit-fall is to recognize that homology and dichotomy are just two ends of the continuum of **identity**.

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## LOCATION

### What are dichotomous locations?

Topophilia, the sense of place, is often an important aspect of most human endeavours. People emphasize the significance of various places to them in terms of familiarity and comfort on the one hand, and unfamiliarity and discomfort on the other. The “home fires” idea associated with the personalized arrangement of one’s own residence is often contrasted with the impersonal similarity of multitudinous hotel or motel rooms. The sense of place however, can extend out from the home to include the neighbourhood, city, region, country, and continent on which one resides. And different locations usually do have a different sense of place. It may be the foliage; it may be the presence or absence of rainfall or sunshine; it may be the time zone, it may be the elevation above sea level; it may be the longitude or latitude; it may be the people and their language, their religion, their ethnicity or their eccentricities – but whatever it is that makes another location distinct, the uncomfortable feeling one gets from being in an unfamiliar place may persist for prolonged periods of time. Alternatively, it may be a welcomed change, but in either case it will be a distinct feeling.

### How are dichotomous locations used?

People usually do pay attention to the place they are currently in, or the places between which they are going. Most of us shop at a different micro-location from where we live, whether it be down the street or across town. If something is to be sent to us, by mail or a mover, we need to provide a correct address (location) to assure the delivery is made properly and promptly. People may be either proud of their residence or working locations, or ashamed of them. They may be “up town” or “on the wrong side of the tracks.” We use locations to find people, to track them, and to evaluate them. Government services are provided according to location – people in different locations are eligible for different provisions. Many governments also control the use of locations through zoning laws – so that types of activities and structures are clustered into different areas rather than being randomly dispersed. So place does matter.

Marketing and various other surveyors regard locational data as an important indicator of the information they are trying to assemble and use. The combination of computer and communication technologies has enabled the development of Geographic Information Systems (GIS), whereby advertising is addressed, services are delivered, traffic is routed, infrastructure is planned and operated, and regulations are applied. As citizens and consumers, people need to be aware of the geographical implications of their residential and work locations, as well as their travelling patterns and leisure activities – living on a flood plain can result in ruinous water damage; living in a residential area limits the commercial options for a property, but it entitles those living there to many community services. Well-being requires locational knowledge.

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## OCCURRENCE

### What is dichotomous occurrence?

With regard to dichotomous occurrences, “time is of the essence.” Unless events are occurring simultaneously, they are happening at different times. These differences could entail a sequence of events, or be randomly distributed, but either way the incidents are separated temporally. We take note of this because time (at least occasionally, often usually) matters. The rates of recurrent events enable us to calculate speed, velocity, and acceleration. Knowing the beginning and ending of episodes enables us to triangulate the duration and cessation of behaviours.

Since a considerable proportion of our activities are scheduled by the clock (waking time, breakfast time, work time, coffee time, lunch time, training time, quitting time, supper time, TV time, bed time, wintertime, summertime, vacation time, etc.), we have to know what happens when, and conduct ourselves accordingly. Both science and technology incorporate time as a major parameter. Economics, politics, and law use the occurrence or non-occurrence of specific behaviours and patterns of behaviour as major indicators of profit and loss, support or opposition, compliance on non-compliance.

### How are dichotomous occurrences used?

If you have to catch a mode of transport (carpool, bus, train, plane), other than one devoted exclusively to your own use you probably need and will use a timetable to schedule your departure and arrival. Otherwise you may be late, and may not even get a ride at all. So you plan ahead, to get the timetable, to consult it, to schedule your departure, to anticipate your arrival, and to fulfill all of these plans.

To one extent or another you also plan your work activities, your vacation agenda, your educational and training experiences, your career efforts and achievements, and your retirement. All of these episodes in your life involve time to an important extent, even when you are “relaxing” and “not watching the clock” (you can only choose to NOT attend to the clock in special circumstances, and for limited periods of time, beyond which inattention leads to trouble). Is this “the rat race” or “good time management?” Either way, time keeps moving.

Methodologically, the secret to good time management is not to over-schedule or double-book yourself or others. Budget time so as to allow occasions for rest and reflection, and to permit time to double-check and possibly retro-fit previous activities or outcomes. Time is important, but so is deciding how to use it, and how not to use it. Doing more and more things is not the same as achieving worthwhile objectives – so keeping track of time should be seen as a means to enabling accomplishments, rather than of pushing oneself beyond reasonable limits.

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## QUALITY

### What are dichotomous qualities?

If “some have it and others don’t” then those characteristics (qualities) are dichotomously distributed (rather than evenly or equally distributed). There are a multitude of such characteristics: size, colour, shape, composition, operation, functionality, etc., etc., etc. It is on the basis of these characteristics that we distinguish between various entities and phenomena. In the case of composition, things that are made of different materials may be recognized as such and categorized accordingly through simple observation. In the case of a characteristic such as size however, since every physical entity will have some “size” then it becomes necessary to reify size into a series that ranges across the spectrum: small, medium and large, or finer grades if the need arises. In the case of other characteristics, some are interpretive rather than observational. Is a particular person congenial or contrary? Is a particular situation benevolent or malevolent? In both cases it depends on the indicators chosen to represent the characteristic, and on the interpretation of these indicators in context. With all of the above however, people do believe in and recognize qualitative differences, and base at least some of their behaviours on the attribution of such characteristics.

### How are dichotomous qualities used?

People often find it convenient to group things into sets so that similar entities are considered together and dissimilar entities are considered apart. There are fruits, and there are vegetable; and then there are tomatoes, which may be consider either one depending on your classification. There are heroes, and there are villains, and there are bystanders; then there are heroes who are “really” villains, and villains who are “really” heroes, depending again on the characteristics we emphasize. On the one hand we have “the entire family of humanity” and on the other hand we have distinct groups based on their skin colour, blood type, language, location, ethnicity, religion, political affiliation, etc. To make these distinctions is to “discriminate,” that is to say, to differentiate based on some characteristic(s). From the methodological point of view, this is merely an exercise in taxonomy or typology. But the word also has negative connotations, whereby certain characteristics are evaluated adversely. Racism and Sexism are two of the negative forms of discrimination that are “officially” frowned upon.

Why does it matter if we dichotomize characteristics and people into different groups? Because we may then behave towards them differently, in ways that may disrespect their status or deny them the same rights that others enjoy. But this concern cuts both ways – by recognizing when such discrimination exists, it may be possible to take steps to alleviate it. Unfortunately hard and fast rules may aggravate such problems rather than solve them. We always need to decide, on a case-by-case basis, when such dichotomies are helpful, and when they are hurtful.

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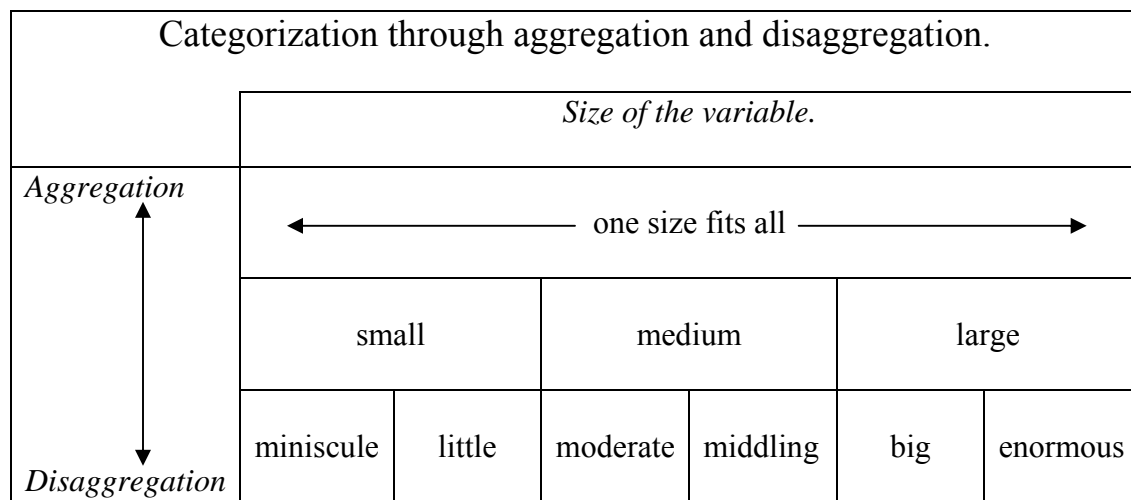


## USES OF METHODOLOGY

This section on Methodology covers the three sorting archetypes Homology, Analogy and Dichotomy. Having read through this set of thirteen pages (each concept being covered on a single page), then try some of the following suggestions (or do similar things that will also illustrate the appropriate points). Take any of the premises and apply them to a situation of interest to you. The situation might involve anything from some small thing in the here and now, to larger considerations in wider venues.

To practice using Methodology, look for things to compare and contrast. When looking for Homology ask yourself what aspects are “the same”, and to what extent (how much variation is acceptable within “sameness”)? Do the same kind of exercise for Dichotomy – in what respects are things different, and to what extent? Try a comparison in which some aspects are the same, others different. Try a contrast in which some aspects are different, others the same. Consider how often sameness and differences might just be considered parts of an Analogous continuum. How much similarity and difference can be accepted in an analogy?

Do an exercise in which the same set can be aggregated into one group, disaggregated into a number of groups, or stretched along a variable dimension, depending on which characteristics are used. Then consider the aesthetics of categories. Is sameness more “harmonious” than differences? Does analogy allow for more range of expression than either homology or dichotomy? Questions like this, if carefully formulated and directed, might reveal patterns of behaviour or output never before noticed. Hold these lessons for future reference. After some practice with each, strive to be a reflective practitioner by applying the three core methodological parameters either simultaneously or concurrently to whatever you are trying to categorize.



### PART III AXIOLOGY

#### What is axiology?

Axiology involves the study of values, value judgments, and ethical systems. John Dewey provides an introduction to the pragmatic theory of value, which simply defines values as actionable commitments. In other words, people's values are the criteria they use when prioritizing decisions and choices. Values are embedded in actions, and can be inferred from those actions. In so far as actions contradict, or are not consistent with what is said or written, the authentic indication of values is what is done rather than what is proclaimed. Hence, judgments of value imply action rather than just affirmation. The study of ethical systems can be called transvaluation. The term transvaluation, and probably a good deal of the modern concept itself, appears to originate with Friedrich Nietzsche. Transvaluation itself means looking across the valuation process, both historically and comparatively, so as to be able to assess and critique various ethical systems regarding their sources, structures, implications, and consequences. Regarding Occidental culture, which was Nietzsche's main focus, he concluded that Christianity had a pervasive and pernicious effect, leading to a morality of denial, deference, and degeneracy. What he favoured instead was a morality of vision and strength, a warrior ethics that was not afraid to set agendas and dominate. However, the use of transvaluation does not require Nietzsche's or anyone else's conclusions.

#### How to use axiology?

There are 3 archetypal principles of personal conduct: (1) hedonism - seeking pleasure in whatever form; (2) egoism - getting your own way by whatever connivance; and (3) entrepreneurialism, which is seeking or creating projects that provide fulfillment and worthwhile objectives. A certain amount of enjoyment and ascendancy are to be expected, even encouraged, but without something worthwhile and fulfilling in one's life, the overall affect will be shallow and unsatisfying. Social principles can be grouped under: (i) altruism - caring for others and acting accordingly; (ii) collectivism - respecting the folkways and mores, obeying the laws; and (iii) elitism - providing leadership when and where it is requested or required. There may be a conflict between personal and social principles, but this is not an inevitable state of affairs. Transcendental principles refer to the "bigger picture" and are covered by: (a) theism - reference to the supernatural or the spiritual; (b) humanism - ascribing "higher motivations" to the effects of human culture, and making humanity "the measure of all things"; and (c) environmentalism - respecting (or even worshipping) Mother Earth as the source and sustenance of all life, and a guide for human action.

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## PERSONAL

### What are personal principles?

Personal principles concern one's own personal aspirations and goals. What makes them personal is their self-referentiality. Sometimes confusion arises because of the claim that ALL principles are personal since it is persons who hold them - according to this proposition, because persons hold principles, therefore all principles are personal. That is fallacious. What makes a principle "personal" (or "social") is the content of the commitment, NOT where it resides.

The general content of personal principles involves what one wants for one's self. The corollary of this is that the subject of personal ethics concerns the responsibilities one owes to one's self. There is a certain view of ethics which is premised on the notion that ethical concerns consist exclusively of one's responsibility to others or the society in general. In that view in other words, self-interest is NOT covered by ethics - on the contrary, it is supposed that self-interest operates against ethical concerns. That view of ethics could be characterized as "crude social control". It assumes that there is an inherent conflict of interest between one's self and others, and that the interests of others are on "the high ground" whereas one's own interests are intrinsically unethical.

This is a very pessimistic view of personal motivation, although unfortunately the behaviour of certain libertarians and other hyper-individualists has given credence to this caricature. How that caricature becomes a stereotype of "simple-minded selfishness" involves the balance (or lack of balance) between the kinds of personal principles people hold. Hedonism is the quest to "have a good time", what Sigmund Freud called the pleasure principle. Egoism is the quest to "get one's own way", what Max Weber called the exercise of power. Entrepreneurialism is the quest to "accomplish something worthwhile", beyond either pleasure or power.

### How are personal principles manifest?

Too much hedonism can lead to a continual search for convenience, and a tendency towards laziness. And in Carrie Fisher's words, for them "immediate gratification just isn't immediate enough". Too much egoism can lead to flagrant intolerance, a "check-list of personal demands" approach to life in general and others in particular, and a refusal to acknowledge the impacts of one's actions. Too much entrepreneurialism can lead to invidious comparisons with others, self-righteousness that demeans others, and the growing conviction that ends justify means. Each of these kinds of personal principles has a place in one's life, but compulsive commitment to one at the expense of the others will lead away from, instead of towards self-actualization - wise up!

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## HEDONISM

### What is hedonism?

Hedonism is a sensate rationale for behaviour. The hedonist's primary principle is summed up in the slogan "Just enjoy!" There is nothing wrong with enjoyment per se, provided the experience which provides it is worthwhile. The problem is with the first word in the slogan, namely "just". Hedonists are notorious for sacrificing all other considerations to the search for pleasure. Since most pleasures are quite transient, they find themselves on a constant treadmill on which they go through recurring phases of searching, satisfaction, satiation, dissatisfaction, and renewed searching. Hedonists are "pleasure junkies", addicted to the "high" of gratification which is, alas, only temporary. There is now a merchandising service and catalogue devoted to "hedonics", so there is obviously a lucrative market in catering to such people (provided they are rich enough to afford the pearl-handled, gem-studded hand guns and other trinkets associated with this group). What those who are not exclusively committed to this personal principle might find "shallow and superficial" in the hedonist lifestyle, hedonists themselves insist is sufficiently fulfilling from their point of view, and "what they really want" from their lives.

### How is hedonism manifest?

The consumption rationale for hedonists is often "quality" but from outside their ranks it bears a striking resemblance to the "conspicuous consumption" of the Gilded Age of the late 19<sup>th</sup> century United States. Therefore, it was probably someone like Ambrose Bierce who said of them "Nothing exceeds like excess!"

What is rarely considered these days is that the actual consumption patterns that would qualify one for a hedonist in the Gilded Age, are now the aspirations of most people in developed economies, perhaps even of most of humanity. The single two major purchases that millions of people yearn for, are a single-family dwelling, and a single-family automobile. Yet ecologists have indisputably demonstrated that the enormous "ecological footprint" of modern individuals that is so destructive of the environment is primarily caused by the spreading use of the single-family dwelling and the single-family automobile. In terms of grossly wasteful lifestyle, we are (almost) all becoming hedonists now! Imbibing hedonism, like drinking water, is only safe in small amounts - a person can literally drown with just a little more than a glass of water. Those in the home construction and real estate markets have come to imply that the towering monolith in the movie *A Space Odyssey* is actually a mortgage document! We are squandering our ecological heritage for a house, a lawn, a driveway, and a car - that's hedonism gone mad.

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## EGOISM

### What is egoism?

Egoism is a willful rationale for behaviour. Just as hedonists are notorious for their perpetual quest "to have a good time", so egoists are equally notorious for their perpetual quest "to get their own way". And in this case too, there is nothing wrong per se with getting your own way, provided that your goal is worthwhile. "*Ah, but there's the rub.*" All too often egoists are far more concerned with what they want than with the implications or impacts on anything and everything outside themselves. One Russian émigré who became a novelist and amateur philosopher in 20<sup>th</sup> century America claimed that this value was the only one a rational person would have - but since she died from complications brought on by chain-smoking, I find both her rationalism and her egoism more than a little self-defeating. If egoism doesn't lead a person to define their own self-interest in such a way as to preserve and enhance their life as a primary objective, then they and their goals are both ludicrous. And despite all the talk of so many egoists (and their existentialist fellow-travelers), in practice they fail to fulfill that primary objective in case after case.

Does the foregoing paragraph seem somewhat "slanted" to the reader? Consider the following: improving nutrition, public health, and modern medicine have created a "longevity revolution" over the past two centuries. There are more alternatives to pursue, and more opportunities to pursue them than at any time in previous human history. The fundamental premise of egoism is that people's primary moral responsibility is to themselves. In developed societies at least, the vast majority of people can get access to the knowledge and wherewithal to lead long, healthy, productive, fulfilling, happy lives, in association with family and/or friends. The key characteristics to enable this are attitude, willingness to learn, persistence, and planning, all of which are well within the ambit of that same vast majority - so egoists especially need the courage of their convictions! ***When you've thought through something critically and come to the conclusion that seems most reasonable to you, it should follow (a) that you believe it, and (b) that you start acting in accordance with that belief (Nosich, 2005).***

### How is egoism manifest?

Effective egoists will recognize when and where collaboration with others is actually in their own self-interests (which is almost every time, everywhere!). The suppliers of knowledgeable advice, nutritious food and supplements, public health facilities, and modern medicine, and well as all of the other facilities that make a modern life-style so promising, all deserve our respect and support, whether we be egoists or altruists. The metaphor most appropriate to an egoist's strategy in this life is *the runner on an obstacle course*. Too many people, offering little or nothing of value want to get in your way for no other reason than the attention they get. Learn to avoid them.

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## ENTREPRENEURIALISM

### What is entrepreneurialism?

Entrepreneurialism is a purposeful rationale for behaviour. Although both hedonism and egoism have a place in one's personal life, the major shortcoming of each is actually the same, namely the lack of anything worthwhile. If a person's motivation consists solely of "having a good time" and/or "getting their own way", it does NOT have what Webster's New World Dictionary defines as that which will make it worthwhile, namely something *of true value*. The way a person acquires that *true value* is through commitment to a project that holds the promise of significant accomplishment, which is through entrepreneurialism. The entrepreneur strives to move resources out of less productive activities and into more productive activities. "Productive" in this personal sense includes the rationality of both means AND ends.

There are, of course, criminals and shysters that claim the mantle of entrepreneurialism for their activities too, but they should be avoided and their advice ignored. Anyone who, for any reason, lets means trump ends as their primary modus operandi, is not to be trusted or emulated. Those, for instance, who insist that profitability justifies everything, might consider that by far their most profitable course would be to spend nothing whatsoever on themselves because that diminishes their bottom line - better a profitable death than a penurious life. Those without that level of commitment to profitability themselves shouldn't expect equally absurd commitments from others either.

### How is entrepreneurialism manifest?

The key to effective entrepreneurialism is sustainability. Thorstein Veblen said that the main characteristic of businessmen was their desire "to get something for nothing". Modern commerce and modern governance have taught the public to adopt this same attitude in the years since Veblen. More and more people don't want to think about the implications of their current and aspirant life-styles, namely that they are NOT based on sustainability. They are looking for personal fulfillment through social squandering of their ecological heritage - not very worthwhile!

The one truly good idea in the midst of all this carnage, is that the most productive resource with which to tackle this, or any other challenge is our accumulating knowledge (cognitive and effective). The accumulating character of knowledge makes it a resource different from all the others that have served as a platform for entrepreneurialism in previous human eras. What this unique development implies is that the future of entrepreneurialism, and of knowledge, and of society, are now all part of that new synthesis of sustainability that humanity has yet to formulate. Now that's something truly worthwhile to engage in.

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## SOCIAL

### What are social principles?

Social principles concern one's relationship with other individuals and society in general. What makes them social is their social referentiality. Sometimes confusion arises because of the claim that ALL principles are personal since it is persons who hold them - according to this proposition, because persons hold principles therefore all principles are personal. That is fallacious. What makes a principle "social" is the content of the commitment, NOT where it resides. The general content of social principles involves what one desires in terms of the quality of social life. The corollary of this is that the subject of social ethics concerns the responsibilities and obligations one owes to others. Libertarians (such as Ayn Rand and Margaret Thatcher) hold the view that "there is no society, only individuals [families, friends, acquaintances, colleagues, etc.]" and that one should decide for one's self about any responsibilities to them. Ironically, the very things such people value the most (property and contracts) are social inventions, defined and protected by social morality. The notion of "libertarian ethics" really is a non-starter. It is a hermit's view of life, the attitude of those social psychologists call "social isolates".

This is NOT however, an invitation to go overboard in the social principles direction and presume that all ethics are of a social nature. People have moral responsibilities to themselves AND to others, AND the larger (transcendental) context, which must be balanced. The caricature of ethics as exclusively other-regarding can become the stereotype of "our primary role in life is to help others", with no acknowledgement or role for personal aspirations of an ethical nature at all. That view of ethics could be characterized as "crude social control". It assumes that there is an inherent conflict of interest between one's self and others, and that the interests of others are on "the high ground" whereas one's own interests are intrinsically unethical. Using social principles to rationalize the pursuit of personal objectives is the kind of hypocrisy that this approach often leads to - analysis reveals that selfishness is operating, but masked by a "caring" rhetoric.

### How are social values manifest?

Altruism is the unselfish concern for the welfare of others. But when such "unselfish" concern leads to self-sacrifice, there is something wrong with the quality of one's own self-regard. Collectivism is social control instilled by conditioning through traditions and habits. The mechanism is what sociologists call institutions, the "rules of the game". The challenge here is to recognize the trade-off between reflectivity and reflexivity, and to determine when each is appropriate. Elitism involves social leadership, either voluntarily arranged or formally imposed. Since cooperation and coordination always require some organization and accountability, a leadership role invariably arises, however ephemeral it may prove to be. Many such roles are semi-permanent, and those in these roles often find themselves (implicitly) adopting the Iron Law of Oligarchy (perpetuate your policies by choosing your successor).

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## ALTRUISM

What is altruism?

Webster's New World Dictionary defines altruism as *unselfish concern for the welfare of others*. Although this concept seems relatively straightforward, it does contain some internal uncertainty, leading to some contradictory conclusions. Firstly, altruism is a tenet of social ethics (concern for others) rather than personal ethics (concern for one's self) - or so it would seem. That is why it is defined as *unselfish*. But what about the possibility that concern for others might be *selfish*? One perspective in population genetics postulates that a concern for relatives is "really" just an attempt to protect one's own gene pool - so the closer the relationship, the more likely one will be *altruistic*. Could this behaviour be extended from relatives to friends, and still count as selfish altruism? By the same token, radical egoists argue that no action by any person is "really" ever altruistic - that in some sense the motivation to help others still advances the goals of the person, albeit indirectly (helping a fellow ideologue still promotes the ideas a person is committed to).

Both primitive cultures and traditional religions have glorified altruism as caring and preferable, and egoism as selfish and undesirable. Modern, liberal culture is premised on the ideal of societies that can accommodate BOTH responsibilities to one's self AND to others. This does not mean that choices will not be necessary, BUT that it should be possible to make such choices and satisfy both requirements - neither one's self NOR others will get everything they want, but everyone involved will find enough satisfaction to make life tolerable (given reasonable expectations). So, egoism forms the context for altruism, and altruism forms the context for egoism. The objection that radical egoists have against the "ideal type" of altruism is that such behavior is often rationalized by the term "sacrifice". Egoists object to altruism because it is defined as *unselfish*, and they claim to believe in *the virtue of selfishness*. If concern for others were premised as voluntary rather than mandatory, egoists can make such choices as they see fit.

How is altruism manifest?

One wag summed up these dilemmas rather well with the comment "*I know what we are here for; it's to help others. What I am not sure of is what the others are here for!*" Both the advocacy of, and the objection to altruism are "really" referring to a kind of concept that sociologist Max Weber called an Ideal Type - an archetypal idea that is a standard against which to measure performance rather than a realistic assessment of actual behavior. Some concern for the welfare of others is a requirement of living in human groups - only hermits need not be altruistic in this sense. Desiring that people obey minimal institutional rules (traffic rules, etc.) expresses concerns for both one's self and others (I don't want others to drive carelessly because in the process they might injure both themselves and me). In these circumstances (which are the ones normally encountered) what is needed is a balance, or trade-offs, so that protecting one's self and helping others are complementary, NOT exclusionary.

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## COLLECTIVISM

What is collectivism?

Collectivism is a reference-group doctrine of behaviour. It involves the coordination of conduct that a society achieves through social control. Much of this will be informally arranged, although at the limits it is often enforced by laws or regulations. Some libertarians are under the illusion that both collectivism and social control are illegitimate, and to be resisted whenever possible. But without the collectivism that social control provides, we would not enjoy potable water supplies, nutritious food, sewerage or garbage collection, reliable consumer products, or safe traffic conditions (even though all of these could be improved, their existing margins of safety would drop precipitously if social controls were eliminated).

The situation where collectivism "gets a bad name" usually involves perceptions of public prejudices and preferences being forced upon dissenting individuals. If "the community" feels that some individual or group has discreditable opinions or unseemly habits, this minority may be required to "tow the line" rather than express their views or lifestyles. But on those occasions when some of this same minority agrees with prevailing discreditable opinions, they are then strangely silent about "rights being trampled on".

If familial conditioning, public education, and social propaganda are working effectively, opinion is so subtly formed and reasonably reinforced that dissenters are seen as exceptional deviants that deserve minimal tolerance and little respect. This is, of course, only a caricature, both in terms of how it would work and the results it would produce - but it usually is the "official version" that the social establishment will seek to propagate and defend.

How is collectivism manifest?

Most of the effort at social control that supports collectivism occurs "from the bottom up". People influence each other's behaviour by encouraging what they find acceptable, and discouraging of what they find unacceptable. The techniques for this run all the way from smiling and frowning, to rewarding and punishing. The prospect for a libertarian utopia in which only minimum expectations would prevail, is virtually nonexistent - people want to prescribe how others behave, and will use a variety of ways to do so, even regarding inconsequential habits and traditions. Constitutional limits on the exercise of arbitrary intimidation are necessary, but the majority will often be very impatient with such provisions or the rationale for them.

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## ELITISM

What is elitism?

Elitism is an exclusionary doctrine of behaviour. It refers to a social situation when a small minority provides "leadership" to a (much) larger majority. This arrangement may emerge "naturally" where a person organizes a group for some particular activity and then reverts to ordinary status when the task is over. Alternatively the leadership position may be formal, with recruitment, induction, operational, and termination procedures. This concept has just as "bad a name" amongst egalitarians as does altruism or collectivism amongst the egoists. People who "want" leadership opportunities are often assumed to either have hidden agendas (the desire for inordinate gain) or some form of psychopathology (the desire for unseemly domination).

For those in followership positions, a skeptical attitude about leadership candidates is a good way to nip gullibility in the bud. On the other hand, some arrangement for group coordination and cooperation, someone to set the goals and the pace, is usually needed, and often imposed. One of the perennial topics of first-year University courses in Sociology concerns whether or not social stratification is necessary. By the end of their third year, Sociology students usually agree that whether or not it is necessary, it certainly seems to be inevitable. French Sociologist Robert Michels call this phenomena "The Iron Law of Oligarchy" and it has proven correct ever since he articulated it.

How is elitism manifest?

When concessions are made to the "necessity" of leadership, egalitarians consistently opt for the "democratic" version – this is the person who uses consensual methods, talking things through and never pulling rank. In practice the truly productive leaders are not necessarily likeable or considerate – they are focused, self-centered, and driven by the need to achieve. However much such individuals may depart from the democratic version though, they do accomplish things, usually in less time, by means of less effort, and with measurably higher returns to the intellectual and financial capital invested (Koch, 2003). One business analyst described them as "tough but fair" – they want results, not excuses, but for those who deliver they will share the wealth and the glory (Ohmae, 1982). This flies in the face of the "leader as exploiter" stereotype, but that modern-day myth is no more reliable than the tales of Gods, Demons, Heroes and Villains from ancient folklore.

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## TRANSCENDENTAL

### What are transcendental principles?

Transcendental principles are those that go beyond "mere mortals". This may sound plausible in the cases of Theism (God as the source of ethical principles) and Environmentalism (Mother Earth as the source of ethical principles), but does it apply to Humanism (cultural heritage as the source of ethical principles)? Yes, even Humanism is transcendental - it idealizes the accumulated contributions of the creative members of the species, not necessarily the personal attributes of any particular innovator (unless that personality can be "iconized"); but not usually common folk.

Most of both religions and philosophies have been premised on the proposition that people want (and need) something greater than just themselves, that they want some over-arching system to fit into. Given the historical record and comparative studies, the contention appears to be soundly based. A few dissidents however, continue to claim that the vast majority of such over-arching systems are mythological rather than existential, and that those who have promoted such postulates and principles have merely been trading on the gullibility and vulnerability of the majority. Although the consequences of practicing or not practicing certain values can be observed, the intrinsic rationales for them cannot be proven or disproven. You either form your principles in one context, or you do it in another. Furthermore, the kind of problems that plagued those with unbalanced approaches to either personal or social principles, also arise with transcendental principles.

### How are transcendental values manifest?

All too often, those who are over-committed to (their own version of) Theism, are usually not happy just to praise God and obey his laws - they support proselytizing and crusading to convert unbelievers, either voluntarily or by force. Many radical Environmentalists claim that they want to reverse the Industrial Revolution and take humanity back to Voluntary Simplicity, a way of life supported by human labour and hand tools. Most of the projects for social improvement, social reform, or social reconstruction, are Humanist endeavours, rationalized by the Enlightenment, and the human costs of some of these projects have been as draconian as those of any sponsored in the name of Theism. Perhaps the single most important standard for principles of any type, is their consequences rather than their rationales. So what counts, in the final analysis, is behaviour rather than motivation. As religious dissenters constantly point out, "the road to hell is paved with good intentions". Hurting other people is not acceptable, regardless of the great cultural ideal that it might serve; destroying or degrading the environment is not acceptable, regardless of the great profits such exploitation might bring; and forcing changes of religious belief or worship is not acceptable, regardless of the sanction of theologians or charismatics. The only "bottom line" of relevance to any system of transcendental principles, is its capability to get people to "behave themselves" - the role of "higher principles" is social control. Motivation is viewed as an instrument to keep people on the "straight and narrow", not an excuse to wander from it.

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## THEISM

What is theism?

Theism is a supernatural rationale for behaviour. It involves the belief in a god, a deity, a higher power operating in the universe. Almost without exception, traditional deities have had either a moral or a magic influence on their societies, usually both. The moral influence is propagated through a moral code, like the Ten Commandments of Judaism or The Way of Buddhism. The implication of such a code is that *the higher power wants you to behave in certain approved ways, and to avoid behaving in other ways disapproved of*. This, in turn, has led many to suspect that the actual source of such moral codes is the theological elite (priests, monks, etc.) rather than any supernatural sources. Whatever the source though, the primary effect of such a moral code was to serve as an instrument of social control, to rationalize “proper conduct” with a supernatural gloss or motivation. Whether or not this was the original intention, it served this purpose. From the sociological point of view this would be a form of determinism (obeying the “moral law”). From the political point of view it could equally be interpreted as a form of functionalism (seeking to fulfill God’s purpose). The magical role of theism was believed to be the god’s ability to fulfill wishes. Mark Twain has a humorous story about this use of belief: *in the story a “model” Christian is praying out loud in church for a “socially acceptable” blessing; with his silent inner voice however, this “model” Christian is praying for exactly the opposite, something that will benefit exclusively himself, and to the detriment of others. The “problem” is that God is caught on the horns of a dilemma, not knowing whether to grant the supplicant’s spoken wish or his secret wish. Apparently even God can face difficult choices.*

How is theism manifest?

Over the years religions (organized systems of worship and morality) have developed from particularistic to universalistic, but despite this more inclusive premise, theism is not actually any guarantee of beneign conduct. Many believers of various faiths have sought their priest’s blessing to go to war. In the case of crusades, religious leaders have often been the fiercest proponents of “war in the name of God”. What seems anomalous is not however; the protection of the morality was actually only applied to one’s own brethren or fellow citizens – non-believers or outsiders were fair game, including for plunder and killing. Perhaps the time has come for a God that does encompass all of humanity, generous rather than selfish, and forgiving rather than punitive – a God for tomorrow.

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## HUMANISM

### What is humanism?

Humanism is cultural rationale for behaviour. Although there are several ways that humanism has been defined, perhaps the one way that includes them all is the statement from a commentator in Ancient Greece: *Man is the measure of all things*. In the current idiom that could be re-stated as: *a system of thought that centers on humans and their values, capacities and worth* (American Heritage Dictionary, 2000). The context of the statement from Ancient Greece is that at that time philosophy was enamored with the idea that mathematics was the basis of all rational thought - so the commentator's premise was that human interests were what made measurement worthwhile. The modern version of humanism changes this premise into the substance of the concept.

What it is a good idea to keep in mind though, is that this concept of "humanity" is an idealized one, not a reference to real folk with their "warts and all". The ethic of humanism transcends ordinary people in their everyday lives. It more particularly romanticizes the cultural heritage of the species, and those individuals and activities that contribute to that heritage. The "greater good" is attributed to cultural creators (innovators) rather than culture consumers (the public).

### How is humanism manifest?

The issue that both ancient and modern humanism deal with is: *what should be the most appropriate focus of human enquiry and endeavor?* The opposite view from humanism in the ancient world was the one which originated in Astrology and was later adopted by Philosophy, namely: *As above, so below*. And although Science has replaced both Astrology and Philosophy in the modern world, it implicitly still holds to that older rationale. Astrology, Philosophy, and Science are based on the notion that there is a larger context in which human life is situated, and into which human understanding and behavior have to fit. The humanist reply is that the value and role of everything outside of humanity is to serve human purposes. Neither the humanist view nor its alternatives can be declared ultimately "correct" OR "incorrect", because all of these claims are based on what different people value, NOT on any facts per se.

When humanists prioritize human activities and interests over other considerations, this is what they do: *they glorify human culture and human accomplishments*. So, for instance, putting a man on the moon is not seen as a "big technological success" but rather another "triumph of the human spirit" - for humanists it's not the space craft or the space agency that gets attention, but rather the vision, struggle, bravery, and accomplishments of all the humans on the project. Perhaps the starkest way to express it is this: *the ONLY thing which provides any significance to anything is the human purpose behind it and the human endeavor within it*. To anyone who considers this an excessive view, humanists simply point to the techno-euphoria of the modern age as the opposite extreme against which they are reacting.

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## ENVIRONMENTALISM

### What is environmentalism?

Environmentalism is an ecological rationale for behaviour. Einstein was reputed to have defined the environment as "*everything that isn't me*". This approach scandalizes radical environmentalists because it implies the possibility of separating humanity from the remainder of its ecosystem, an idea they find both unrealistic and abhorrent. But what we should contemplate is the premise this definition implies, namely that "the environment" is an *idea*, not anything in particular. What Einstein has done (perhaps unintentionally, but brilliantly nevertheless) is to allow us to see that "the environment" is a category, not a fact or a "natural" entity. Given the widespread use of the word, the most accurate way to describe "the environment", is as a reification of an ecological concept. Environmentalists and any one else who uses the concept *as if it was real* are indulging in what Alfred North Whitehead called "the fallacy of concretization" - they are assuming that since we can name something, that must prove it is a substantive reality. For the people who do subscribe to this fallacy, environmentalism is a modern form of animism, nature worship, in which the planetary ecosphere is personalized as "Mother Earth".

### How is environmentalism manifest?

Contrary to the romanticized notion, nature is not benign - storms, hurricanes, tornados, floods, tsunamis, droughts, earthquakes, volcanoes, plagues, and famines, etc. often devastate their environments, usually locally, sometimes over vast areas. Despite this reality, many of those with an environmentalist outlook say they prefer to "let nature take its course". On this planet, the era of "the natural course of events" ended with the agricultural revolution over six thousand years ago. The predominant regime that has been expanding ever since is Human Ecology, in which "environments" are "managed", occasionally passably well, usually very poorly. If we are to do better however, we must form our categories and use our technologies in realistic ways.

Even areas of the planet which remain "relatively" untouched or uninhabited do so only out of human deference. When it suits humanity even the South Pole is colonized. What we need (desperately) is a science of geo-mechanics to operate large of the earth's surface, both beneath and above. Without the managed means to sustain our lives and our culture, humanity could perish just as surely as have other species before us - we have no divine protection against human stupidity if we choose to persist in that stupidity long enough. Anyone interested in re-thinking this dilemma would do well to begin with Amos Hawley and Joseph Tainter.

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THE COLLAPSE OF COMPLEX SOCIETIES  
Cambridge University Press, Cambridge, 1988

## PRACTICE IN USING AXIOLOGY

This section on Axiology covers the three archetypes of valuing, namely Personal, Social, and Transcendental. Having read through this set of twelve pages (each concept covered in a single page), then try some of the following suggestions (or do similar things that will also illustrate the desired points): Take any one of the values and apply it to an issue of interest to you. The issue might occur in a media story, in a book or magazine you read, in a conversation you have, or in a presentation you attend.

In the case of Personal values, ask yourself “What do I **really want** from a situation, or a person, or a group, or my job, or whatever?” The first challenge is to identify how and where your principles came from. If what you want is relatively immediate (in the here and now) you may be able to locate the source of that desire quite readily. Longer-range goals or objectives may (usually will) have been acquired over more time and circumstances. Whatever your list of personal priorities, try to discern how you acquired these desires. Your needs may be basic in nature, but what you want to satisfy them has been learned – the questions are how, when, where, and why? During this process, do NOT treat your wishes and desires as sacrosanct – just as you learned to want certain things, you can unlearn, and that may be in your own best interests in some cases. This task is about the implications and consequences of what you want, and whether your desires meet the criteria of good sense and worthwhile accomplishment. Your responsibility to yourself is to look after your own best interests – and YOU are the expert here!

The Social values you adhere to are just as “real” as your personal ones – but the locus is different, namely your relationships with others. What are your rules, or criteria by which you interact with other people? There are always patterns, but many people are not conscious of the principles they follow. With different people, or in varying situations, these criteria will also change, or be given different priority – people usually behave differently with friends and family than with strangers or acquaintances. Once again, try to uncover how you behave, with whom, in which circumstances, and why? The point, again, is whether these rules of interaction are consistent, and in the best interests of yourself and others. Usually there are inconsistencies, and trade-offs between your own interests and that of others – once identified, are these outcomes the ones you expected or want? There may not be a need for precipitous action, but you may be able to figure out ways to achieve better arrangements.

Transcendental values have the curious status of being the focus of existence for some people, and of practically no concern whatsoever for others. In these circumstances, people’s views of one another regarding transcendental principles provide a good indicator of the extent of their **tolerance**. Which of the core transcendental principles are you consciously committed to (if any), and how did you come to acquire this “faith”? These principles may **rationalize** commitments for those who accept them, but for non-believers they may not provide either credibility or legitimacy. Since knowledge workers insist on their ethical autonomy, knowledge societies are increasingly learning to accommodate a diversity of transcendental principles.

After some practice with each, strive to be a reflective practitioner by applying the three ethical categories either simultaneously or concurrently as ways of assessing human actions.

## PART IV SEMIOLOGY

### What is semiology?

Technically, semiology is the study of sign systems. As use here it refers to the communication of aesthetics. The combinations and permutations in this area seem almost infinite, but the basis for them are three concepts, or some blend thereof:

(a) romanticism - the focus upon one's own favorite modality, whether it be the flavor of ice cream or the genre of writing; (b) populism - "playing to the crowd" by appealing to cultural archetypes or momentary fads; and (c) formalism - aesthetic choice based on some method, whether in representation, performance, or symbolism.

### How does semiology work?

For consumers of culture, the most widespread idiom appears to be "I may not know art, but I know what I like!" Romantics like things that express their own sentiments. Populists like whatever is trendy, because they are basically aesthetic conformists. Formalists look for particular art forms that demonstrate a level of artistic craftsmanship. For creators of culture, the inclinations are also quite varied. Romantic artists go to considerable lengths to place their personal stamp on whatever they produce - singing, dancing, acting, often claiming to be inspired by a "muse". Populists either possess or develop a stereotype that appeals to their audiences, as something to be liked or disliked. Formalists such as classical musicians and method actors practice constantly to achieve excellence. There are three aspects to Romanticism: Improvisation, Morale, and Genre. There are three considerations in Populism: Inspiration, Entertainment, and Catharsis. There are three motifs in Formalism: Comedy, Irony, and Tragedy. Look for all of them.

What underlies all of these modalities in semiology, are human feelings. Suzanne Langer makes the case that all of human culture can be understood as the product of the refinement of feelings just as readily as the elaboration of ideas. It will therefore often be an interesting exercise to imagine the feeling that have impelled different modes of semiology, so that by empathizing with others one can get a sense of their mind-set. In modern society, the "great aesthetic debate" has been between those who regarded aesthetics as "merely entertainment" and those who regarded it as an important source of social criticism and/or "spiritual guidance" for an otherwise superficial existence. An attitude of detached involvement is helpful here because it enables you appreciate a variety of modes and messages in aesthetic communication, rather than being a single-minded Philistine.

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## ROMANTICISM

What is romanticism?

Romanticism is an aesthetic modality that prioritizes cultural creators' rights to develop their own individual modalities of presentation, and the culture consumers' rights to cultivate individual taste in whatever direction they prefer. The "artist's" vision or purpose should be the guide, and this should not be compromised to fit into an external mould or to conform to a widespread predilection. It sounds very "noble" - and it can be. It can also just be an excuse for an artist to abuse the good nature of an audience. Nor is it impossible that the second might eventually turn into the first!

Patrons have always had trouble with their commissions - both Michelangelo and Goya were infamous for arguing with the Roman Catholic Church about which colours really fulfilled the religious symbolism of the paintings they were paid for (in each case, they insisted on their own choices rather than accepting the dictates of clerics). More recently, Woody Guthrie Sr. wouldn't even paint a store sign unless he could choose the colours rather than providing what he was asked for.

Aristotle however, contended that the value of a play was determined by the audience, not the author, nor the players, nor the producer. But romanticism doesn't really dispute this - what it argues is that artists should freely express themselves, and THEN audiences can decide if they value the product or not. Even so, romanticism does NOT treat the reception of artistic works in the way that marketing would recommend. Modern marketing advocates surveying the market and responding to the needs and wants discovered. When it comes to consumer products for instance, the former practice of designing and producing a commodity and then creating a demand through advertising (much as a romantic artist might do!), is now frowned upon and discouraged. Instead, producers (of whatever) should ask the public first, and then give them what they want. Either way, the only real problem is when stylistics is raised to a moral issue.

How is romanticism manifest?

The motion picture business (the biggest aesthetic industry AND employer of artists in the world), tries to reflect its audiences' demands, but the public sensibilities are fickle enough that many of the guesses are wrong (i.e., the pictures barely cover production costs, often not even that). Book production and automobile production are often not much better at anticipating what will sell and providing it. And enough of the time when artists with a vision are given an opportunity to express themselves, they do find a market and recoup the investment. The success rate for aesthetic innovators is probably about the same as for consumer product innovators, not more than one in ten -but the prospect of the big breakthrough keeps them at it. As long as the cultural consumers have the same right to choose as the producers, freedom of choice will work.

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## IMPROVISATION

### What is aesthetic improvisation?

Improvisation occurs when attempts are made, to one extent or another, to break the conventional boundaries of semiotic expression in what is offered to society. Artists often see this as part of their “creative license.” In recent years the new technologies (computers and communications) have been used in this improvisation. The Internet was itself new not so long ago, and now some of its uses are right on the leading edge of improvisation (blogs, FaceBook, video and music sharing, etc.). Nevertheless, there are problems with such improvisations. The innovation process will inevitably change some of the features and characteristics of previous modes – if these existing forms have been copyrighted, trademarked, or patented, the property rights in these versions may inhibit or disallow changes to them. Technological ways are often found to do an “end run” around such restrictions, but in many cases they are not, with the result that either the proposed improvisation is discontinued, or a financial settlement is reached between the parties concerned, with the improvisers paying for the right to infringe on the configuration of established modes.

The other major problem with improvisation is the fashion-driven “change for the sake of change” syndrome. Things are replaced not because they have worn out or are obsolete, but rather because a new model has a new colour, a fancier look, or is suddenly popular for some other reason. Improvisers usually can’t resist adopting these new stylistic changes because it gives them a chance to “get on the bandwagon on its way to the bank.” Improvisation that seems like little more than stylistic change may seem harmless, but it helps create a social psychology in which we all become novelty junkies. The waste in time, effort, money, and discarded objects is ignored in deference to a process of social differentiation that leads to increasing individuation in search of idiosyncrasy.

### How is improvisation used?

The Fashion Industry employs designers, models, garment workers, and promoters in a multi-million-dollar extravaganza every year. Software and hardware firms give us mostly new versions and occasionally new gizmos every year. Automobile manufacturers give us new paint-jobs, new trim, and more electronics every year. The Home Furnishings Industry provides a “make-over” to refrigerators, sofas, beds, chairs & tables, and multiple other furnishings every year. Cereal manufacturers change the shape of their cereal bits from “squares” to “diamonds,” or something similar every year. The creators of this “newness” swear that it is important, and the consumers continue to buy it. But although all of this may indeed be improvisation, is it really worthwhile? Not for my money it’s not - junk is still junk, no matter how fashionable and popular. You be the judge for your own wallet.

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## MORALE

### What is an aesthetic morale?

A morale is a principle that is incorporated into, or inferred from a work of art. The story of “The Sorcerer’s Apprentice” has the morale “be careful what you wish for” or alternatively, that “technology that is used before it is understood is not amenable to control,” both of which, in this case, amount to the same thing. Is the morale of the Hannibal Lector stories that “a psychopath can actually succeed with predation and avoid apprehension” or is it what Hannibal himself articulates at one point, namely “use him, or kill him, but make up your mind.”

The presence and legitimacy of morales in art is a very controversial topic. In Ayn Rand’s novel “Atlas Shrugged” a cohort of creative people goes on strike against the remainder of American society to get the recognition and the remuneration they think they deserve. In the novel they actually succeed – in real life this outcome would be very unlikely, because, as in other strikes, a group of strike-breakers would cross picket lines and undermine the efforts of the strikers, the President would undoubtedly declare Martial Law, and the Military would operate the basic infrastructure as a police state. Many creative and community-oriented people would probably be more than happy to cross any picket line that counteracted a conspiracy of this ilk against the rest of society. My main question here however, is “what is the moral of this story?” Is it “individuals have a right to protect and control the entire output of their minds, and no one has the right to deny them this opportunity” or is it “sociopaths can actually succeed with predation and avoid apprehension”? Nor surprisingly, fans of Ayn Rand would opt for the first interpretation, whereas those with a community-orientation would support the second – and there isn’t much room to negotiate between these two morales. More important than this particular disagreement however, is issue of the heavy-handed moralizing that authors like Ayn Rand, Taylor Caldwell, Ron Hubbard, and many other ideologically motivated novelists practice. The unintended results of this kind of “moral broadcasting” may be to expose the implications of their intentions, just as with public officials who “say too much” when interviewed on talk shows.

### How are morales used?

Right-wing novelists claim their moralizing is just a contribution to restoring the moral fibre to American society (turning the clock backwards to the Social Darwinism of the 19<sup>th</sup> century). Left-wing novelists claim that moralizing is just a contribution to establishing the normative structure of a new America (pushing the society forward to a collectivist existence in which everyone is equal, and the smoothest egalitarians are more equal than others). On the other hand, the morale vacuum of Andy Warhol’s art and Mike Myers’ movies is no more appealing. Fortunately there are enough substantive offerings that popular culture is not a complete wasteland.

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## GENRE

### What are aesthetic genres?

Genres are aesthetic templates that are used to guide the creation of various modes of art. In novels we have Harlequin Romances, Murder Mysteries, Psychological Thrillers, etc. In painting we have Expressionism, Pointillism, Abstraction, etc. In popular music we have Country & Western, Rock ‘n Roll, Jazz & Blues, etc. In classical music we have the String Quartet, the Symphony, the Concerto, etc. In theatre we have the Farce, the Drama, the Musical, etc. In dancing we have Ballet, Tap Dancing, Square Dancing, etc. Elaborate and extensive lists could be compiled for every mode of art, with considerable disagreement between various list-makers as to what categories to nominate, and which modes fit into which categories.

Different genres have different fans, audiences and markets. Since most artists want to reach an audience and a market (hopefully with a considerable overlap in these two groups), they will study the characteristics of the various aesthetic templates in the field(s) in which they are working. Audiences will have certain expectations as to how a Murder Mystery or a Country & Western song will be composed. There will be an appropriate vocabulary, a recognized set of themes, pace or cadence that modulates the material. There may be syncretism in modalities, in which, for example, a Murder Mystery is set in the Country & Western music business – but in that case a blend of elements from both templates will be expected. Some types of aesthetic templates may fall out of public interest, and new templates may be created which take their place, or enlarge the field of available artistic modes.

### How are genres used?

Some artists are primarily trying to just make money, and they will use their talents and develop their arts to the extent that they realize that objective. One renowned writer of action thrillers acknowledged some years ago that his themes, plots, vocabulary and characters were created solely to appeal to the market that bought those kinds of books – and using his income as a standard, he did very well by this template. Other artists struggle with some innovative or unconventional mode – what they are attempting to do, in fact, is to create a new artistic market, and it is often quite a struggle (James Joyce’s “flow of consciousness” novels are an example, as are Edgar Allan Poe’s stories that blend mystery and esoterica).

Many artists have “hobby-horse” themes that they explore in various directions. For writer D.H. Lawrence it was “sexuality,” for composer Franz Joseph Haydn it was “humour,” for the Canadian Group of Seven painters it was “nature.” Artists are not “compelled” to follow templates, but the further they depart from them, the less likely are they to find audiences or markets for their efforts. Extreme deviance in aesthetics is no more appealing than it is in ethics.

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## POPULISM

### What is populism?

Populism is an aesthetic modality that prioritizes what the market or the audience wants as the basis for artistic production. What will consumers pay? (for the price of admission, or the actual article). This sounds very democratic, and so it is - but is that a virtue in art? One of the problems which this approach is that it supports stereotypes much more than innovations, and even new things become stereotyped very quickly. Unfortunately (or perhaps fortunately), it doesn't work this easily. There is, it turns out, a market for novelty, so some new things do sell; and by the same token, some of the "same-old, same-old" doesn't sell, despite the care taken to replicate the original.

In a recent, very well-crafted film about a screen-play with a homosexual theme, the screen writer and the producer in the story agree that the American film audience will not accept a movie with an openly homosexual theme! This kind of irony prevails throughout aesthetics production, proving thereby that "audiences are conventionally unconventional, or unconventionally conventional". Investors are the ones chasing public opinion, but investors are a big part of the aesthetics industry - only they can afford to finance a lone performer or team in the production of an offering that could reap multiples of its initial cost, OR be a flop.

On the audience side, the stereotypes of successful products are often criticized unsparingly by those whose sensibilities have been piqued. Feminists rarely find heroines who are sufficiently autonomous and assertive. Ethnic spokespersons note either that their group was under-represented or mis-represented, which they say, speaks volumes about the ignorance of the artist. Non-smokers chide every instance of someone smoking in a work of art, claiming it glorifies the practice and leads the young into vice through bad example. Animal lovers insist that no living creature be injured during the production of the artistic offering, and even depiction of such events is condemned. Those in crime control (the police, state prosecutors, etc.) see every depiction of lawlessness as an encouragement to act out what is portrayed unless the perpetrators in the story get swift and fulsome punishment. Consensus in aesthetics is as rare as in politics.

### How populism is manifest

Styles which have broad appeal will most likely be superficial. Slogans which get wide circulation may be easy to remember, but they are likely simple-minded metaphors. Most aesthetic offering of superior quality will have limited appeal. Interesting movies from small countries, even those about compelling events, usually only go abroad to small festivals, rarely theatre chains. Rising diversity is eroding national chauvinism, but some worry that the global culture now emerging may eventually simply produce its own stereotypes to replace local ones. The experience of tourist hotels is increasingly standardized in Africa, Asia, and Latin America.

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## INSPIRATION

### What is aesthetic inspiration?

By inspiration is meant that the audience is motivated to mindfulness. Upon hearing a story of bravery the listener might resolve to be equally brave, or at least courageous enough to try. If an example of tolerance is observed, it could inspire observers to practice the same virtue more often themselves. On the darker side, reading about or otherwise learning about an instance of revenge may prompt certain individuals to also attempt revenge in their own circumstances. From life experiences themselves, failures or setbacks could lead some to forego honesty or congeniality and instead inspire them to bloody-mindedness or crime. The notion that inspiration is always positive is just wishful thinking – but for better or worse, it can stimulate thinking and motivate change.

Furthermore, audiences are often inspired in ways that were never intended or anticipated. Efforts to tell a “serious story” may be taken as a joke by the audience. On the other hand, joking may “fall flat” or even arouse outrage. Stories concerning events pertaining to “9/11” often inspire some of the relatives and friends of victims to denounce these offerings as “exploitation.” Other relatives and friends however, welcome such stories as an inspiration to heroism and an attempt at closure. The inspiration that people take may vary from person to person, incident to incident, and time to time – what was once a positive inspiration may later turn into a negative one, or visa-versa. However, to the extent that some incident or art “moves” an audience, some sort of inspiration on the part of at least some of those people is very likely.

### How is inspiration used?

Some people use inspiration to “kick-start” an action that was, or might be otherwise delayed. An example of how regular savings eventually leads to a “dream purchase” or to overcoming a setback can be used by audience members to resolve to begin saving regularly themselves. Perhaps they “had always meant to” but somehow just never did – now, with this new inspiration they make the commitment and start to deposit into the savings accounts.

People will sometimes refer others to a story or incident in the hope it will inspire the kind of action (or inaction) they approve of. Recounting action that succeeds implies that anyone else behaving the same way is just as likely to enjoy the same success. Recounting action that fails implies that anyone else with any good sense will avoid that action to avoid failure. Either ploy could disappoint however, because the recipient of the message might not “take the bait,” or the results might not be as anticipated. Inspiration is a tricky business, and trying to influence it has its limits – for the most part, inspiration only supports inclination rather than manipulation.

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## ENTERTAINMENT

### What is the role of entertainment?

Speaking of entertainment, one of England's best, Noel Coward, described his art as "a talent to amuse." And amusement can be important, as a relief from tedium, or boredom, or tension. On the other hand, the insistence on constant amusement as the price of attention can degrade public discourse into the superficial and the cynical (Postman, 1985). The key to the beneficial consumption of entertainment is knowing both "how much is enough" and "just because something is possible doesn't make it desirable."

What does limiting entertainment to "enough" amount to? An occasional laugh can be quite refreshing, but continuous hilarity can be very tiring, both for the audience and the performer(s). Aristotle recommended a middle way between extremes for good reason – too much of a good thing can become a bad thing. Marshall McLuhan called this The Reversal Effect – humanity has a tendency to overuse all forms of media to such an extent that what begins as a benefit eventually ends up as a detriment. Our problem is that we don't have the wisdom to only use our contrivances up to the point where they continue to provide benefits, and then to stop using them thereafter. Instead we over-do it, leading to inversion and disillusion. We amuse ourselves into idiocy.

What does choosing to forego entertainment when it is "inappropriate" amount to? "Making fun" of important issues or serious problems will not likely win a person much understanding or support. However you may view your own tribulations, "laughing at" the hardships of others is more likely to incur wrath than applause. I once knew a man who recommended that Christmas Salutations be sent on toilet paper rather than greeting cards, except that "*most people didn't have the sense of humour to appreciate it.*" In many ways he was a very smart guy, but this sort of attitude won him very few friends and very little respect. And although Machiavelli advised leaders that "it was better to be feared than loved," it is never desirable to be loathed!

### How is entertainment used?

Entertainment can be a distraction from too much seriousness – but to be acceptable it is best to change the topic as well as trying to change the mood. Of course, great drama can be just as entertaining as amusement, but to do so it requires, amongst other things, a particular decorum – both the issues in the material itself, and the audience's sensibilities must be respected. Again, as Aristotle said, it is a play's audience that decides what is worthwhile, rather than the actors, or directors, or producers. Provocative performances using offensive humour (sexist or racist jokes, demeaning caricatures, or ethnic stereotypes) deserve any hostile reception they encounter.

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## CATHARSIS

### What is aesthetic catharsis?

The concept of aesthetic catharsis was articulated by Aristotle in ancient Athens. He proposed that an audience could identify with the characters, situation and/or plot of a play, and in the process purge any unhealthy emotions simulated or stimulated by the story. However, modern psychological research has uncovered a down-side of this psycho-social projection – people who let out or act out their emotions this way may become habituated to the cycle of excitement and release, so much so that the emotions’ intensity and longevity increases rather than decreases.

So much for the theory – what about the practice? People often go to a comedy to get a good laugh, or go to a tragedy to get a good cry. There are heroes audiences love to love, and villains they love to hate. Many actors make a career out of using their personality, their skills, and their props to “own the part” of a particular example or type of stage character – Leonard Nimoy as “Mr. Spock”, Jack Palance playing a cross-section of reprehensible villains, Christopher Reeves as “Superman,” etc. Many children love animated features, and collect all of the memorabilia associated with them. Teenagers flock to schlock horror films to get a good scare; the worse those movies are, the better the kids like them. Women patronize “chick flicks” (*Sex and the City*) and men prefer “macho movies” (Bruce Willis in the *Die Hard* series). Some combinations of heroes and villains transcend all audiences (Sean Connery, David Niven, George Lazenby, Roger Moore, Timothy Dalton, Pierce Brosnan, and Daniel Craig, all as *James Bond*, the biggest series franchise in movie history [only the *Tarzan* series of movies could be considered a rival, and a pale one at that!]).

### How does catharsis work?

Effective villains are truly odious – Richard Widmark playing a psychopath who pushes a cripple woman down a staircase; Lee Marvin as *Liberty Valance*, an outlaw without a single redeeming quality; and Anthony Hopkins as *Hannibal Lector*, a psychopath with only one redeeming quality (his intolerance of rudeness!) Effective heroes are truly admirable – William Shatner as *James T. Kirk* of Star Trek; Charlton Heston as *Moses* and *Judah Ben-Hur*; Gregory Peck as *Atticus Finch* in *To Kill a Mockingbird*. Comedians need to embody a unique combination of bathos and pathos (Woody Allen as the little Jewish klutz; Bing Crosby and Bob Hope as the travelling smart-alecs in their *Road...* series). We cheer, and squirm, and jeer along with all of them, and they laugh all the way to the bank – so they must be doing something right for us.

There is a dark side to catharsis too. D.W. Griffith’s *The Birth of a Nation* resurrected support for the Klu Klux Klan. The *James Bond* movies distracted the British public from MI 6’s intelligence fiascos. Sometimes the public just seems to want their complacency reinforced.

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## FORMALISM

### What is formalism?

Formalism, as used herein, refers to the form of the aesthetic effect that the various modalities of expression intend. For formalists, the goal is the perfection of the form of expression itself; painters improve their colour mixing, their brush strokes, etc.; actors improve their voice projection, their gesturing, etc.; writers improve their choice of words and phrases, their alliteration, etc. What guides such efforts is the attempt to better express the feelings that are supposed to be conveyed to the audience. In each case there is a "method" behind the development of "the feeling and the form" being expressed - the three archetypal forms outlined in this section are comedy (puncturing pomposity), irony (disclosing discrepancy), and tragedy (chronicling calamity) .

Audiences, or at least segments of them, are often just as committed to particular forms as are those doing the presentation. Amongst film goers, some like "action flicks", some like "love stories", some like "science fiction", and some like them all. In many artistic venues (theatres, auditoriums, etc.) there are often series of presentations that feature particular modalities that are favourites of particular audiences - classical music for some, rock music for others; contemporary paintings for some, the old masters for others; opera for some, operetta for others, etc. This is the context in which discussions have taken place about the merits of "high art" vs. "low art", or folk culture vs. international culture. In all likelihood, the findings of anthropology apply to aesthetics as well, namely that, just as each culture can express whatever its members need to communicate, so each aesthetic form can express whatever its artists and audiences intend. In other words, there is no intrinsically superior or inferior art mode - a Grandma Moses "primitive" style painting may be just as well expressed as a Georges Seurat "pointillism" style picture, but with each having a different form of putting paint on canvas and creating a scene.

### How is formalism manifest?

Formalists strive for excellence in performance, and both their colleagues and their audiences recognize their successful efforts (and sometimes even their failures). Movies have festivals in various cities around the world, some open to all entries, others focusing exclusively on particular categories of films (national, regional, topical, etc.). Almost invariably either audiences or critics, or both, get an opportunity to vote on "best in class", or "best in festival". Many countries also have film academies, with annual awards voted on by the professionals in the country's film industry. Film critics also have their awards ceremonies, and their prizes based on their appraisal criteria. Most recently national audience awards have been created in which the entire public can vote on what they feel is best. Award winners gain an aura which translates into a desire amongst their colleagues to work with them on future projects. All awards of all such winners become part of subsequent career and product promotion - winning an Academy Award can significantly increase a winner's salary and a movie's box-office.

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## COMEDY

### What is the aesthetic role of comedy?

Comedy is often mistaken for humour, because humour usually plays a part in comedy, but the two are not really identical (Meeker, 1997). Comedy is a symbolic way of puncturing pomposity. So much of what is presented in the public and official realm is serious and ponderous. A lot of the public and official agendas are driven by ideologically motivated advertising and propaganda (Ellul, 1973). Comedy seeks to expose the pompous premises motivating this posturing. Instead of “towing the party line,” comedy shows, through various media and allusions, the contradictions, the hypocrisy and the absurdity behind prevailing assumptions, expectations, and pronouncements. Comic heroes have at least something of the ridiculous about their demeanour. Woody Allen is a far more renowned comic than Arnold Schwarzenegger, precisely because his characterizations are much more plausible send-ups of so many of the archetype personalities in the modern world.

This “poking fun at” or “belittling” may be very gentle, but it can also be quite savage. In many of the comedies that Woody Allen stars in as well as directs, he plays an inept klutz whose good luck isn’t too good and whose bad luck isn’t too bad. But in two of his comedic dramas, which he directed but did not star in, the protagonists actually got away with murder. In both of these latter stories, the “rules of the game” of crime and punishment had loop-holes through which the protagonists were able to elude apprehension. Currently on American television, the best comedy, and the best news program, and the best on-going puncture of pomposity, are one and the same, namely John Stewart’s *The Daily Show* – none of the network news can hold a candle to it!

### How is comedy used?

One task of comedy is to expose lies without naming names. Stories are often told in which the names and various other minor details are changed (to protect the innocent and/or the guilty). In political comedies the politicians may be assigned names of no one currently elected or generic names of which there are multiple examples in real life. When corporate connivance is being portrayed the industry or location may be altered, with tobacco executives becoming oil executives, and oil executives becoming tobacco executives, etc. Something else which comedy does particularly well, is to show the unanticipated and unintended consequences of either benevolently or malevolently motivated actions – “no good deed goes unpunished,” so “be careful what you wish for.” Thirdly, comedy is often an opportunity to “see ourselves as others see us” but without the embarrassment of having the audience’s own shortcomings publicly exposed. Or when a hero or a villain descends into the absurd, it can be a cautionary tale showing that if you want to keep your dignity and/or self-respect, don’t go there!

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## IRONY

### What is aesthetic irony?

The task of aesthetic irony is to produce the effect of divulging discrepancies in our image of the world. Things are not always as they should be, as we want them to be, as we were promised they would be, as we hope they will become. Irony reminds us of this discrepancy by bringing some of the alternatives to our attention. For every winner there will also likely be a loser (win-win situations are more wishful-thinking than reality-confirming). The race is not always to the swiftest, nor the battle to the strongest, nor success to the most diligent; nor is good always rewarded and evil always punished (sometimes the least-deserving are the best-rewarded, and the most-deserving are the least-rewarded). On the other hand, sometimes we expect the worst and are completely surprised when the good, and perhaps occasionally the best arrives instead.

There is a life-lesson in all of this – don't develop exaggerated expectations, because they will often not be fulfilled, and the higher the aspiration, the deeper the disappointment. The lessons of irony are readily available, if we will heed them and adjust our expectations accordingly. As the (Rolling Stones') song says, "You don't always get what you want, but sometimes you get what you need..." – and sometimes you don't even get that – whereas other times you get far more than you might ever need. You just can never tell for sure – as another (Leonard Cohen) song says, "There is a crack in the world, that's how the light gets in..." That light is irony.

### How is irony used?

One instance of irony arises with the conduct of cost-benefit analysis. No effort or benefit is entirely costless. Even enjoying ambient sunshine or fresh air requires that a person makes the effort to breathe or to gets exposure to the sunlight. The purpose of conducting a cost-benefit analysis is to demonstrate (or estimate) what the costs, in proportion to the benefits will be. The phrase "There is no free lunch" need not be a code-word for removing social benefits from the poor or needy – rather what it affirms is that someone must pay for the cost of the service. And this recognition leads to the question of "value for money" – are the quantity and quality of benefits appropriate to the costs being incurred? All of this is ironical because it is both "very obvious" and at the same time "not very obvious at all!" In this regard, nothing should be taken for granted, but ironically enough, far too much is often taken for granted. Another instance of irony arises as a consequence of conducting a cost-benefit analysis, namely the necessity for trade-offs. Since "we can't always get what we want," what can we get that we can afford? And what will we have to forego in lieu of our limited purchasing power? If you are running low on both dietary supplements and money near the end of the month, you may have to settle for half-doses until your next pay-cheque. Half-doses every day are better than none, but not as good as optimum doses – but then, that's the nature of trade-offs. Ironical, isn't it?

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## TRAGEDY

### What is the point of tragic aesthetics?

The function of tragedy is to chronicle calamity. Some kind of misfortune is set in motion, either through character flaw or random occurrence, and it inevitably leads to “doom and gloom.” It may be crass and unfair, or just and deserving, but either way the outcome is pre-ordained. “The mills of the gods grind very slow, but they grind exceeding fine.” It may take a long time, even a life-time, but sooner or later the chain of events that is underway will “bring the mighty down” or “undo the noblest efforts.”

Why do we want to know, or need to know such sad things? One possible reason is that to be forewarned is to be forearmed. Things do not always work out well – over the course of a career or a life-time there are bound to be some failures and disappointments. To the extent that we do not even contemplate such possibilities, their eventual occurrence hits us even harder than can be accounted for simply by the facts of the matter – if we are unprepared for adversity, it will do double damage, both to our fortunes and to our expectations.

The ancient Stoic philosophers believed the one could achieve peace with oneself and the world with an attitude of calm acceptance of the inevitable. Those who believe in fate, or providence, or luck, or chance find it wise to embrace the tragic outlook because it is a basic aspect of their reality. Those who are Existentialists interpret these same processes differently, but there is still room in their philosophy to recognize the tragic: the course of people’s lives is shaped by the decisions they make and the choices they take; but even knowing this, many people make bad judgments and point their lives in directions they claim they don’t want to go. And there is tragedy in that, either in not really knowing what you want, or in not following through on the decisions and choices that would get you what you want.

### How is tragedy used?

Religions (both supernatural and civic) use the prospect of a tragic outcome to one’s life (either not contributing to the common good, or having one’s soul damned for eternity) as a source of intimidation for their brand of social control. Environmentalists use “the tragedy of the commons” to pressure for collective measures that would enforce policies of sustainability on all of humanity. Humanists use the tragic dynamics of “master and slave” to argue that only a global democratic culture that acknowledges and respects all human beings equally is worthy of humanity at this stage of its personal and political evolution. The unifying concept in all of these projections is that the only way to avoid a tragic outcome, and have a future worth living, is to accede to their vision of a good society. Their real stage for tragedy is in the political theatre.

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## USES OF SEMIOLOGY

This section on Semiology covers the three aesthetic archetypes, namely Romanticism, Populism and Formalism. Having read through this set of thirteen pages (each concept being covered on a single page), then try some of the following suggestions (or do similar things that will also illustrate the appropriate points). Take any of the premises and apply them to a situation of interest to you. The situation might involve anything from some small thing in the here and now, to larger considerations in wider venues.

In the case of Semiology, consider any object or event from an aesthetic point of view, and apply the three archetypal premises to discern how each might alter the interpretation of what is communicated. For instance, if a book was written primarily for the author's self-expression, what does this say about the content and style? If on the other hand, it was written primarily for the readers, would that change the judgment of the merit (or whatever) of the content or style? Lastly, if the book was written to impress other authors, what difference would that make to an appraisal of the content and style? Try this kind of exercise with any and all forms of art or situations with an aesthetic aspect to them (which is pretty well everything). Should architecture be functional or symbolic? Should paintings be representational or impressionistic? Are there appropriate ways of doing an aesthetic activity that depend on which of the premises the producer holds?

Perhaps the communication of aesthetics governs not only clothing and jewelry, but also buildings, automobiles, ideas, and habits. Look for examples of where this might be the case, or not! Is the primary focus the audience, other artists, or the art form itself. Others might see it differently – that's all right too. After some practice with each of the aesthetic modalities, strive to be a reflective practitioner by applying the three core aesthetic archetypes either simultaneously or concurrently to situations you are trying to understand.

You might also categorize some of your own aesthetic sensibilities in different ways. Would writing for others, either audiences or other authors, "really amount to the same thing"? Or, would writing for authors, either yourself or confreres, be quite distinct from writing for readers (the audience)? Questions like this, if carefully formulated and directed, might reveal patterns of behaviour or output never before noticed.

How much of aesthetic communication is simply idiosyncratic, and how much of it is intentionally crafted with semiotic awareness? Do those who specialize in aesthetic communication maintain consistency in their modalities, whether within an individual work or between different projects? Does either aesthetic consistency, or aesthetic variety have a bearing on the effectiveness and/or quality of the communication? Regardless of your answers to any of these questions, the major point about Semiotics is that the limitations of partiality apply in this area as much as in the other aspects of Perspectivity. Neither romanticism, nor populism, nor formalism should be regarded as the "right" or the "best" approach to the communication of sensibilities - such claims are nothing more than aesthetic chauvanism.

## PART V QUINTESSENTIAL QUESTIONS

### What is a question?

"A specific linguistic form, called a question, often serves as point of departure on the road towards new knowledge" (Elias, 1991). Questions are enquiries, the aim of which is to reduce the multiplicity of possibilities to a manageable set (Bruin, 2001). The information the question solicits is "that which enables us to make a selection from a set of possibilities or to narrow the range of possibilities about which we are ignorant" (Mackay, 1969). Some of these questions are familiar as Rudyard Kipling's guide to writing a story. Others of these terms are no longer in such widespread use as they once were, but the queries they enable add up to a relatively complete overview of the various aspects of a topic that one might want to know. If there are additional questions that are needed to delve into a topic, or satisfy the curiosity of a questioner, they can be added to any particular enquiry. As in the case of the Inferential Operators, it is rarely necessary to use all of the items on the list during any one inquiry - the person(s) involved decide the extent of their "need to know".

Of the many lists of this kind previously compiled, the one item almost never on any of them is the last one of the Quintessential Questions, namely "How?" In the past, many with a philosophical bend regarded the "how" of things as entirely mundane rather than theoretical, and as such, not really worthy of consideration. In the modern (or post-modern) world though, this attitude is seen to display the foolish kind of elitism or snobbery particularly characteristic of Classical Cultures. There is no obligation to use the "How?" but no inhibition against using it either. Without the "How?" modern science and technology would not exist.

### How to use quintessential questions

The idea of acquiring knowledge through questioning, whether the questions are directed at circumstances, interlocutors, or oneself, goes at least as far back as Socrates in philosophy and Raymond Lull in theology. The presumption is that a succession of questions will enable the enquirer to deepen or broaden, particularize or generalize knowing to such an extent that one's understanding thereby increases appreciably - a kind of formalized version of "20 Questions".

There are many questions that do not (explicitly) ask one of the ten quintessential queries. But, for most of these other questions it is usually possible to re-state them so that they do fit the quintessential mode. "Is that [So-and-So]?" can be transformed into "**Who** is that?" "Could that be a [gizmo]?" might be re-worded as "**What** is that?" "Are you arriving this evening?" would also find expression as "**When** will you be arriving?" "Can you tell me where you started from?" would be phrased in the Biblical idiom as "**Whence** cometh thou?" "Give me your location?" could be asked as "**Where** are you?" Etc. Grammatically, "who", "what" and "which" are pronouns, "when", "where", "whence", "whither", "how" and "why" are adverbs, and "whether" is a conjunction.

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|---|--|---|

## WHO?

### Definition

The word *who* is a pronoun. When used as a question, it asks for identification regarding individuals or groups. *Who is it?* is asking about recognition – identify the person or group on the basis of a name, a role, a status, etc. *Who are you?* asks an individual or group to locate themselves within a particular context, be it place, relationship, or purpose. The person asking usually gives clues about the extent of details being sought. Hence, the parameter *who* runs from *identity* to *identify*.

### Purpose

The intention of this question? Is the person or group known to anyone here? Is the person or group qualified or disqualified, eligible or ineligible for some consideration based on identification? Is there more information pertinent to the person's or group's identify or status that needs to be verified or processed? When asking such questions, seek the minimum of information necessary. Respect privacy and confidentiality.

### Explication

In addition to a name, a person or group likely has some or all of (a) an address; (b) a phone number; (c) a fax number; (e) an e-mail address; (f) a personal or professional web site; (g) a job; (h) a family (spouse, children, parents, other relatives); (i) friends; (j) awards; (k) publications; (l) achievements; (m) failures; (n) a reputation; etc. Some, or all, or none of these might be relevant to a particular enquiry. The aim, presumably, is to keep posing the questions until either the identification, or the specific attributes are revealed, or no further information is shared.

### Implication

In situations of either change or continuity, a major question that needs to be raised is "Who are the winners and the losers?" This is one entry point into the concept that is an important aspect of any of the identities and particulars of the people effected. The rationale for this question is "the need to know" so as to assess impacts and arrange for amelioration. Information is power because it provides leverage. Don't exploit!

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## WHAT?

Definition

Grammatically, the word *what* is a pronoun. When used as a question, it asks for a qualitative distinction. *What is it?* is asking about identity – indicate where the entity fits into prevailing taxonomies or typologies. *What is going on?* asks a similar question about events. The context of the question usually gives a reasonable clue about the extent of details being sought. *What do you mean?* asks for clarification of previous messages. Hence, the parameter *what* runs from *describe* to *designate*..

Purpose

The intention of this question? It could be to alleviate ignorance – someone wants to be informed. It could be to reduce ambiguity, if it isn't clear which of two or more plausible alternatives is actually the case. It could be rhetorical – a desire for affirmation or confirmation of something already known, but perhaps needing emphasis. The question may be authentic – or someone may be pulling your chain. Be succinct, don't pontificate.

Explication

The answer the interlocutor is looking for is only part (often a small part) of the totality of relevant information that speaks to the issue. People usually want a short and simple reply, to bridge their information gap – they will be impatient with “wider” explanations, but the result will be “rote learning” rather than meaningful understanding. Regrettably this superficiality is quite widespread – answer or not, and listen for genuine queries.

Implication

Ignorance is far broader and deeper than knowledge. It is truly surprising what most of us don't know – even the commonplace or essentials often escape us. It may be still more amazing what most of us forget – the elaborate routines needed for advanced technology usually can't be recalled after just a few weeks of non-use. Forgive what others don't know, just as (you hope) they will forgive what you don't know. Try.

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## WHEN?

Definition

The word *when* is an adverb. When used as a question, it asks for a temporal distinction. *When was it?* is asking about the past – indicate the previous minute, hour, day, year, etc. that something existed or occurred. *When is it going to happen?* asks a similar question about the future. The context of the question usually gives a reasonable clue about the extent of details being sought. A fitting reply might be “When do you want an answer?” Hence, the parameter *when* runs from *occasion* to *duration*.

Purpose

The intention of this question? Knowing what to do now can often depend on when something happened previously. The occurrence and sequence of events may entail causality or imply obligation. Knowing what to do now can also often depend on what you want to happen next. Scheduling events too soon or late may waste effort or loose opportunity. Time ages us, and stages us, and often outrages us. Learn patience.

Explication

Asking and answering *when* is one way of trying to control the sequence of events and outcomes, of enabling *will* to trump *fate*. For better or worse however, such efforts at control are only partially successful. The life lesson to learn from this condition is that the only practical use of *when* regarding the past is to harvest lessons learned. On the other hand, the future can be altered by deciding *when* to do *what*, and *why*.

Implication

*When* should a person start thinking about important things? It’s never too soon to start thinking, AND it’s never too late to start thinking. Given the contingent view of the future however, beginning sooner rather than later has considerable survival value. When should a person ask about other people’s sequential intentions? Since part of what we are contingent upon for our future survival is the action of others, sooner is better here too.

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## WHENCE?

Definition

The word *whence* is an adverb. When used as a question, it asks from what place or source something comes. *Whence cometh thou?* is asking about your origins, either locational or social. The expression itself is “old English” and not much used anymore, but the query is still common. People want to know not only who you are, but the route by which you arrived amongst them – have a little story ready. Hence, the parameter *whence* runs from *origin* to *passageway*.

Purpose

The intention of this question? The expectation often is that whatever you are is explained and made acceptable by recounting the point of your origin and the history of your subsequent journey. This premise may be an illusion, but it is a strong and persistent one. Depending on the role you have assumed or want to project, your story should tell of incidents and occasions with which your audience can identify.

Explication

Some people put great store by the particulars of your past. Where you were born, your immediate family and distant relatives, the schools you went to, the sports you played, the early jobs wherein you learned life skills and street smarts – all this, and more, is grist for the mill of social identity. Was you family kind, were your schools interesting, did you find your jobs challenging or fulfilling? Who cares, you might think – they do!

Implication

The same people who want to know about your past and subsequent history are those who then want to use the information you provide to influence, perhaps control your life. If they know your life-path, they can share the road with you, slow you down or hurry you up to their speed, take you on their favourite detours, etc. Is this really the road you want to go down? Remember, the journey is only a metaphor – the choice is yours.

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## WHERE?

Definition

Grammatically, the word *where* is an adverb. When used as a question, it asks for a particular location, geographical or existential. *Where is it?* is asking about place – indicate where the entity can be found. *Where is this?* asks a similar question about the context (surroundings) of a particular locale. *Wherever?* is a way of telling us that the question of location may not be relevant in some cases. Hence, the parameter *where* runs from *location* to *situation*.

Purpose

The intention of this question? It could simply mean that someone has lost something. Or it could mean that someone is hiding; or that a named place cannot be situated in its geographical context. Alternatively, it could mean that someone is lost, or that a place can be identified conceptually (the mountains) without a specific mountain range being mentioned – so the questioner wants more information with which to situate something.

Explication

*Where* is often used metaphorically, as in “*Where are you coming from?*” meaning “What is the background or intention of your comments?” “*Where are you going with this?*” is a forward looking metaphor meaning “What are you implying by your comments?” Both uses are usually harmless, unless the premise is that of being *driven* to one’s actions instead of choosing them. Metaphors can confuse as easily as clarify.

Implication

*Places of the heart* or *places of the mind* are the deeper metaphors often evoked when asking *Where?* *Love* or *tranquility* are usually conceived as *special places*, whereas *rage* or *turmoil* are *places we don’t want to go*. Topophilia is the technical name for “sense of place”, the recognition that our location determines our perspective in more ways than one. Particular places generally have an ambience that gives them a kind of signature.

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## WHITHER?

Definition

The word *whither* is an adverb. When used as a question, it asks to what place or destination something is going. *Whither goest thou?* is asking about your goals, either locational or social. The expression is also “old English” likewise not much used anymore, but the query is still common enough. People want to know not only who you are, but the objectives you have as you journey amongst them – have another story ready. Hence, the parameter *whither* runs from *destination* to *goal*.

Purpose

The intention of this question? The expectation often is that wherever you are going explains the route you are taking and the way you “carry yourself”. *Whither you are going* can give you a reason for the steps you take to get there, but there are usually *other roads to Rome too*, so you do not have to be committed to a particular path to get there. Often people **prefer** the passageway as well as the destination.

Explication

Some people put great store by the intentions for their futures. Where they plan to be, what they plan to do, the results they expect to achieve, the benefits they hope to enjoy, the detriments they wish to avoid – all this, and more, supposedly indicates the kind of person you are and how things will turn out. What this reasoning overlooks however, is the role of luck, or fate (or whatever you chose to call it) in the outcome.

Implication

Some of the people who enquire about *whither thou goest?* may simply be looking for someone to share the road with – if you have similar objectives or destinations, perhaps you would like their company? Others however, may be trying to divert you, on a detour or a u-turn, to an entirely different destination, or no destination at all. On looking back, people often recall small steps that lead to major divergences from their intentions.

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## WHETHER?

### Definition

The word *whether* is a conjunction. When used as a question, it asks which of some alternatives you prefer or choose. The most common form is *whether or not* you will be taking some decision, choice, or action. *Whether it will be this one or that one* can simply be seen as a version of *whether or not*, in the sense that settling on one alternative means NOT going with the others. If ambivalent, perhaps **not sure** is best. Hence, the parameter *whether* runs from *compare* to *commit*.

### Purpose

The intention of the question? It arises within a state of uncertainty, your own or someone else's, regarding which of the available options to decide or choose. So, clarification is being sought, yours or another's. The alternatives may range from *to be or not to be* on the one hand, to which *flavour of the month* do I want? on the other. Either you will make up your mind, or you won't – if ambiguous, stall for time!

### Explication

Existentialists put great store by freedom of choice – our right to exercise it, and the implications it entails for human character. Psychoanalysis, on the other hand, looks at the psychological effort involved and calls it *the burden of choice*. But regardless of whether we recognize it, or like it or not, alternatives are present in most circumstances. The *mature* thing to do is to see the situation as an opportunity, and make the best of it.

### Implication

One of Arthur C. Clarke's famous laws is that *Any sufficiently sophisticated technology is indistinguishable from magic*. Part of modernization that brought humanity freedom of choice, was the replacement of supernaturalism with a secular outlook. Unsubstantiated beliefs, whether in deities or magic, would supposedly vanish. But despite our many freedoms, a strain of fatalism persists; does triviality produce only the illusion of choice?

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## WHICH?

Definition

The word *which* is a pronoun. When used as a question, it asks for an indication of a specific decision or choice. *Which one do you want?* implies that no matter how many alternatives there are, the expectation is that you will designate the one you have in mind. The underlying parameter runs from *qualifying* (for inclusion) to *restricting* (for exclusion) – either you raise your standards, or narrow the field. Hence, the parameter *which* runs from *qualify* to *restrict*.

Purpose

The intention of the question? Either the time, or the situation is appropriate for the choice or decision to be made – no more stalling, debating, pondering or calculating. The question puts you on the spot, psychologically speaking – make up your mind, and if you have done so, let us in on it. This question is the antidote to vacillation, or even worse, procrastination. Those still reluctant may reply with “You decide (or choose).”

Explication

When you see no other feasible alternatives but one, or your preferences are unequivocal, it may be straightforward to say which one gets the nod. But circumstances in general, or your situation in particular, may confer advantage on *keeping your options open*. Both organizations and projects are often managed with the principle of corrigibility these days, on the premise that flexibility is a hedge against any subsequent need for change. So you can be “damned if you do, damned if you don’t.” Go figure!

Implication

A world traveller I recently heard speak claimed he enjoyed visiting the American South because at least the people there really had opinions – not the pap the passes for public opinion in sophisticated places! The decisions or choices you either have made, or are about to make, could very possibly shock a great many people UNTIL you warn them they are about to be shocked – then they will slough off the whole thing and that’s it.

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## WHY?

### Definition

The word *why* is an adverb. When used as a question, it asks for an explanation or justification of something. *Why did this happen?* is looking for a way to make sense of some sequence of events. *Why is this so?* seeks to understand the disposition of things. *Why did you...?* is a search for motivation. *Why are you...?* enquires into your identity or state of being. Such questions are thought of as *deeper*. Hence, the parameter *why* runs from *rationalize* to *explain*.

### Purpose

The intention of the question? Not just a description, but some deeper insight is the intention of the query. The problem with this question is that it can lead to that famous *infinite regress* of asking and re-asking WHY? ad infinitum. When used in this way, this is the *ultimate question*, to which there are only interim answers – beyond a few repetitions, such questioning itself stops making sense.

### Explication

Why would anyone keep asking WHY? It's a way of avoiding decisions or choices or actions. As long as the person on the receiving end is willing to grant the interlocutor the presumption of "good faith" then time must be devoted to trying to answer the question. That is the time that would otherwise be spent in (a) trying to decide or choose, (b) telling the decision or choice that was made, or (c) acting out the designated option. Stalling.

### Implication

Questions are only meaningful, especially this question, if answers that make sense are actually available and acceptable. Even in the most generous of circumstances (during Root Cause Analysis), the WHY question is limited to six rounds. Normally a limit of half that number should be sufficient. The aim of questioning (and the philosophy behind it) is to solicit information – otherwise you are wasting somebody's time and patience.

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## HOW?

### Definition

The word *how* is an adverb. When used as a question, it has more potential for diversity than any of the other quintessential questions. *In what way?* enquires about modality. *By what means?* asks about methodology. *In what condition?* questions the state of being. *To what degree?* concerns the extent of the situation. Then there are indirect or dependent questions: *how many?* (what magnitude); *however?* (nevertheless). Hence, the parameter *how* runs from *means* to *cause*.

### Purpose

The intention of this question? Despite the fact that intellectuals often disparage this question, it may cover more of the concerns of average people than all of the other questions. People are concerned about the way the world works, and the manner in which they or others behave. To some extent, the shift of priority from the other questions to this one is a hallmark of the modern age – it grounds science & technology.

### Explication

There is a very good reason for the shift from *why* to *how* in the modern world. It is epitomized by a cautionary tale from industrial engineering: when someone comes up with a better designed car engine, the only way a manufacturer will agree to evaluate it is if a working model is submitted – any such claims must be substantiated with proof of **HOW** the thing works. That has eliminated any need to test perpetual-motion machines.

### Implication

How something works (animate or inanimate) can be covered with either a description or an explanation. These two aspects do not necessarily coincide. It is possible to describe the workings of something (the flight of a bumble bee) without being able to explain it. It is also possible to explain something (the conditions that will lead to political unrest) without being able to describe how that eventuality will actually occur. How is deep too!

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## PART VI INFERENCEAL OPERATIONS

### What are inferential operators?

Technically, an inference is an explanation or conclusion based on something known, and an operation is a procedure to accomplish an objective. Hence, Inferential Operators are the various cognitive processes whereby one develops an understanding of any issue(s) or a resolution of any problem(s). The twenty listed in the MindMap should not be considered the complete list of such possibilities, although they do cover a very wide range of procedures.

The terms chosen to indicate each operator are not necessarily the only "correct" or "best" ones available - other synonyms could be used. It could be equally possible to create alternative lists which reflect different versions of the experiential gestalt (various mixtures of morality, phenomenology, plausibility and preferentiality). For instance, some of the Operators in the MindMap list might be combined into more encompassing constructs, or others might be disaggregated to explore further distinctions.

### How to use inferential operators

Inferential Operators are used in a teleonomic process, the purpose of which is to make an argument. What arguments consist of is reasoning from premises to a conclusion by the use of inference. So, the intention is persuasion, the objects used are reasons and evidence, the result being the altering of beliefs or influencing of behaviour pertinent to the argument (Toulmin, 1958).

Therefore, which inferential operator(s) you use depends on the conclusions you want to draw or the actions you want to take. What all of this indicates is that such decisions or choices are governed by a pragmatic outlook. To avoid the commitment of too much time, too much preparation, and too much effort, inferences are recommended which lead to the "best" explanation or the most practical outcome, rather than spelling out all or most of the conceivable possibilities. It is precisely here that Herbert Simon's concept of *satisficing is relevant* - doing the best you cognitively can, given the information, time, and interests you have, is all that anyone can reasonably expect - work towards a plausible, tentative estimate. Inferences also enable effective memorization, thus preserving cognitive economy.

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## APPLY

<p><u>What to Apply?</u></p> <p>To apply is to put into action or to put into service. Define <i>what</i> it is you want to apply – is it a definition to a word, a heuristic to a search, an algorithm to a solution, or what? Before proceeding, be prepared: "People should never embark on a project until their <i>capability</i> is assured as a result of developing or having access to all the skills required by the challenge" (Kline &amp; Saunders, 1993).</p>						
<p><u>Why to Apply?</u></p> <p>Clarify <i>why</i> this application is appropriate – the achievement you are aiming for. There are four levels: (1) intention – is doing something better than doing nothing? (2) purpose – specify the desired result(s); (3) goal(s) – the outcome that will instantiate the desired result(s)? (4) objective(s) – the activities or tasks that will produce the goal. Throughout, align the four levels of <i>why</i> to be complementary rather than contradictory.</p>						
<p><u>When to Apply?</u></p> <p>Indicate <i>when</i> the application will be in effect – the start date and/or time, the duration of the application (periodic or continuous), and the pause or termination of the application (limited, indeterminate, unlimited). Medicine that is not taken for the length of time prescribed, may not be effective; programs that run beyond their useful life of application take up unnecessary storage space, and may interfere with other upgraded functions.</p>						
<p><u>Where to Apply?</u></p> <p>Recognize <i>where</i> the application will operate – which means the context, situation, and circumstances. The context can be historical (previous events, trends, etc.), sociological (will there be “winners” and “losers”?), psychological (distress or gratification), etc. The situation to be affected may be widely encompassing or narrowly focused, simply structured or complexly organized. Circumstances as people will experience them may be close at hand, within intermediate range, or quite distal.</p>						
<p><u>How to Apply?</u></p> <p>Specify <i>how</i> to implement the application – which primarily means knowing what to do and what NOT to do. Changes can have profound implications for other policies; unexpected and undesirable consequences; and the extent of their efficacy will always be limited by the resources committed, the duration of the application, the interaction of other factors, and the resistance of those effected. <i>How</i> must deal with all these issues.</p>						
<p><u>Reference</u></p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;">Kline, Peter &amp; Bernard Saunders</td> <td style="width: 50%; border: none;">Edward De Bono</td> </tr> <tr> <td style="border: none;">TEN STEPS TO A LEARNING ORGANIZATION</td> <td style="border: none;">The CoRT Thinking Program CD</td> </tr> <tr> <td style="border: none;">Great Ocean Publishers, Arlington, 1993</td> <td style="border: none;">Cavendish Information Products</td> </tr> </table>	Kline, Peter & Bernard Saunders	Edward De Bono	TEN STEPS TO A LEARNING ORGANIZATION	The CoRT Thinking Program CD	Great Ocean Publishers, Arlington, 1993	Cavendish Information Products
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## APPRAISE

### What to Appraise?

To appraise is to measure or estimate the attributes of an entity or situation. *What (or who)* is to be appraised? Is it a specific program or particular feature(s)? Is it some person(s) or their performance? What should definitely be avoided is appraising the wrong thing, however gratifying that might be to the appraiser – effective appraisals must be focused on relevant variables to deliver the assessment required.

### Why to Appraise?

The general purpose (*why*) for appraisal is assessment, determining the costs and/or benefits, size and/or shape, location and/or duration, etc. Clarify whether the objective of the appraisal is discovery of performance effectiveness or direction of subsequent behaviour. If discovery, stick to the facts; if direction, then include suggested improvements. Be careful NOT to appraise for the wrong reasons (scapegoating, rivalry, red-herrings, etc.).

### When to Appraise?

If a process is being appraised, it should be either completed or sufficiently advanced to permit an adequate assessment – a premature evaluation would be ill-informed, since the data from a full process-cycle would not be available. The same principle applies to appraising a person – what initially appeared as inappropriate behaviour could either change through learning, or eventually be proven correct as performance continued.

### Where to Appraise?

The best advice for this consideration is *where* NOT to appraise: not in “the thick of things”. Do not conduct a process appraisal in the midst of functional operations, and do not conduct a personnel appraisal during task performance, or in the presence of others. Those who are involved or implied in an appraisal may, understandably, be sensitive to what an assessment reveals or requires – so create a comfort-zone and be constructive.

### How to Appraise?

It may appear “obvious” that the way to render an appraisal is to find something or someone either praiseworthy or blameworthy – but few of those so ready to deliver such assessments have ever actually experienced the combination of circumstances and expectations under which the appraised program or person was operating. More helpful would be the policy of encouraging the desirable and discouraging the undesirable.

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## ARRANGE

What to Arrange?

To arrange is to configure or to organize. Decide *what* it is you want to arrange – what do you want to set into a pattern: facts, concepts, theories, plants, people, or whatever variety of population you are looking at? Different kinds of phenomena lend themselves to different types of arrangements – the scale, granularity, and context will vary both qualitatively and quantitatively between animals and atoms, of course – remember this to keep your arranging ambitions realistic.

Why to Arrange?

Is the purpose for your arranging attempt, the *why*, part of the “naturalistic fallacy”? The prominent paradigm in current arranging is the “systems approach”, which many take to be merely a reflection of reality. Alas, it is not so – the concept of a system is a human contrivance, NOT a natural occurrence, and although such a schema can be useful in helping to organize one’s thinking, other systems, or no system at all, can be just as valid.

When to Arrange?

Premature closure of an arranging exercise is the penchant to rush to completion before enough data are available to set a pattern which reflects all of the important variability. On the other hand, delayed closure during an arranging exercise is the equally unhelpful habit of putting off a decision beyond the point where significant data have all likely been gathered. But there is no rule for choosing the point of patterning – it takes experience.

Where to Arrange?

In terms of the content of the patterning, it is important to know *where* boundaries should be drawn. Casting the net wider may bring in crucial data that will clarify otherwise obscure findings – or such new data may simply muddy what could have been a good formation. The same dilemma applies to narrowing the field – excluding some of the data may remove minor variations, or it may reduce the measure of significance.

How to Arrange?

Spreadsheet software can take any data set and have a variety of patterns imposed upon it by instructing the software logic to find a different best fit for each type of curve that the spreadsheet can analyze for - the facts do not “speak” a pattern for themselves. So, try a variety of best fits, using both more and less data, and different analytical curves, until the most coherent and useful arrangement for the task at hand can be identified.

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## AUTHENTICATE

<p><u>What to Authenticate?</u></p> <p>Authenticity is the quality or condition of being genuine or trustworthy. Decide <i>what</i> it is you want to authenticate – is it a heuristic, an algorithm, a procedure, a principle, a methodology, an explanation, or what? For good results it is advisable to clarify what you <i>do</i> and <i>do NOT</i> want to authenticate. Before proceeding, develop or acquire the wherewithal to determine the authenticity of whatever you are focusing on – and remember that history, context, prospects, and implications may all be involved.</p>		
<p><u>Why to Authenticate?</u></p> <p>The questions of whether or not something is “authentic” and <i>why</i> that matters, should be settled before devoting time to a task the outcome of which could be trivial anyway (unless trivial pursuit is the task at hand!). There are always many choices as to how to spend one’s time, and what to do next, so look to the choices that are worthwhile, and if authentication of something in particular is NOT worthwhile, choose something better.</p>		
<p><u>When to Authenticate?</u></p> <p>Since authentication requires enough evidence to make a reasonable inference, the time to commence an authentication depends upon the availability of that evidence, AND then sufficient time to process that data. This is another judgment call – the phenomena in question will not carry a sign indicating <i>when</i> sufficient duration has occurred to enable and support an authentication – you have to remember, guess, or get guidance.</p>		
<p><u>Where to Authenticate?</u></p> <p>Since authentication is a separate consideration from functionality, and the process of authenticating could interfere with functional procedures, authentication should also be done “outside of the thick of things” (or by a neutral [but fully informed] observer). This may not be easy to do, since some authentications are performed “in mid-stream” so as to authorize continuance or discontinuance – plan ahead better than this for next time.</p>		
<p><u>How to Authenticate?</u></p> <p>Look for indicators rather than measures, because measures are both more comprehensive and more data-intensive, but indicators summarize highlights, and that is sufficient for authentication. Statistical sampling techniques get better press than intuitive “eyeballing” but often a “quick and dirty” impression can be just as “correct” as more elaborate procedures: one of the Laws of Forecasting tell us that Methodology is Over-rated.</p>		
<p><u>References</u></p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> <p>Harry G. Frankfurt ON BULLSHIT Princeton University Press, Princeton, 2005</p> </td> <td style="width: 50%; vertical-align: top;"> <p>William N. Stephens HYPOTHESES &amp; EVIDENCE Thomas Y. Crowell, New York, 1968</p> </td> </tr> </table>	<p>Harry G. Frankfurt ON BULLSHIT Princeton University Press, Princeton, 2005</p>	<p>William N. Stephens HYPOTHESES &amp; EVIDENCE Thomas Y. Crowell, New York, 1968</p>
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## CHOOSE

### What to Choose?

To choose is to pick from a number of possible alternatives. Decide *what* it is you want to choose – does that sound like a contradiction in terms? Even if it does, it is not – it is rather a recognition of different purposes. Decisions are distinct from choices, in that a decision involves resolution of uncertainty, whereas a choice requires selection between options – one decision could be “not to choose” and one choice could be “not to decide”. Before choosing, clarify the relevant set.

### Why to Choose?

One penchant of rationalists and action-heroes is to “make choices count”. If the action lies in the future however, changing circumstances may modify or nullify the choice anyway – hence the advice to “only cross that bridge when you come to it”. On the other hand, some actions require planning and resources, which are best settled in advance – hence the advice “to be fore-warned is to be fore-armed”. Decide for yourself.

### When to Choose?

There is no magic moment that can assure that you are making the right selection or that the results wanted will occur. Sometimes, *when* to choose is predetermined by the way a process or situation is structured – there may be a sequence of steps or conditions that preclude a choice point. It is possible to “decide ahead of time” what you will pick, but the actual choice may be made or changed on the spur of the moment.

### Whether to Choose?

Many people have a “naturalistic” notion about circumstances – it is a form of fatalism that precludes choices through habituation and tradition. In other cases it is recognized that a choice is possible, but many are reluctant to make it – by not choosing they hope to “keep their options open” or “not be manipulative” when it is felt this is appropriate. So you can decide “not to choose” – unfortunately there are no guarantees either way.

### How to Choose?

A variety of methodologies have been recommended, some formal, others “rule of thumb”. My best advice in this regard is to follow Herbert Simon’s satisficing principle: try to make a choice that is “good enough” for the task/situation at hand, always keeping in mind that there is neither the time nor the cognitive resources to gather and process the comprehensive information needed to enumerate all the alternatives or pick the right one.

### References

Herbert Simon  
SCIENCES OF THE ARTIFICIAL, 3<sup>rd</sup> ed.  
MIT Press, Cambridge, 1996

Barry Schwartz  
THE PARADOX OF CHOICE  
Harper Perennial, New York, 2005

## CONFIRM

<p><u>What to Confirm?</u></p> <p>To confirm is to verify the accuracy of information. Decide <i>what</i> it is you want to confirm – if you settle on indicators (indirect evidence), instead of looking at measures of the phenomena (direct evidence), you will confirm some epiphenomena rather than “the real thing”. For instance, to confirm an increase in <b>entropy</b> the indicator of <i>chaos</i> is often used, but the real measure of entropy is a decrease in the energy’s work-potential. Entropy is NOT chaos; assuming it is leads to confusion, not confirmation.</p>
<p><u>Why to Confirm?</u></p> <p>The purpose of confirmation is to double-check on results as reported or understood. <i>Why</i> a person would bother doing this is that being sure of something is important or interesting. If neither, don’t bother. There is a certain compulsion prevalent amongst a few people called “the epistemological imperative”, the impulse to get and keep verisimilitude even at extraordinary costs. This is a mild form of psychopathology.</p>
<p><u>When to Confirm?</u></p> <p><i>When</i> the issue is important or interesting, and the verisimilitude is either unknown or unstable, that is the appropriate time to confirm – this is the qualitative aspect. The length of time it will take to authorize, conduct, interpret, and report on the situation, represents the quantitative aspect. A good tactic is to scan the indicators of important or interesting situations, then switch to measures when the need for confirmation occurs.</p>
<p><u>Whether to Confirm?</u></p> <p>Since confirmation requires time, resources, and effort, it is important to know when NOT to try to confirm: (1) when there is not enough time; (2) when there are not enough resources; (3) when it will take more effort than there is a willingness to expend. All of this refers to “formal” confirmation. There is always a “quick and dirty” version, but the result may only be an estimate – yet sometimes, even a guess may be better than nothing.</p>
<p><u>How to Confirm?</u></p> <p>Like so: clarify focus; identify measures; acquire resources, get commitment of requisite personnel; develop a confirmation plan that includes division of labour, timelines for confirmation tasks, and a deadline for delivery; report on progress to client; stick to plan until required results are achieved or findings necessitate immediate or drastic action. In other words, conduct confirmation as research unless the need arises for re-assessment.</p>
<p><u>Reference</u>  Howard S. Becker  TRICKS OF THE TRADE: How To Think About Your Research While You’re Doing It  University of Chicago Press, Chicago, 1998</p>

## DESIGNATE

### What to Designate?

To designate is to specify or characterize for a role or a function. Decide *what* or *who* you want to select or assign – and if the two considerations converge, then it will be deciding *what* is to be selected for *whom*, or *who* is to be assigned to *what*. Designation is a kind of active allocation, of grouping formerly disparate people, processes, events, or things into common categories for particular purposes. The designation may specify comprehensive status or limited aspects thereof.

### Why to Designate?

“When something is owned by everyone, it is owned by no one.” The implication is that without specific allocation, there are no property rights at all. “When everyone is responsible for something, no one is really responsible”. The implication is that without specific assignment, there can be no accountability at all. Designation similarly serves to clarify other rights and obligations, the basis of social action.

### When to Designate?

Pre-empt or retro-fit? Some people like to establish the relationships and the rules before their application actually occurs – this desire to plan ahead is often rationalized as good sense, but it may really just be temperamental. Others prefer to wait until the need arises and then take the plunge – is this pragmatism or just procrastination? As in so many inferential situations, both successes and failures are seen with either choice.

### Whether to Designate?

There is at least one rationale for not formally designating at all – it is the claim that on-the-spot, spontaneous sorting is somehow more “natural”, that it simply emerges from group dynamics. In some circumstances it still works remarkably well, but these tend to be situations for which the “human element” plays a predominant role. Where training, expertise, knowledge and considerable discipline are needed, deliberate designation rules.

### How to Designate?

The appropriate criteria is functional, in the sense of designating according to what the selection or assignment is meant to achieve – this takes us back to the *what* issue. If you are looking to create a winning baseball team, select members on the basis of abilities to either hit or catch. If the team is being created to “have some fun” select for those with bonhomie. Problems occur when criteria conflict – prioritize and explain in that case.

### References

John van Maurik  
THE EFFECTIVE STRATEGIST  
Gower Publishing, Hampshire, 1999



## EXPLICATE

<p><u>What to Explicate?</u></p> <p>To explicate is to make clear or plain for the purposes of comprehension. Since explication refers to the process of clarification, be clear about what you are trying to elucidate. As mentioned in the notes to other operators, don't explicate an indicator if your goal is to clarify a measure (or visa versa). There are two notorious processes of this kind – conflation, in which separate issues are treated as just one; and, misdirection, in which one points to the wrong thing due to ignorance, or in order to mislead.</p>		
<p><u>Why to Explicate?</u></p> <p>Both the ancient philosophical tradition and modern pragmatism have assumed that making some issue, or topic, or question clear, because such explication would assist in productive reasoning and/or effective decisions/choices. This is often true, but contrary to both ancient philosophy and modern pragmatism, it is NOT always true. Sometimes confusion, or “muddying the waters” can be just was the person intends. Deviousness!</p>		
<p><u>When to Explicate?</u></p> <p>Clarify an issue (or whatever) when the results achieved will be worth the effort expended. This is “benefit-cost analysis” applied to reasoning – it is the essence of Herbert Simon's concept of <i>satisficing</i>. All such cognitive activity takes a certain amount of time and effort – if the result is worth that time and effort, then it is a good investment of your attention, but otherwise you are wasting your cognitive resources.</p>		
<p><u>Whether to Explicate?</u></p> <p>There are (at least) two senses in which explication might be “worth it”. One would be judged on the basis of the outcome – see the previous section. The other would be if the activity gave some intrinsic satisfaction to the person, regardless of it wider implications. So if the results were worth it in the sense of an extrinsic goal achieved, or if the intrinsic satisfaction made the activity gratifying anyway, then clarify. If not, don't bother.</p>		
<p><u>How to Explicate?</u></p> <p>If the exercise is over an important issue, use the <a href="#">MindMap Methodology</a> (as found in the Introduction). If there isn't the time, or other constraints apply, do an intuitive version in your head. Either way, you will be <i>deconstructing</i> (decomposing the concepts into their component parts) and <i>reconstructing</i> (reassembling the components in some more insightful way). Discuss it; use a dictionary, thesaurus, encyclopaedia, or other reference.</p>		
<p><u>Reference</u></p> <table border="0"> <tr> <td data-bbox="235 1627 665 1732">           Stephen Toulmin            THE USES OF ARGUMENT            Cambridge UP, Cambridge, 1958         </td> <td data-bbox="836 1627 1347 1732">           Steven H. Chaffee            EXPLICATION            Sage Publications, Newbury Park, 1991         </td> </tr> </table>	Stephen Toulmin THE USES OF ARGUMENT Cambridge UP, Cambridge, 1958	Steven H. Chaffee EXPLICATION Sage Publications, Newbury Park, 1991
Stephen Toulmin THE USES OF ARGUMENT Cambridge UP, Cambridge, 1958	Steven H. Chaffee EXPLICATION Sage Publications, Newbury Park, 1991	

## FORETELL

### What to Foretell?

To foretell is to possess foreknowledge and to share it. This operator focuses on one of my central premises in constructing the MindMap – which I call “an index of the whole of human knowledge”. Both predicting and forecasting have evolved to the state where they give averages and alternatives rather than projective certainty – so does that mean that we can’t really be definitive about the future? That’s not very re-assuring, but can we do anything about it? Can we foretell anything? You bet your life we can!

### Why to Foretell?

Humans live their lives by not only living “in the moment” but by anticipating AND remembering. What we learn is only useful if we can remember it. Life only has a point if we can look forward to goals and objectives. That is the purpose of foretelling. So, every time you wonder, think about, or plan “what you’ll do next”, you will be basing that on foretelling, to one extend or another. The more you want to accomplish.....

### When to Foretell?

Whenever there is a decision, choice, or alternative facing you – in other words, most of the time. It’s when you ignore the implications or consequences of what you are about to do (or not do), that you leave yourself open to the vulnerability of not being prepared. Think about it! This is the dilemma: the more details you want about the future, the less successful your foretelling will be. Since less is more, settle for what you can get.

### Whether to Foretell?

Do you really want to know? Knowledge is both empowering and burdening – anyone who doesn’t recognize this situation as just “two sides of the same coin” doesn’t know much. Sadly, that’s most people. Can you live with what you might find out? Do you want to find out? On the other hand, what happens when you find out something you never anticipated but have to deal with? Whatever doesn’t kill you makes you stronger.

### How to Foretell?

The Laws of Forecasting set a context for the methods of foretelling. *Forecasting is short-sighted*, the reason being that the facts of many situations change from day to day. *Methodology is over-rated*, because reality is too complex to be captured by rules. *Foresight requires insight*, but most approaches aren’t very insightful. Only at the conceptual level can one discern enough systemic stability to substantiate prescience.

### References

William Ascher & William Overhold  
 STRATEGIC PLANNING AND FORECASTING  
 John Wiley & Sons, New York, 1983

## GENERALIZE

<p><u>What to Generalize?</u></p> <p>To generalize is to synthesize principles from particulars. Generalizing is a form of averaging, which means it applies to a “population” and consists of subsuming the details of variability under a broad and “typical” overview. It therefore resembles sociologist Max Weber’s “ideal type” – or can as easily refer to an archetype, a prototype, or a stereotype. According to philosopher Immanuel Kant, "Understanding is the knowledge of the general", which he regarded as the most important cognitive capability.</p>		
<p><u>Why to Generalize?</u></p> <p>If time or patience is limited, a generalization may suffice. If the diverse kinds of variance even each other out, the general conclusion may be arrived at anyway, so why bother to-ing and fro-ing when it makes no ultimate difference? On other occasions the forest (overview) can get lost in the trees (details), so that a trend or pattern is disregarded even though it might have considerable more importance than the particulars.</p>		
<p><u>When to Generalize?</u></p> <p>When the point arrives at which larger granularity is more relevant than finer gradations. As in other operators, finalizing too quickly risks generalizing (induction) before enough facts are in to actually support the conclusion. Just as unproductive however, is the (bad) habit of procrastination, of delaying a conclusion (long) after the precedent is clear. Perhaps the answer is a tentative generalization, convenient but corrigible.</p>		
<p><u>Whether to Generalize?</u></p> <p>We are constantly warned against “superficial” generalizations. But, by its very nature and definition, a generalization is superficial! Generalizing can be useful, but it is wise to keep in mind what is lost in the process – differences, details, depth. Superficial becomes a justifiable criticism when it always pre-empts a closer look, when the generality involved is taken to be the only characteristic of interest. Use an adjustable lens.</p>		
<p><u>How to Generalize?</u></p> <p>Look for the common characteristic or feature. Does the “mode” or “median” serve as well as the essence? The former two are both features of general tendency, the first being the most prevalent type, and the second the arithmetic average. The only answer is “it all depends” – but since such choices can make a difference, telling which generalization you have in mind will preclude confusion – unless <i>that</i> is your goal.</p>		
<p><u>References</u></p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> W. Allen Wallis &amp; Harry V. Roberts  THE NATURE OF STATISTICS  The Free Press, New York, 1956 </td> <td style="width: 50%; vertical-align: top;"> Immanuel Kant  ON EDUCATION  Dover Books, Mineola, 2003 [1803] </td> </tr> </table>	W. Allen Wallis & Harry V. Roberts THE NATURE OF STATISTICS The Free Press, New York, 1956	Immanuel Kant ON EDUCATION Dover Books, Mineola, 2003 [1803]
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## INVENT

### What to Invent?

To invent is to contrive something new – but since nothing is entirely new, some aspect of its configuration must differ from existing arrangements enough to be considered an original formation. By contrast, innovation is the introduction of something into common use. However, inventions are novel but not necessarily beneficial – many are obviously detrimental. What *should* be invented are those contrivances that are clearly worthwhile.

### Why to Invent?

As the previous paragraph suggests, the purpose for invention should be a contribution that gives value-added to those who use it or are impacted by it. By this criterion most of the commercial inventions that have been turned into innovations should be re-called, and re-designed or retro-fitted. What about the gains that inventors seek? No one should profit at the expense of others – mutual benefits all ‘round should be assured.

### When to Invent?

Responding to a lack, rectifying a mistake, anticipating a problem – all are appropriate occasions for invention. Many cases have occurred where an invention came “before its time” and either never caught on, or had to wait for apposite circumstances to eventually arise. Other cases faced the opposite problem, an invention whose time had already passed when the novelty was ready to be launched. Patience, persistence, planning.

### Whether to Invent?

Is there an authentic need for what is being proposed or offered? How could we tell? (1) Will it provide real benefits? (2) Do prospective users want it? (3) Will its external impacts be acceptable or ameliorable? If any or all of the answers to these questions are “NO” then either costs or detriments will outweigh benefits so the invention should be foregone. If all of the answers are *yes* then that is the kind of invention we need more of.

### How to Invent?

All contrivances re-cycle previous cultural elements and combine them in a new way. Don’t strive for the “entirely” new – even a slight variation can be a great invention (Wiener, 1993). Think analogously – creative thinking is a process of “bisociation”, the bringing together of elements previously not associated but suddenly juxtaposed during a flash of insight, or laboriously assembled through much cognitive effort (Koestler, 1964).

### References

Norbert Wiener

INVENTION

MIT Press, Cambridge, 1993 [1954]

Arthur Koestler

THE ACT OF CREATION

Arcana, London, 1989 [1964]

## JUDGE

### What to Judge?

To judge is to evaluate some situation or behaviour by some criteria or standard. In the words of Immanuel Kant, "Judgment is the application of the general to the particular." As David Hume famously pointed out, there are essentially two types of judgment, the one of fact (what is the case), and the other of value (what should or should not be the case). Confusion occurs if people try to "objectify" their value judgments. They're not.

### Why to Judge?

Judgements of fact or value are essential for the well-being of individuals and institutions. But they become pernicious when they are "moralized" to convert every assessment into a choice between good or evil. This can lead to an infinite regress, because every claim to virtue has the potential be trumped by anyone else asserting that their judgment is in some sense superior. The real merit of a judgment consists of its implications and consequences.

### When to Judge?

"Circumstances alter cases" – that line from J.M. Berry's play *The Admirable Creighton* is actually a wise one for timing judgement. Since no one can see all of the consequences of one's actions, procrastination probably occurs as readily as premature judgment. All that any of us can do is our best. Make judgments as the need arises, which is itself a judgment call. So, what is required is reflexivity, self-awareness of the gravity involved.

### Whether to Judge?

"Judge not so ye shall not be judged" – that or something close to it is a quote from the King James' Version of the Bible. Many people are knee-jerk moralizers, posing as authoritative sources of evaluation when they are neither authorized nor qualified for such a role. Such self-righteous behaviour is prompted by a pernicious combination of "the rights revolution" and a widespread psychopathology of resentment.

### How to Judge?

State the criteria or standards clearly. Authenticate your bona fides. Evaluate the behaviour, NOT the person; assess the aspect of a situation under review, NOT extraneous circumstances. Temper justice with mercy. Find a remedy that rectifies the problem AND prevents or discourages its recurrence. Revenge is not recommended – neither is a super-hero complex; no one is authorized or entitled to right the wrongs of the world.

### References

Donald Black  
THE SOCIAL STRUCTURE OF  
RIGHT AND WRONG, 2<sup>nd</sup> ed.  
Academic Press, New York, 1998

Immanuel Kant  
ON EDUCATION  
Dover, Mineola, 2003 [1803]

## PARTICULARIZE

### What to Particularize?

To particularize is to describe in terms of specific attributes. Particularizing is a form of itemizing, which means it applies to single instances instead of populations, and consists of specifying the details within a narrow range. It therefore resembles methodological individualism, the looking at single cases to get a deep, if narrow view. It is based on the presumption that, at least for some considerations, focusing on the attributes that make entities different will reveal something unique.

### Why to Particularize?

The finer-grained you want the description or analysis, the longer it will take to produce the results. If you have the time, and the wherewithal to sustain the study, then looking at the details is possible, perhaps even insightful. When looking at the details however, the context should be kept in mind - this is the reason for looking deeper. Kant says "Reason is the power of understanding the connection between the general and the particular."

### When to Particularize?

When you are sure that something is being lost in the big picture, it is time to begin focusing in on the particulars. At one extreme the danger is that there will be no patience to look at the details even if good practice demands it – this is just epistemological vanity. At the other extreme is the tendency to become a perpetual fact-gatherer, an information junkie – this is just a contemporary version of the pack-rat complex – don't!

### Whether to Particularize?

Decisions or choices should be based on the context within which the alternatives are situated. When is there enough details to set the pattern (or upset it)? Rules (algorithms) don't apply, but rules-of-thumb (heuristics) do – its judgement again, not of a moral kind but simply an assessment of what "type" of situation you are in. Performance will improve with the number of attempts (if it is ever going to improve), so keep trying.

### How to Particularize?

Look for "la difference" – what distinguishes otherwise similar instances. Even in this regard, the extent of variability will not be endless but fractal – certain thematic patterns will emerge that combine generalization and particularization. When that happens you can focus on either diverging or converging forms. If you particularize the possibility exists to get lost in the growing details that greater depth reveals- set cut-off criteria.

### References

Nigel Lesmoir-Gordon, Will Rood & Ralph Edney  
INTRODUCING FRACTAL GEOMETRY  
Icon Books, Cambridge, 2001

Immanuel Kant  
ON EDUCATION  
Dover, Mineola, 2003 [1803]

## RELATE

### What to Relate?

To relate is to associate by convention or position. Things or events relate by comparison or contrast to one another. What, exactly, do you want to compare or contrast? Formal logic relates on the basis of the properties or characteristics of entities. Traditional cultures often relate based on emotional responses to things or events. Various versions of either one will suffice, provided the grounds for positing the relationship are kept clear – switching while in process gives inconsistency.

### Why to Relate?

Things or events are compared or contrasted to make sense of a situation, and/or as part of the evidence for a decision or choice. Some kinds of relations are often thought of as “natural” – families, or species, or functions. But within such populations there are some characteristics would diversity as easily as unify. All relating, by comparison or contrast, is imposed rather than intrinsic – it is an explicit or implicit act of persuasion.

### When to Relate?

When you need to make sense of things or events because their incoherence would be, in some way, troublesome, it is time to look for relationships. Or when a decision or choice is looming or pending, and the alternatives should be sorted and prioritized, it is time to look for relationships. The need may range all the way from deciding your favourite colour to choosing a mate – usually it is to reduce the cognitive dissonance of confusion!

### Whether to Relate?

In many cases there are social or cultural taboos against either comparing certain things, or contrasting certain other things. Contrasting between sects within a religion (Sunnis vs. Shias) is often frowned upon outside the faith, but usually supported from within. Calling both saints and scoundrels “deviants” still makes practitioners wince. People do react to imputed associations, so be prepared for the consequences of attributing relations.

### How to Relate?

State the basis of the comparison or contrast right from the beginning. Try to avoid a major comparison or contrast (between notable things, or events, or persons) on the basis of a minor characteristic – this is often done to disguise the fact that the real rationale for positing the relationship is either antipathy or allegiance rather than any substantive attribute, but since this may seem petty or self-serving a proxy feature is substituted.

### References

C.K. Ogden

OPPOSITION

Indiana UP, Bloomington, 1967 [1932]

## REPLICATE

### What to Replicate?

To replicate is to repeat or to make a copy. In the material sense this is impossible because when you make or get a duplicate key (or whatever) the pattern may be the same but the actual atomic and molecular structure are not identical. But in most cases it is the pattern that you want to copy anyway. So ask yourself if you want to replicate is the exact entity or the feelings it induced in you – people often confuse the two. Don't!

### Why to Replicate?

Something that you value, be it a thing or an event, goes out of your “life space”. Perhaps a thing is lost, a person dies or moves on, an event or relationship ends. If it's a song on a CD you can re-play it, and replicate the experience all over again. Material goods can be replaced, but not always the affection invested in them. Many entities are one-time-only. The wise attitude is “detached involvement” – holding on is a hang-up.

### When to Replicate?

When the result of some change in the entity is that it no longer serves your needs, the most obvious immediate option is to get a replicate. If the entity still is serving its function, it is a waste to replace it – I wear my clothes and my watches out before getting new ones, and so should any sensible person. Here the definition of replication comes into play. Serving the same function can be replication even if the means is different.

### Whether to Replicate?

This depends upon the previous answers: If it is the feeling rather than the entity you want to replicate, is that really possible or not? Are you trying to “turn back the clock” when circumstances all around you have changed irrevocably? Do you really need what you want, or could some alternate arrangement adequately serve the same function? If it's just a worn out key, get a new one – but there is no going back to the original.

### How to Replicate?

Clarify what you can replicate, and what you cannot. Assess the costs and consequences of duplicating what is feasible, be that physical, financial, or emotional. Here is another situation where “satisficing” is wise – “you can't always get what you want, but sometimes you can get what you need”! Don't squander your time, efforts or money trying to recreate the impossible – replace what you can, and forget the rest.

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John Dewey  
 HOW WE THINK  
 Prometheus Books, Buffalo, 1991 [1910]



## REVISE

What to Revise?

To revise is the alter features while preserving functions. Writers and editors are always revising, changing everything from spelling, to word choice, to grammar, to concept or plot. Early in my own case, I came to a very useful conclusion (back in my high school literature class) – what may initially appear to be the need for major changes (of whatever kind) can actually be feasibly achieved with minor (but strategic) alterations. Replace a few words or phrases and the whole sense can shift.

Why to Revise?

The desire to correct or the desire to improve, seem to be the two major motives. Wrong spelling or grammar should be changed – but the rationale of “improvement” is more problematical. When composition is delegated, be it for writing, music, blueprints, etc., requests for successive changes, all in the name of improvement, usually have declining marginal utility (and the decline curve is very steep) – the reason is usually scope creep.

When to Revise?

Appraise as soon as possible, but then delay in implementing changes long enough to take a “sober second look”. It is better to make a copy and mark it up rather than do so on the working copy. If in due course, all, or most of your desired changes still seem essential, then make a new copy and mark up only what is important for change. Always be specific about what is to replace what – vaguely worded dissatisfaction is gratuitous.

Whether to Revise?

In terms of the written word, so much of the desire for revision hangs on the desire for nuance, for fine shades of distinction. So, my recommendation follows the Plain Language movement – if revisions are aimed at simplifying the wording so as to clarify the message, good. If revisions are aimed at complicating the wording so as to elaborate the message, bad – follow the KISS Principle (Keep It Straight and Simple).

How to Revise?

In most cases the perceived need for revisions to delegated work arises because of poor initial specification – what was wanted was not clearly stated, perhaps not even clearly known. The preferred arrangement would be to either think it through before assigning it, or accept the submission as interpreted. This is probably utopian, so reviewers or editors should at least have the good grace to also recommend strategic alterations.

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Michael Alley  
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DISCOURSE ANALYSIS  
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## SUGGEST

What to Suggest?

To suggest is to propose for consideration or action. So, decide if your suggestion is (or will be) more of an “alternative for your consider” or an “unequivocal recommendation”. The first amounts to “advice freely given”, and as such can be freely accepted or rejected. The second implies an imperative that should not be overlooked. In either case suggestions should carry the prospect of improvement, and should be feasible given the constraints already in place.

Why to Suggest?

Not always, but all too often, what suggestions amount to is “if I had been in charge this is the way I would have done it”. What are proposed as improvements are just ways of disguising venom. Suggestions are often premised on the assumption that their purveyors were more qualified for the assignment. Regardless, the wisest response is to thank any and all contributors for their views, and use those least disruptive, and most productive.

When to Suggest?

Only offer them when an entire section is ready for review, and only accept them on the same occasion. Projects of whatever kind should be componentalized in their design so that chapters or segments or whatever, can be reviewed on a “stand-alone” basis. So, when such a component is produced it can and should be presented for review. But make the mandate clear: what kind of suggestions are you looking for – form or substance?

Whether to Suggest?

Reviewers need to ask themselves whether they understood what they were reviewing or not. Then they need to stick to their instructions: assess according to form, or substance, or whatever. Once suggestions covered by the mandate are delivered, a reviewer can always ask “Do you want my opinion on [so and so]. Don’t give your own preferences as suggestions, and don’t expect too much from them – it’s not about you!

How to Suggest?

Base suggestions on criteria, direct them at issues and not people, construct them so as to be feasible, and phrase them so as to increase the likelihood of their acceptability. Use the term *could* rather than *should*, be gracious in rejection, and grateful even if only a few, or only “watered-down” versions are adopted. Keep a copy of all your suggestions and review notes, for defence if sued, and for more work if asked.

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## SUMMARIZE

### What to Summarize?

To summarize is to condense the content but retain the concepts. Summarizing is one form of the process Herbert Simon called information *chunking* – with the direction being from the particular to the general. A summary is a truncated version of the whole message. The longer version would be: Endeavour to reduce the number and size of words so as to convey the essence of the message in the briefest and most cogent possible way. The summary would be: Keep it short and sweet!

### Why to Summarize?

Many people find the use of too many words to be a great source of boredom. On other occasions there simply isn't the time to meander. It is also possible, as the Bible attests, to break people in pieces with words. Words can often be a tactic of delay, OR a tactic of subterfuge persuasion. Whitehead claimed the public always likes simple explanations, and that effective political entrepreneurs craft their messages this way.

### When to Summarize?

Place an abstract at the beginning (of a book, paper, speech, or whatever). Those who only ever read the executive summary will then at least know the major concepts. Those who want to know more can then go deeper, often using the summary as a guide. Also, summarize at the end (of a book, paper, speech, or whatever). This serves as a reminder of what was said. The old adage, summarized is “preview, present, and review”.

### Whether to Summarize?

It all depends on what you are trying to achieve. Sometimes the purpose of taking a trip is the journey as much as the destination. If your focus is (metaphorically) the end point, provide a summary – if you want to enjoy the journey (as well or instead), do the full, extended voyage (read or study the details). BUT, provide a summary for those only interested in the destination anyway, and hope they will let you enjoy the expedition.

### How to Summarize?

To summarize is to condense the message down to its essence, much like boiling off the water from maple sap to get maple sugar. As Information Manager Dan Sullivan shows, the basic message in a book only occupies between 10% and 20% of the total contents – the rest is just elaboration, examples, and repetition. The function of a summary is to present that essential message, like explaining your theory during an elevator ride.

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## TAXONOMIZE

### What to Taxonomize?

To taxonomize is to classify cases *within* a domain. There will be more general instances and more particular instances – there will be various branches of knowledge, each with its “trunks” and “leaves”. So, to taxonomize one must conceptualize all of the instances of interest as being within a single domain – this may require some creative re-conceptualizing. Remember, there are no *natural* classifications – they are all contrived.

### Why to Taxonomize?

Taxonomizing is one of the forms of systemization, of ordering individual **instances** into structured schemata. This, in turn, enables a person to identify similarities and dissimilarities, with an emphasis on the similarities. It is the facility to classify information and then use it for action that represents part of the pragmatics of knowing – and knowledge can facilitate control, which Adler saw as the primary human motivation.

### When to Taxonomize?

As soon as possible, but (always) in a tentative form. Scientific principles are just guesses with a more substantial evidentiary basis than your own hunches – but, new evidence at some future time will undoubtedly require revising the originally proposed taxonomy. So, the best time to taxonomize is every time an insight occurs, but always with the awareness that a subsequent insight might imply doing the arrangement all over again.

### Whether to Taxonomize?

Order and burrow only to the extent that there is value in a particular level of granularity. Just as there is no intrinsic value in information as such, there is no intrinsic value in structuring it without a purpose. Let the goal determine the time, effort, and elaboration that is appropriate. It has recently (actually since WWII) become fashionable to make distinctions into detailed minutia. This is silly, boring, and often depressing. Don't!

### How to Taxonomize?

The *objective* view is that classifications reflect “reality” – one of the tenants of positivism, but actually an illusion. So the question to ask is “What do I (or we) want the taxonomy to accomplish?” Use the XML metaphor – it can always be extended if the need arises, so for the moment, keep it to the necessary minimum. Start from the top and work down – clinical trials\* have shown this to be the most effective knowledge strategy.

### References

Joseph D. Novak  
LEARNING, CREATING, AND USING KNOWLEDGE\*  
Lawrence Erlbaum Associates, Mahwah, 1998

## TYPOLOGIZE

### What to Typologize?

To typologize is to sort domains of knowledge into coherent and consistent categories. So just as similarity unites a taxonomy, so dissimilarity arrays a typology. What you typologize is a population that contains significant differences between identifiable types. These types could be concepts, things, events, people, or some combinations of any of them. The difference could be superficial (features), operational (functions), or intrinsic (structures).

### Why to Typologize?

Typologizing, like taxonomizing, is also a form of systemization, but in this case of ordering **classes** of instances into structured schemata. This, in turn, enables a person to identify similarities and dissimilarities, with an emphasis on the dissimilarities. It is the facility to categorize information and then use it for action that represents part of the pragmatics of knowing – that facilitates control, which is a primary human motivation.

### When to Typologize?

As soon as possible, but (always) in a tentative form. Scientific principles are just guesses with a more substantial evidentiary basis than your own hunches – but, new evidence at some future time will undoubtedly require revising the originally proposed taxonomy. So, the best time to typologize is every time an insight occurs, but always with the awareness that a subsequent insight might imply doing the arrangement all over again.

### Whether to Typologize?

Distinguish between differences and aggregate similar types only to the extent that there is value in a particular clustering. Just as there is no intrinsic value in information as such, there is no intrinsic value in structuring it without a purpose. Let the goal determine the time, effort, and combination that is appropriate. It is always possible to aim for such a comprehensive overview that significant differences are lumped together.

### How to Typologize?

The *objective* view is that categorizations reflect “reality” – one of the tenants of positivism, but actually an illusion. So the question to ask is “What do I (or we) want the typology to accomplish?” Use the chunking metaphor – information can always be further aggregated if the need arises, so begin with intuitive boundaries. Start with categories that “make sense” and only change them for a good reason.

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## PART VII THE GESTALT FRAME

### What is the Gestalt Frame?

According to the American Heritage Dictionary, “gestalt” is a word of German origination meaning *a physical, biological, psychological, or symbolic configuration or pattern of elements so unified as a whole that its properties cannot be derived from a simple summation of its parts*. The word was defined and used within the context of the investigations in phenomenology that began in the late 19<sup>th</sup> century, concerning the formation of a World-View (social psychology) that typical members of a society or culture acquired and applied to themselves, their responses to others, and their interactions with the environment. The insight which the term gestalt implied was that this social psychology was not experienced as an assemblage of parts, but as a *unified whole*. The Gestalt Frame of THE HUMAN KNOWLEDGE MINDMAP analytically deconstructs the unified whole of the World-View into four aspects, so that its facets can be more clearly identified and described. The Frame is the filter through which all sense-data pass on their way “into the mind” or outward as directed actions.

### How does the Gestalt Frame form?

Ever since the research of Edmund Husserl in the late 19<sup>th</sup> century, this is the question that has guided work in phenomenology. Edward de Bono did his graduate research at Oxford University on this topic, from which emerged his book MECHANISM OF MIND. In the archetypal sense, there are two approaches to the forming of the Gestalt Frame. Husserl and his followers took a “learning” or “conditioning” approach – which basically contends that people acquire their World-View from their social environment as young children. Under this model, it is taught tacitly rather than explicitly, and its structure and operation are usually sub-conscious except in very particular circumstances (if an experience is counter-intuitive, that may prompt recognition of “the limits of one’s thinking”). The other approach, represented by de Bono’s work, and much in favor these days, sees the World-View emerging as a result of the brain’s own “natural way” of processing incoming sense-data. The term that advocates of this approach prefer is that the human nervous system is a “self-organizing system” that functions to enable the person to align their behaviour to the environment so as to be able to cope. It may not surprise readers to learn that I think the evidence supports a complementarity of both processes.

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## PHENOMENOLOGY

What is Phenomenology?

Phenomenology concerns the patterns of perception whereby we experience the world: systems or components; here-and-now or elsewhere; unified or diversified. If we live in the present, both the past and the future may simply be regarded as surreal. If we operate with “your nose to the grind stone” 2\we may never see or ask where such stones come from. If we perceive so much variety that no pattern is clear we may be oblivious to larger processes. The pairs characterizing phenomenology are at the opposite ends of parameters.

Presence vs. Absence

Do you focus on what is within the range of your senses, or are you oriented to distant but important factors? Even though you cannot always see the moon, it still causes tides. Even though you are only in one particular locale at one time, competitive goods and services from afar can still affect your prospects. Human culture is a collection of previous practices (science, art, technology) from various peoples and places elsewhere. The parameter connecting *presence and absence* indicates *position*, whether spatial or temporal.

Parts vs. Wholes

One of the most significant concepts of the modern age is that of *system*. Many books have been written on the *science of systems*, but the concept (or schema) of *a system* is not actually scientific, but rather philosophical. Systems, sub-systems, and super-systems are all phenomenological perceptions, not objective characteristics. **Parts** or **wholes** can be very useful ways of viewing the world, but either means is a choice, not a necessity. *Parts and wholes* are simply different aspects along the parameter of *extension*.

Unity vs. Diversity

The aspects of the experience of reality can be interpreted as either interdependent (**unity**) or as functionally autonomous (**diversity**). Conceiving of experience as unitary assists in rationalizing and implementing collective cooperation and coordination. Conceiving of experience as diverse assists in rationalizing and implementing individual independence and accomplishment. People experience both conditions, all of which are part of the phenomenological continuum of *composition*.

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## MORALITY

What is Morality?

Morality concerns the folkways and mores whereby we evaluate experience: on the basis of external controls or internal deliberations; as part of an in-group or part of an out-group; as the result of positive re-enforcement or aversive re-enforcement. In this Age of Inclusion, we often ignore our habit of grouping people by the acceptability of their behavior. Many institutions use a command structure and some things *you just don't do!* Each pair characterizing morality is at the opposite ends of a parameter.

Commands vs. Conscience

The armed forces, the church, the corporation, and the bureaucracy all operate on the basis of a “command and control” structure. Orders can be given, and sanctions applied to those who disobey instructions or rules. Many would prefer to be persuaded, or self-motivated, but that always leaves the option of uncontrolled non-compliance. In the NewAge we fudge, by talking the talk of conscience, but walking the walk of commands. The parameter that includes *commands and conscience* is *restriction*.

Inclusion vs. Exclusion

Most science fiction is based on extrapolations of the hard sciences, but one cherished modern myth is a fiction based on the sciences of sociology and anthropology, namely *the family of humanity*. We actually exclude far more than we include. Criminals, different ethnic groups, non-believers (from sacred or civic religions), different age sets, and different class occupants are excluded whenever we have the discretion to do so. The parameter that underlies *inclusion and exclusion* is *association*.

Injunctions vs. Prohibitions

According to the prevalent *folk wisdom* people don't like being told what to do (*injunctions*). But they apparently also don't like being told what NOT to do (*prohibitions*)! There is an underlying anarchistic strain beneath much of this, but people usually apply it to themselves rather than others. I jaywalk, but curse others who do so. Stealing is definitely wrong, but I have pilfered the occasional paper clip myself. The most effective social control is so subtle it is not even conscious – behaving yourself has become intuitive. The parameter that involves *injunctions and prohibitions* is *direction*.

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## PLAUSIBILITY

### What is Plausibility?

Plausibility concerns the premises and preassumptions whereby we examine reality: microscopic or macroscopic; case-by-case or aggregated; precisely or approximately. If we are looking for the big picture, the details, no matter how remarkable, may be irrelevant. If we are comparing for a common characteristic, the idiosyncratic differences are “under the radar.” If a rough answer will do, looking for strict criteria is a waste of time. And *visa versa*. Each of the pairs characterizing plausibility are at the opposite ends of a parameter.

### Theory vs. Practice

Are you looking at the pattern or the particulars? “A practice is a tangible and visible behavior.” So, seeing is believing. A theory is an intangible and implicit schema. So it focuses you on the forest rather than the trees. There is a joke that certain intellectuals will comment about a procedure that “Yes, I know it works in *practice*, but does it work in *theory*?” Both are correct, and either is acceptable. Try them together! The parameter that involves *theory and practice* can be called *transaction*.

### Differentiate vs. Correlate

Do you prefer to deal with case studies, particular instances – or, do you want the average of a series, whether the mode or median? One way of describing these choices is either *comparison* or *contrast*. The basis for correlation is always some feature, characteristic, or aspect that instances share – the basis for differentiation is something that instances do NOT share. Entities always have both uniqueness and something in common. The parameter that underlies *differentiate and correlate* is *formation* of the variables.

### Exact vs. Fuzzy

Linguist Benjamin Lee Worf identified two different kinds of entities to which quantification could be applied (see MacNeal). On the one hand there are entities with definite outlines (i.e., sticks, stones, men, mice, etc.), and on the other hand there are entities with indefinite outlines (i.e., water, air, entropy, gravity, etc.). Those things with definite outlines can be counted, *exactly*. Those things with indefinite outlines can only be measured, *approximately*. Approximate groupings have *fuzzy* boundaries. So, depending on the domain, either exact or fuzzy methods are required. The parameter that includes *exact and fuzzy* refers to *precision*.

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## PREFERENTIALITY

### What is Preferentiality?

Preferentiality signifies and symbolizes how we appreciate experience: do we dress in style or to make a social statement; do we want to express ourselves or be impressed by others; do we focus on finding the likeable or avoiding the unlikeable? "Different strokes for different folks!" nicely sums up the concept of preferentiality, also called style, taste or fashion. All of the props we use have conventional rather than natural meanings. Each of the pairs characterizing preferentiality are at the opposite ends of a parameter.

### Style vs. Statement

Preferentiality refers to the rank ordering of choices, inclinations, or predilections. The overall message of the preferences one has may be the desire for a stylish demeanor, or the wish to state an ideology by example. Nevertheless, although modern society places preference on a pedestal, it is wise to remember that there may be more important considerations in many situations than simply what you desire. The parameter that includes *style and statement* can be called *specification*.

### Expression vs. Impression

In today's world, the global population is being segmented into the consumers of culture and creators of culture. The creators of culture organize their lives around the desire to "express themselves" – the consumers of culture find their lives organized around their willingness to be "impressed by others". However, even those who are creative are only so in limited areas – elsewhere they are also consumers. We are all cultural junkies now! The parameter that underlies *expression and impression* is *indication*.

### Attraction vs. Aversion

What we like (find attractive) and dislike (find aversive) determines a very large proportion of our attitudes and behaviors towards the things, events, people, and ideas we encounter in everyday life. Critics of all kinds rationalize their likes and dislikes behind elaborate analysis, but this fools no one; they are just playing their favorites the same as everyone else does. Don't exalt your preferences out of proportion. The parameter that involves *attraction and aversion* refers to *affiliation*. Atoms and molecules have the same propensity, and we call it *valence*.

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## PRACTICE IN USING THE GESTALT FRAME

The preceding section on The Gestalt Frame covers the four archetypes of experiencing, namely Phenomenology, Morality, Plausibility, and Preferentiality. After reading through them first (each is a page), then try some of the following suggestions (or do similar things that will also illustrate the desired points): Take any one of the concepts within the Frame and apply it to an issue of interest to you. The issue might occur in a media story, in a book or magazine you read, in a conversation you have, in a presentation you attend, or it might be something that just springs to mind.

In the case of Phenomenology, ask yourself “Is the past or future as real as the present?” “What is there about the past or present that is real, and what is not?” Imagine how someone with a different sense of the past or future might think or feel about events. Next, try considering something like this: Does the saying “the whole is greater than the sum of its parts” make sense to you; and whether or not it does, what does it mean? Are there occasions when the importance of “wholes” or “parts” changes in importance, or when the relation between them may vary? How could that happen, and why? For a third challenge, think about how unity might occur even in the presence of diversity in some situations, and they might not co-exist in other situations, and try to determine what makes the difference. In all of these cases, how you perceive your reality is not just a question of observation, but also of the sub-conscious labels you apply to your perceptions. What some people perceive as aggression, others perceive as defensive. What some people perceive as generosity, other perceive as patronizing. There are no definitive answers to the above questions – it all depends upon what you believe, and about your willingness to suspend your beliefs and consider other possibilities.

In Morality, ask yourself “How do changing social and economic circumstances affect how you assess right and wrong or good and evil?” To what extent are people's habits and traditions inner-directed or outer-directed? For instance, consider the possibility that you only know peoples' principles from either their words, or their actions, either or both of which may be contrived to mislead, or not sufficiently complete to give a conclusive result. If you reflect on this, you will realize that this is actually a description of the situation we all find ourselves in – don't panic, or despair. Instead ask yourself how social coordination actually occurs, and consider the results of practicing either more or less tolerance.

For Plausibility, examine how you tackle a problem or question when one occurs. Do you look for the facts, or fit what you already know into an explanation and then seek to confirm it? Does the overall situation concern you most, or the specifics? Are you looking for precise conclusions, or just an approximation? Now try role-playing, and switch your answers to the above questions. How do your methods change under these new approaches? In knowledge work, you may have to switch methods depending on each assignment and the role in it that you perform.

Preferentiality gives you the most room to maneuver. Try pretending you like the things you loath, and dislike the things you prefer. How different would the outlook of a person who really had those preferences be from your own? Try the same tactic for anything that you improvise on the one hand, or just passively consume on the other – what difference would that make to your lifestyle, or quality of life? Think about what would happen if you became more, or less, fashion conscious. *Very different.*

Now contemplate some combination of Gestalt elements and think about the implications. WOW!

## FOLLOWING IMPLICATIONS

### Cognitivity

"I think, and therefore I am" was Descartes' famous dictum. This reflects a much older claim made by Aristotle in Ancient Athens, namely that "Man [humanity] is the rational animal." Now that we are into the Information Age and the Knowledge Economy, the cognitive aspect of knowing is getting the lion's share of the attention.

The point is however, that cognitivity is one aspect of knowing, not a separate type of knowing. The cognitive aspect of knowledge has been the quality most readily transferred into explicit form, particularly as text in the age of print, and then as software in the digital age. We are often told that "teaching machines how to feel is much more difficult than teaching them how to think." But computers only simulate thinking anyway, which is all they would ever do with feelings as well. Now the implications of feelings are being programmed into algorithms so that they can factor in affective responses even if machines do not actually feel a thing. This development was inevitable, and will continue (Kennedy, 1990).

Don't get caught up in pointless arguments about whether machines can "think" or "feel" - just remember that your own knowing combines both, so keep that in mind as you learn.

### Affectivity

Suzanne Langer made a very credible case for the claim that all of human knowledge could be interpreted as an elaboration of affectivity, feelings, rather than cognitivity, ideas. Novak has developed a paradigm of knowledge creation, learning, and use that traces effective knowing to a combination of cognitivity, affectivity, and methodology - concepts, feelings, and skills must work together to produce meaningful understanding (Novak, 1998).

How is affectivity involved in learning and knowing? It provides the motivation for what is important and what is interesting. Affectivity ranges all the way from the widest possible context to the narrowest of issues - it is our answer to Bertrand Russell's "So what?" comment. He advised that we always ask ourselves whether either a question or an answer made any real difference to us anyway. To the extent that we pursue anything rather than just *drop it*, we have found an affective reason to bother.

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## THE PRACTICE OF FOLLOWING IMPLICATIONS

### What the Use of the MindMap Implies

Perhaps the most important set of implications of using the MindMap involves the human context in which the use occurs, namely the complementary roles of cognitivity and affectivity in the Gestalt Frame. It should always be kept in mind that it is never the case with MindMap use that cognitivity opposes affectivity – it isn't "either/or" but rather "one AND the other". So, in the language of implying, there are both cognitive and affective implications to every concept in the MindMap (or to any other concept as well). People or rules may, and often do, tend to prioritize one or the other aspect because of the purposes or behaviours they are focusing on, but if this becomes a habit the presence of the other aspect may be ignored altogether. When that becomes a social tradition people will speak of a certain concept as "inherently" either cognitive or affective – when in human experience it always embodies both. This is something to look for – what aspects of a concept are being acknowledged, which ignored?

### The Courage of Your Convictions

The way this phrase is usually interpreted is to imply that it one's "duty" to "speak out and tell the truth." As I have suggested in another section however (see MANAGING YOUR SELF), protecting yourself from harm can take priority over speaking out. Does that imply that there need be no courage to your convictions at all? On the contrary – the most important aspect of that courage is always taking note of the difference between "what you know" yourself and "the propaganda line." Why would you want to bother with this? Because, for a knowledge worker, there is nothing more pathetic than confusing rhetoric with reality, or mindlessly accepting "the official version" of anything. Depending on the circumstances, knowing which is which can just remain your own secret, but expending the cognitive effort to make the distinction is part of the criteria of the role itself (i.e., knowledge worker). At the very least (and sometimes that is the most you can do), your mind must be "the record of last resort."

### The Confidence to Create

Developing the capabilities to do Concept R&D and use the MindMap will empower you to perform some amazing accomplishments. Most people, regardless of their positions or roles, are not very mindful of the conceptual complexity underlying their behaviours, or their plans, or the situations with which they deal. They are not "idea conscious" – their idea of being pragmatic (if they have such an idea at all) is to ignore anything and everything that doesn't contribute directly to what they want to do or have been assigned to do. Intervening in such situations (which are typical) to point out other possibilities, is therefore an opportunity to "shine" – but to be effective it must be done with care (so as not to "ruffle any feathers"). The best attitude to take, is to see such situations as opportunities to create something which contributes to the greater good – so start by reiterating the goal, and then show how further considerations are needed for successful achievement. Think through how you will make the case for this BEFORE you present it, and take confidence from the larger perspective you possess.

### Doing Things With Words

It is not necessary to use the exact terminology in the MindMap when talking or explaining to others. What you will often find yourself doing is "translating" into terms others can more readily understand. So "empiricism" becomes "evidence" and "determinism" becomes "cause". Ideas can transcend terms.

## MANAGING YOUR SELF

### Attention

The screen saver on both my home computer and my workplace computer reads as follows: "You learn something every day if you pay attention", a quote from Ray LeBlond. For many aspects of their existence however, it appears that for most people this is too high a price to pay! This disposition is as prevalent among the young as it is amongst the elderly. *We have found in our work with both secondary school students and university students that the majority would prefer to get by with memorizing information rather than working to build conceptual understanding* (Novak, 1998).

This combination of *rote learning* and *mental ruts* is how historian James Welles defines stupidity, *the learned corruption of learning* (Welles, 1986). In practice, stupidity consists of learning one particular response to each type of situation encountered and then operating on "automatic pilot" henceforth. The antidote is a change in attitude: you have to **want** to pay attention, to **learn** from experience, to **apply** what you know to improve your life. It's amazing!

### Intention

Many practitioners in Cognitive Science (both physiological and psychological branches) eschew the notion of *intentionality* as a mythological hold-over from folk wisdom. This is probably the most benighted perspective in the current study of human cognition, equivalent to behaviourism in the early part of the 20<sup>th</sup> century. Those who justify this stand by explaining that they can't see intentionality should be reminded that they can't see gravity or entropy either, just their results. Hypothetical constructs, like intentionality or gravity, are indispensable parts of any and every science. As physicist Albert Einstein said, "What we see depends upon what we believe." The Torah contains the same idea from 2,500 years ago: *We see things not as they are, but as we are.*

Intentionality is a combination of the concept and the commitment to do something. The claim of some Cognitive Scientists is that we "really" are not capable of deciding or choosing anything - that it's all programmed into the synapses and reflexes that underlie our behaviour. This claim conflates levels of analysis - of course the synapses and reflexes are the platform for our actions. But even if intentionality were just an "illusion" it is the psychological space in which we operate. Whatever the physiology of the process, we make decisions, make choices, make plans, and take actions. In so far as this describes what we do, regardless of the underlying support system, we are exercising intentionality. *It's what the functioning psychological process is about.*

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## LIFE LESSONS ON MANAGING YOUR SELF

Persistence

It usually takes considerable time to master the techniques of Concept R&D and the use of the lists of concepts in the MindMap. The best tactic is to practice every day – especially with things you read, or encounter in your activities. Another good source of material is the coverage of the mass media, in all its forms, with all of the material presented – news stories, sports, advertisements, weather, etc. Look for what is missing in all the information you encounter. What will be missing? Some of the premises, or questions, or inferences that are relevant to a good understanding of what is going on. For instance, when it comes to knowledge aspects, if the facts are emphasized, some of the relevant ideas will be ignored, or visa versa. By spotting these gaps, you get a more balanced view, AND you realize that other discussions, or individuals, or groups are not using sufficient knowledge to achieve credibility.

Hostility

Individuals, groups, or institutions can often give quite a hostile (perhaps even threatening) response to anyone questioning their actions, policies, or understanding. This is part of the social or political context within which we all live – it is NOT a good idea to jeopardize your existence or wellbeing just to prove yourself “knowledgeable” or even “to do the right thing” (i.e., to tell the truth or describe the facts). The policy of conceptual pragmatism recognizes that those with malevolent agendas may prefer propaganda to information, and so would the practitioners of this policy. It is not necessary to “tell all” or to “set the record straight” regardless of the personal satisfaction that might bring – the wise strategist has the tactical good sense to choose which battles to fight and which to forego. It is not an individual’s sole responsibility to rectify the wrongs of this world – look for situations you can improve, nothing more.

Disagreeableness

Does the above advice on hostility preclude using the MindMap whenever anyone might disagree with its content or implications? Not at all – it is possible to disagree, but it must be done strategically (with care) and diplomatically (with tact). It is possible to disagree without being disagreeable, and in many situations this is a good approach to take. How is this done? First and foremost, with good humour – do not present in a self-righteous or blaming manner. Make it clear you are not criticizing a person, group, or institution - that what you are offering is a further improvement on an already good or promising idea. What if you really think that what you are responding to is not good? Say it is anyway, and then make your suggestion for improvement, even if it is 180° opposite of what is there or what others have proposed. AND develop a rationalization for why, even if it appears different, it really does improve the idea in some way that is consistent enough to qualify for consideration.

Authenticity

Does the above advice begin to sound more manipulative than “honest”? If that happens (and it very well might), that is the point to “step back” and remind yourself that knowledge work of any kind requires the practice of Constructivism (inventing ideas if needed), and the rejection of Fundamentalism (taking a narrow, uncompromising position on issues). You have to be flexible. What might be interpreted as “the truth” from one perspective, can be just another view from a different perspective. What you need to consider in cases where such behaviour is required, is “what are the implications and consequences?” Don’t catastrophize! What will likely happen, and what can you realistically do?

## COORDINATING CONCLUSIONS

### Coherence

In the MindMap, coherence concerns the coordination between your perceptions and your conceptual framework - your conditioning has got to coordinate with your cognition. Strictly speaking, the fit is never perfect, so the goal is to achieve as much alignment as feasible. There appears to be a widespread problem emerging with this - we can see a growing discrepancy between many peoples' ideas and their habits. Smoking, poor quality diet, over-eating, lack of exercise, doing drugs - all of these are widely known forms of self-destruction - yet more and more people are afflicted - they are not working at aligning their understanding and their actions.

A popular self-help book sums up this advice in its title: You Can't Afford The Luxury of a Negative Thought. Neither can you afford the luxury of a negative habit. But so many people are living on luxuries they can't afford. The aforementioned self-help book recommends a personal inventory in which you list, assess, and align all of your objectives with coherent goals. This is the kind of voluntary simplicity I practice myself, and would recommend for others.

### Correspondence

Correspondence in the MindMap concerns the coordination between your perceptions and the incoming sense-data from the environment. Some Constructivists have a problem with the concept of "realism" because they assume that we create all of our knowledge. This confuses levels of analysis - there are still things and events out there, regardless of how we conceptualize, organize, and use them, so when in heavy traffic keep a close watch-out for on-coming cars and tailgaters, regardless of how you label them. This same metaphor applies to all experience.

Realism doesn't *necessarily* mean you perceive what's "really out there" - it means that whatever your coping skills, you had better recognize the possibility of impacts with things and events, and guide yourself accordingly, or you will find yourself in life-threatening trouble. To the extent that you do coordinate perception and reality, you recognize the correspondence between cause and effect, reasons and objectives, a better survival strategy than assuming no correspondence.

### Consequences

To act effectively, beliefs (judgments of fact) and values (judgments of worth) must cohere and coordinate across your experience. Otherwise you are operating at cross-purposes with yourself.

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## CONSIDERATIONS IN COORDINATING CONCLUSIONS

### From Attention to Intention

Coordinating anything requires keeping a number of variables and influences in mind rather than just focusing on one issue or one point in time. In the modern era there has been a debate about the extent to which this is possible. The classical model of rationality assumed a “fully informed” decision maker, but this is impossible, and therefore not a realistic expectation. Herbert Simon’s concept of “satisficing” involves that we do our best with what we have. The lists in the MindMap can be referred to by keeping a printout near the computer screen, so that cognitive capability is not strained and yet ready reference is still possible. With this proviso in mind, an important form of coordination is that between “attention” and “intention”. In its simplest terms, what this means is using what we know to inform and direct what we decide to do. For instance, I get a number of electronic newsletters on health every week, I read them, and I use what is relevant to help manage my own health – similarly I use everything that comes my way that I assess can add to my quality of life. This is a primary form of coordination that everyone should engage in – why wouldn’t you?

### Between Correspondence and Coherence

Empiricism is the epistemological premise that “the facts” or evidence should determine your ideas or theories. However, we know more than “just the facts.” Even in science, gravity, entropy, and evolution are ideas rather than facts. So, the smart scientist uses those ideas to organize the search for more facts – meaning that the coordination is going from ideas and theories to facts (rationalism) rather than from the evidence to concepts. What in fact this coordination process becomes is a balancing act, involving trade-offs at every turn. New ideas prompt a search for new facts, and new facts prompt the synthesis of new ideas. In this process too, the maxim of satisficing is important. Knowledge is like a “rolling front” in a weather system – it keeps moving, so there is no stationary point from which to evaluate progress in any absolute sense.

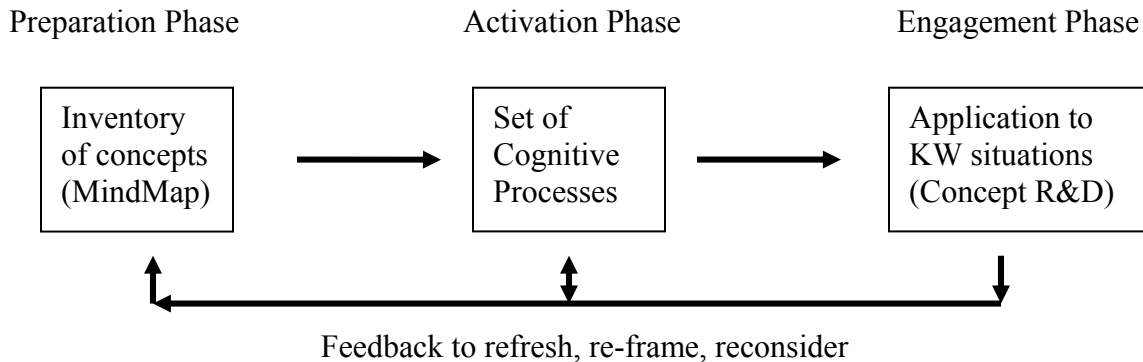
### Conclusions and Actions

One of the great pro-occupations of moral philosophers throughout history has been “how should we act.” We are reminded again and again that “life must go on” and “decisions must be taken” and “tasks must be done.” When this comes to house-keeping, for individuals, or groups, or institutions, it is certainly true – food, shelter, transportation, etc. are valid and legitimate pre-occupations. But with the bigger issues and bigger projects, whether individual or collective, “getting things done” is all too often an excuse for, and justification of frenetic activity – as if “motion” itself was the measure of accomplishment.

If we study cases of both innovationary and revolutionary “rush” we see an important Project Management lesson being ignored again and again – the lesson being that “where time is not taken at the beginning to do things properly, it takes even more time later to correct the many mistakes that accumulate.” What WE can learn from the refusal to adopt this Project Management lesson, is that the so-called “improvement imperative” that is being claimed is often very questionable, *in the form and at the speed being recommended*. There are always winners and losers, and trade-offs between costs and benefits. **If the stakes are high and time allows, we should think *before acting!***

## Putting it all together to work for you!

Don't be intimidated or put off by the requirements for the mindset of knowledge work (KW). A lot of the elements are already in your mind, although some of the concepts, or terminology, or constructs may be new. This is a competency-based paradigm for the knowledge work mindset, and the important thing about it is the combination of concepts and their configuration.



### Preparation

Without the use of the concepts in the MindMap a person doesn't have sufficient tools to enable them to adequately comprehend knowledge work. Familiarizing yourself with these concepts, and keeping the MindMap present for ready reference, is the PREPARATION requirement for the mindset on which competent knowledge work is based. This is the "content checklist" depicted on page ten and elaborated in subsequent pages.

### Activation

Going through the set of cognitive processes is the ACTIVATION phase of the knowledge work mindset. These topical and integral processes are part of the knowledge work mindset that must be considered to provide a comprehensive outcome. This is the "cognitive task analysis checklist" shown on page six.

### Engagement

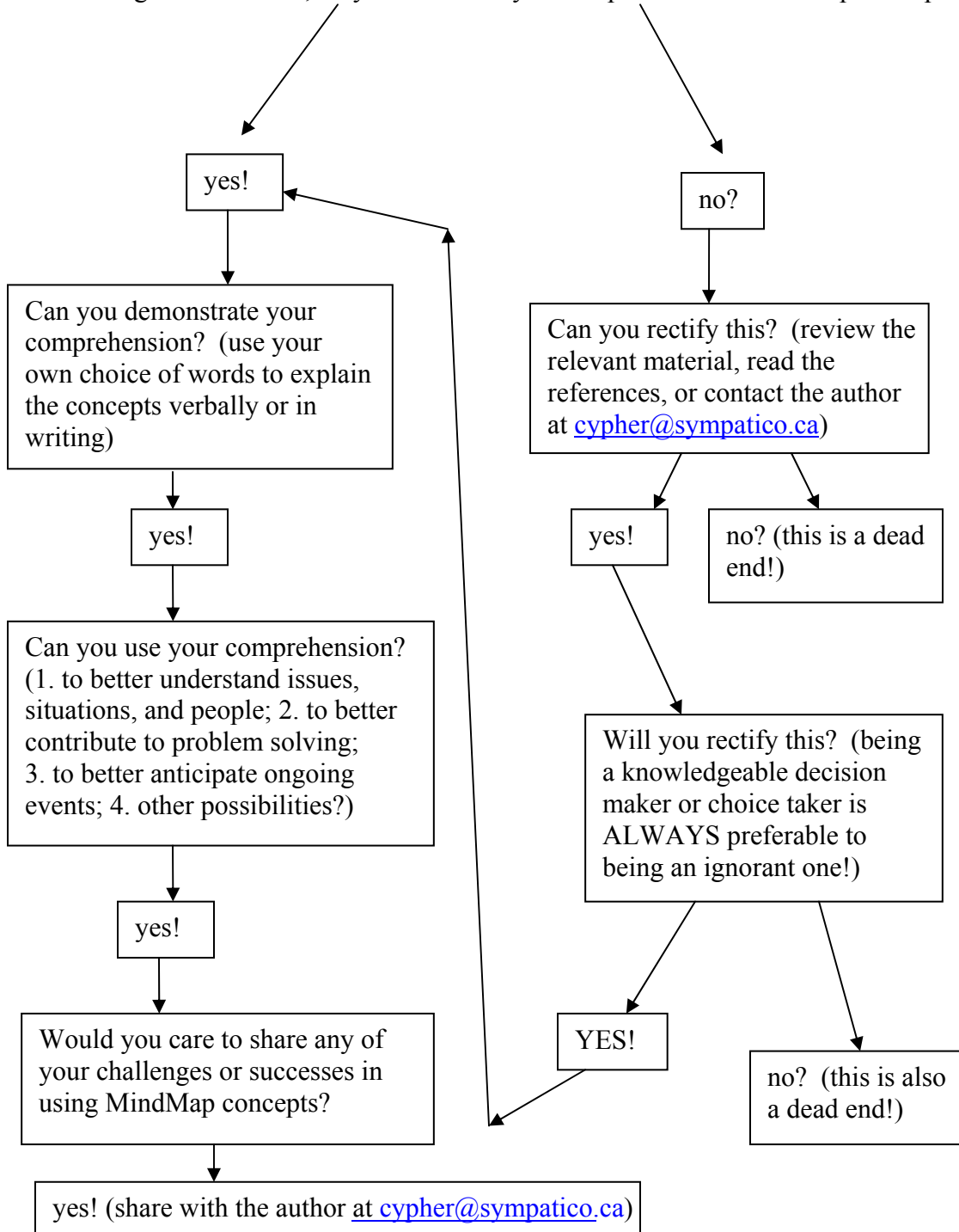
Applying the concepts to information and situations, through the use of the set of cognitive processes, by way of Concept R&D, is the ENGAGEMENT phase of the knowledge work mindset. This is the "methodology checklist" outlined on pages seven and eight.

### Feedback

Feedback occurs within the knowledge work mindset to facilitate (i) refreshing of memory; (ii) re-framing of approaches; and (iii) reconsidering of objectives, any or all of which may be necessary or advisable as results accumulate. Whenever you "don't get it" that indicates a demonstrable need for conceptual thinking, but if you persist learning will occur.

## Evaluate Your MindMap Learning Now

After having read the book, do you think that you comprehend the MindMap concepts?



## COMPREHENSION CHECKS

The rationale for using the MindMap concepts individually is that they each provide a succinct tool for thinking (for separating relevant from irrelevant information). The rationale for using the sets of concepts in the Divergent Strategies list, is that they frame your definition of relevance so that it includes all of the considerations that are pertinent to a particular category of experience. As Albert Einstein said, it is necessary to make things simple enough to provide a good explanation, but not any simpler than that. The rationale for using the sets of concepts in the Convergent Strategies list, is that they help to narrow decisions and choices down to a manageable number, so as to avoid information and/or cognitive overload.

There are a variety of aspects to comprehension – to comprehend will involve understanding one or more of these aspects: (1) Main Idea, (2) Cause & Effect, (3) Problem and Solution, (4) Comparing & Contrasting, and (5) Making Judgments. What follows are some suggestions readers can use to demonstrate to themselves and others their comprehension of the concepts in The Human Knowledge MindMap.

### Main Idea

Can you identify the main idea for each concept? What information is presented to illustrate this idea? What do you think this idea implies about the people, situations and events you encounter? Can you present the concept in fifty words or less? During an elevator ride?

### Cause & Effect

Are there causes and effects involved in the explanation of the concept? Are there causes and effects involved with the application of the concept to your experience? Spell them out. Could you use the concept to cause an effect you wanted or to prevent one you didn't want?

### Problem & Solution

Does the presentation of the concept identify a problem, or perhaps imply one? Can you identify problems the concept addresses? Are solution presented or inferred? What can you infer? Does this concept uncover problems or solutions that would otherwise remain hidden? Give examples.

### Comparing & Contrasting

What comparisons (similarities) are presented regarding the concepts? What contrasts (differences) are presented? What do comparisons and contrasts achieve? Do you see any advantages, or disadvantages to comparing or contrasting? What are the trade-offs?

### Making Judgments

Is the concept interesting? Are the explanations and examples adequate? Can you think of other explanations or examples to illustrate the concept? How can you use the concept? When and where is the concept worth using, and why? Talk about all of this, or write about it, or both.

## RECTIFICATION REQUISITES

In many cases the claim “I don’t understand” could more properly be expressed as “I disagree.” When people encounter a “disagreeable” idea they often find it hard to accept that they are actually perceiving it correctly – “there must be some mistake here” may be the first thing that comes to mind. It is not necessary to believe in the authenticity or truth of a concept in order to use it – you can temporarily suspend your disbelief and treat it as a cognitive tool.

Actual lack of comprehension can be rectified through the use of a variety of heuristics (search techniques): (i) Asking Questions, (ii) Assessing Arguments, (iii) Considering Context, (iv) Drawing Conclusions, and (v) Integrating With Prior Knowledge. The purpose of these heuristics is to enable a search through your own conceptual space that will identify the cause of the impediment to understanding.

### Asking Questions

What is the gist or main point of the concept? Have you referred to a dictionary, thesaurus, or other reference? Compare and contrast synonyms and antonyms, and consider the extent of overlap and divergence. If something remains unclear, is it the concept’s definition or its use?

### Assessing Arguments

If you have a problem with the argument presented for a concept, is it that you don’t understand it, or is it that you disagree with it. If you don’t understand it, deconstruct the argument into the steps involved. If you disagree with it, consider whether there is any way or circumstances in which you could tentatively agree to use the argument just to make a point.

### Considering Context

What is the larger environment, or larger issues in which the MindMap is situated? What might be the author’s purpose in creating the MindMap and explaining the concepts? What would be the reader’s purpose in understanding and using the MindMap?

### Drawing Conclusions

What can you conclude from the explanations in the MindMap? Can the MindMap concepts be useful in drawing conclusions about other people, situations, and events? Will the MindMap concepts influence any of the previous conclusions you have drawn? How?

### Integrating With Prior Knowledge

What do you already know that is similar or complementary to the concepts in the MindMap? Does any part of the explanation of a concept strike a familiar chord? Can you extend your prior knowledge to encompass MindMap concepts, or use MindMap concepts to extend or revise your prior knowledge?

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## **The Aim of Education**

**“The aim of education should be to teach us rather how to think than what to think – rather to improve our minds, so as to enable us to think for ourselves, than to load the memory with thoughts of other men.”**

**- James Beattie (1735-1803)**

### **A Skill-Testing Question**

**What kind of book is this?**

- A manual on how to do Knowledge Work**
- An index to the whole of Human Knowledge**
- The book Wittgenstein might have written if he had lived in the Knowledge Society**
- All of the above**

**ISBN: 978-0-9810814-0-3**