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Abstract

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Keywords

Motivation al Profiling, Motivation, Motivational Frames, Psycholinguistics, Language Architecture, Behavioral Prediction, Qualitative Research, Content Analysis, Behavioral Engineering, Systems Analysis, Qualitative Strategies, Quantitative Strategies, Inferential Statistics, Mechanism of Action, and Behavior Change

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How Linguistic Frames Affect Motivational Profiles and the Roles of Quantitative versus Qualitative Research Strategies

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The combined tools of psycholinguistics and systems analysis have produced advances in motivational profiling resulting in numerous applications to behavioral engineering. Knowing the way people frame their motive offers leverage in causing behavior change ranging from persuasive marketing campaigns, forensic profiling, individual psychotherapy, and executive performance. Professionals study motivation in applied or theoretical settings, often with strong implicit biases toward either quantitative or qualitative strategies. Many experts habitually frame behavioral research issues with ill-fitting quantitative and qualitative strategies. The third strategic choice offered here is state-of-the-art, psycholinguistic communications modeling. The role of these research strategies is explored. *Key Words: Motivational Profiling, Motivation, Motivational Frames, Psycholinguistics, Language Architecture, Behavioral Prediction, Qualitative Research, Content Analysis, Behavioral Engineering, Systems Analysis, Qualitative Strategies, Quantitative Strategies, Inferential Statistics, Mechanism of Action, and Behavior Change*

Introduction

In the behavioral community "motivation" is central. Motivation, as a systematic phenomenon, operates in a complex manner dominated by linguistic mechanisms. The complex operational characteristics of motives are initiated and bounded by the ways in which a motive is framed in any given situation. The way any given motive is framed by the individual predetermines the way the motive will operate and conclude because the frames of a motive constrain its many parts to operate within its self-defined parameters.

That is, by analogy, if one frames a game as baseball, the features of football are excluded from that baseball game frame. In that vein, in day-to-day motivation, individual motives are structured in their operation by the way the individual's experience frames the motive at hand. Once an interested party knows an individual's dominant frames in a situation, the party knows the game frames of that individual's motive thus allowing prediction and modification.

While this "framing" characteristic applies to motives in general, it is also applies to those professional researchers and practitioners who study motives. Two different frameworks define how professionals frame their study of motives. Quantitative-statistical analysis of motivation dominates research design in psychology and has done so for a century.

Qualitative motivational analysis through much of the 20th century employed relatively crude methodology and was perceived as "soft" science. In the last generation, however, qualitative methods evolved linguistic technology for profiling motivation that makes obsolete many statistically based assessment strategies. If one wishes to understand motivation and its applications in engineering terms, one must know its causes and mechanisms of operation. Language is a qualitative phenomenon (Bandler & Grinder, 1975). Yet a strong tradition exists in psychometrics to add "Likert" scales to qualitative test "items" in a vain attempt to quantify behavior that is more effectively assessed with qualitative methods. Test items and their sampling strategies are designed to represent typical behavior in a given domain. The traditional conceptual domains are areas such as motivation, personality, and attitude (Shackleton & Fletcher, 1984).

The downside of this conventional numbering strategy is that it ineffectively fragments behavior and separates behavior completely from the context (or the frames) in which the behavior operates. Barrett (2003) emphasizes the shortcomings of unwarranted quantification by echoing the sentiment of Michell (2000): "psychometrics is a pathology of science" (p. 1). Barrett continues his observations with a rather strategic summary of the shifting role of psychometrics.

Where many of the 20th century developments in psychometrics were mainly concerned with finding novel ways to manipulate and work with numbers and test scores, it is expected that psychologists in the 21st century will begin to recognize that the "quantitative imperative" (Michell, 1990) is not necessary in the scientific study of psychology (p. 2).

The use of quantification (psychometrics) as a strategy obscures the causes that constitute the parts of a motive and the effects of those various parts. The subsequent statistical maneuvers that follow traditional numbering schemes represent a setback to the intent to understand behavior in cause-effect terms. Instead, by using the natural qualitative behavior expressed in terms of language, practitioners are given a mechanism of action. The mechanisms of language have evolved psycholinguistics into a major technology that uses systems analysis tools to profile motivation and its effects (Yeager, 2002a). Psychological behavior always operates in a psychological and environmental context. Quantitative strategies do not measure psychological motives—rather, they resemble sociological phenomena. Sociological phenomena are, by definition, at least once removed from psychological phenomena. Qualitative technology has become the superior technology for the study of many motivational matters in terms of individual psychology.

These authors' operate in the roles of behavioral scientists as well as executive consultants in the boardrooms of Fortune 500 companies. The authors have one foot firmly planted in the camp of quantitative inferential statistical research *and* the other foot in the camp of qualitative-linguistic motivational research. Both strategic models play necessary roles needed to cover the entire range of issues that confront practitioners and researchers.

In that context, the authors discuss an update in the strategic role that each methodology should play in the tool kit of psychology. The touchstone for the discussion is the importance of how people individually frame their motives. Framing motives also applies to how professionals frame their motives in pursuit of knowledge about motivation.

Strategies

Quantitative tools for profiling motives characterize a great deal of the work cited in many refereed journals in the behavioral profession. Qualitative tools, especially, the more advanced tools, serve a smaller audience, in part because of their relatively recent appearance on the scene only three decades ago versus a century of quantitative dominance (Yeager, 2003).

These two types of strategic tools permeate the professional contexts of practitioners and researchers. Those professional contexts frame, customarily, how experts select their tools for studying motivation. The choices made by practitioners and researchers often rely on an implicit scorecard of strategic "frames" that bias experts to favor one or the other. This paper aims to make some of those differences between the two strategies explicit in order that both camps can make choices more effectively.

This paper contrasts customary quantitative strategies to state-of-the-art qualitative strategies supplied by applied psycholinguistics. The goal examines the respective roles and defining features of quantitative versus qualitative frames used in motivational profiling, ranging from individuals to large populations. The essential differences between these two frames of reference are shown in Table 1.

Table 1

Quantitative versus Qualitative Systems Analysis Strategies

Quantitative Statistical Analysis Strategy Frame	**Qualitative Systems Analysis Strategy Frame**
Statistical model – significance testing of chance	Experimental model – tests of behavior change
Correlation – inferential concepts of relationships	Mechanism of action – observational tests of change
Divergent data – raising more questions	Convergent data – bringing closure for decisions
Theoretical modeling of concepts	Applied modeling of decision making
Component analysis – conceptual context	Whole and component analysis – action context
Interpretations - raising more questions	Cause and effect experiments - for interventions

We will explore these frames and related issues in this discussion.

Quantitative Dominance

Quantitative strategies have driven psychology since the early 1900's. The results at times have caused a misdirected bias in favor of inferential statistical strategies. Inferential strategy has its own limitations in that it does not seek a cause. As a result, inferential strategies tend to reinvent psychological wheels that have already been discovered and applied in the qualitative community. For instance, Kramer (2004), as described below, attempts to prescribe ineffective statistical behavior change when

effective qualitative strategies for behavior change have existed for at least a generation, since Bandler and Grinder (1975) documented language mechanisms. The relative lack of communication between the two camps makes for much inefficiency and ineffectiveness. Yet, there seems also to be a gradually dawning awareness that the relevance and influence of inferential statistics does have limitations. One size does not fit all when investigating motivational phenomena.

Practitioners of statistical strategies have begun challenging the value of quantitative assumptions. These challenges directly relate to the fact that a large amount of quantitative research design is misapplied to situations that call for qualitative strategies. Krueger (2001) sums up a great deal of the problem in his abstract to a flagship article in the journal, *The American Psychologist*:

> Null hypothesis significance testing (NHST) is the researcher's workhorse for making inductive inferences. This method has often been challenged, has occasionally been defended, and has persistently been used through most of the history of scientific psychology. This article reviews both the criticisms of NHST and the arguments brought to its defense. … The challenge is to find a solution to the question of replicability. (section 12)

To emphasize Krueger's (2001) point "the researcher's workhorse" fairly characterizes the over-reliance on inferential strategies to the detriment of substantial, alternative research outcomes. Awareness, such as Krueger demonstrates, suggests the possibility that more appropriate "typecasting" of the strategic quantitative and qualitative roles might be on the horizon.

Qualitative Frames Set the Stage

The Way It Is with Frames

The initial conception of motivational research strategies sets the stage for all subsequent consequences in research and profiling motivational issues. Metaphorically akin to chaos theory, motivational frames are the equivalent of the butterfly that flaps its wings in Tokyo and causes a hurricane in Florida. This fact applies at a personal scale or that of a large corporation's employees or on a national population scale.

Clearly statistical strategies dominate theoretical academic research. For example, in business, quantitative strategies dominate demographic work, while the ubiquitous "focus group" often dominates qualitative work. Qualitative work has often fallen victim to the label of "soft" behavioral methods.

Qualitative work traditionally has occupied a back seat in behavioral matters because of its tendency to generate undisciplined opinion instead of hard facts. Some practitioners have attempted to set at least modest, minimal standards for this popular milieu (Yeager, 2002b). Usually, a focus group is considered a low-tech tool, but when conducted with psycholinguistic strategies it becomes a high tech tool.

Qualitative matters such as employee performance ratings, attitude surveys, and customer satisfaction ratings often were speciously quantified with the popular Likert scale of 1 to 5, 1 to 7, or 1 to 10. A savvy focus group participant (Doherty, 2003)

sarcastically noted the absurdity of the wanton numbering of qualitative phenomena this way, "We were asked, unsurprisingly, to quantify our approval of the statements on a 1-to-10 scale. Can't call it knowledge without numbers, right?" (p.54)

The tide has begun to change. In recent decades, the qualitative approach to motivation has gained ground with the development of solid psycholinguistic methodologies that manage definitive mechanisms of action in motivational matters. In essence, psycholinguistics has evolved modeling technology that parses everyday conversational or written language (Dilts, 1998). By using embedded linguistic features of real-time behavior, motivation can be analyzed and modified in terms of language characteristics (Yeager, 1983). Qualitative linguistic approaches represent the state of the art in applied motivational research. The issue we explore here is the proper roles that quantitative or qualitative methods should play in issues related to the study of human motivation.

State of the art qualitative, applied, psycholinguistic tools allow powerful analysis and prediction of motivated behavior. A generation has passed as psycholinguistic methods have evolved from theory to engineering. The primary medium of expressing motivation is language, or communication, in its verbal and physical manifestations (Yeager, 2003).

Cognitive-emotive language acts as the mind's delivery system for motivation that, in turn, causes observable behavior. Motivation is a continuous phenomenon in the mind; from the first decision of the day (to turn off the snooze alarm or to get up immediately) to when one decides to end the day with rest. Countless motivated behaviors occur in any given day.

Systems, Rules, and Motives

Motives, decisions, choices, attitudes, and problem solving are synonymous terms in motivational profiling and motivational engineering. Motivational profiling in its most advanced form has been made popular by the media exploitation of the FBI's motivational profilers. That is, any given motive is a system (analogous to a computer or a watch) and contains dozens and dozens of major parts beneath the surface of overt behavior. Strategies now exist to identify and select various parts in order to predict or modify any given motive. In law enforcement the intent is usually to catch bad guys. In marketing the intent is to identify effective persuasive messages. In psychotherapy the intent is to identify parts that inhibit success. Motivation is an orderly phenomenon. Language operates according to rules such as the grammar we all learned in grammar school. Motivation, cast as a psycholinguistic phenomenon, can be understood as a system by using the inherent structures of language to engage motivation and reality. Holland (1992) puts it this way "Problem solving is largely rule-governed behavior. Solutions to problems become rules as do the heuristics by which problems are solved" (p. 667).

Because motivation is woven into language, motivation is structured in terms of the architecture of language. Language clearly is a rule-bounded system. Language driven behavior (i.e., motivation) operates in terms of language rules. Language and motivation obviously operate as interdependent systems, bound by the architecture of language. Linguistic and motivational rules operate interdependently. Motivation, when

parsed according to the relevant rules can be decoded, recoded and manipulated, and predicted and changed. Dilts (1998) has defined many characteristics of behavioral modeling. He frames the situation this way:

> To effectively model complex human patterns, we must keep in mind that not only are there important characteristics in someone's environment and physical behavior, but also in the mental maps that one makes to guide his or her behavior in that environment. These mental maps form the basis for the cognitive strategies by which we select particular behaviors to engage in. (pp. 71-72)

When profiling motives in terms of their linguistic complexity, it helps to know that a motive begins when a context elicits a response from an individual. A motivational profile, similar to the type made famous by the FBI, parses the numerous language characteristics that express the mechanism of any given motive (Yeager, 2003). The insight gained defines, specifically, how the motive operates and might be changed for a particular purpose. How the individual frames (i.e., maps) the situation that triggers the motive defines how the remainder of the motive's components will operate and conclude. The motivational frames that encompass the motive are the first components to engage within the parameters of the situation. In both research and applied settings, the organized study of motivation is crucial to decisions made in either type of setting. The respective roles of quantitative and qualitative tools predefine the kind of results obtained in any study of behavior. The research frame predetermines the outcome of the research game.

Motivation and Language

In the behavioral professions, we accept that any behavior requires motive, opportunity, and means as ingredients in order to function (Turvey, 1999). Setting aside opportunity and means in this discussion, our focus here considers effective qualitative methods for getting a grip on motivation and its successful modification. To state the obvious, motive is what people want. As far back as ancient Greece the principle has been accepted that motive precedes behavior. Decoding, remodeling, and recoding language directly causes behavior to change. Thus, one changes the language within the motive to change the behavior.

While motivation has many complex components, as we shall see, one major aspect of understanding motives is by decoding motivational frames. Qualitative tool kits of "systems analysis" and "content analysis" methods routinely separate the psycholinguistic properties of spoken or written language. Techniques for this approach to behavior change, especially motivation, have rapidly developed over the last generation (Dilts, 1998; Yeager, 1983).

The usual unit of behavioral analysis is the *sentence* though physiology is an obvious part of the motivation's operational and delivery system. As we all learned in grade school "a sentence is a group of words expressing a complete thought." Taken quite literally, applied linguistics has used that essential idea to develop a technology that allows precision prediction and modification of behavior in a wide range of situations (Campbell, 1997). Language architecture, its components and resulting interrelationships

provide the rationale behind a systems approach. The way "reality" is organized by language is accessible by coding systems that form system boundaries and operational characteristics. As Campbell (1997) notes

> Something is codable if it falls within the scope of readily available terms used in whatever particular language…. So the more highly codable a concept is, the easier it is to retrieve from the unconscious.

With precision and reliability, systems analysis of linguistics currently provides behaviorists the "who, what, when, where, why, and how" of coding motivational mechanisms, including unconscious components. The combination of systems analysis and psycholinguistics allows dividing language into complex components resembling a close cousin to grammar. The primary value of this capability is the sophisticated ability to assess, model, predict, and change behavior in virtually any context.

Motivation and Systems Analysis

In a literal sense a motive is a system, in part, because of its dependence on language, which is a much larger system than any given motive. Any system's mechanisms can be revealed with the tools of systems analysis offered by Ashby (1952) and Churchman (1968). The evolution of those tools continues in Heyligen, Joslyn, and Turchin (1999):

> Systems theory or systems science argues that however complex or diverse the world that we experience, we will always find different types of organization in it, and such organization can be described by concepts and principles which are independent from the specific domain at which we are looking. Hence, if we would uncover those general laws, we would be able to analyse and solve problems in any domain, pertaining to any type of system. The systems approach distinguishes itself from the more traditional analytic approach by emphasizing the interactions and connectedness of the different components of a system. Although the systems approach in principle considers all types of systems, it, in practice, focuses on the more complex, adaptive, self-regulating systems, which we might call "cybernetic." (para. 2)

A motive and its linguistic architecture is a very complex, adaptive system at the level of cognitive-emotional operation. The numerous components of any given motive involve not only the subject individual's goal. Other components of a motive include, for example, its associated emotion and physiology, unconscious components, and at least a dozen deeply embedded major linguistic components (Dilts, 1998; Yeager, 2003).

The inherent systems architecture of language makes motivation accessible to analysis using the very effective technologies of systems analysis combined with psycholinguistic technology. The interests of the inquiring party engage related frames that define that system (i.e., a motive). A psychotherapist may limit immediate considerations to the individual, to a married couple, to a family, or to the culture and

ethnicity of the parties according to purpose. A marketer will frame a competitive analysis within the context of its competitors and delete other industries from the frame of the analysis.

System Parameters

For example, a magazine article is, in terms of systems logic, a system. By analogy, any magazine article is bounded by the frame set by its selected topic. A competent English language expert, according to grammatical rules of usage, easily splits the narrative of the article into appropriate components within the boundaries of the article's stated framework. Document analysis occurs frequently with qualitative parsing.

Consider a widely read magazine such as, say, *Business Week*. A motivational analysis, paralleling the grammatical analysis, of any given article reveals a comparable profile. The profile expresses all of the relevant motivational components of the author and the parties described within its system boundaries as set by the frame of the article. In journalistic parlance, the slant of the article is equivalent to a frame.

Any given motive, compared to the scope of a typical magazine article, when subjected to an in-depth linguistically focused systems analysis, will typically have at least several dozen major interacting system components. The primary difference is that grammatical analysis (or diagnosis, if you prefer) is static while motivational analysis is dynamic in that it allows prediction of the behavior in question and offers interventional tools to make specified changes occur.

A linguistic systems analysis of a motive can be applied to solve a variety of problems. By using these tools, motives can be assessed, documented, analyzed, and compared to overt behavior. By using linguistic tools, motives also can be dramatically changed, modestly modified, or redirected toward other than the original goals. Sales executives and advertisers have been changing behavior among consumers for generations, but psycholinguistic advances have transitioned the engineering of motivational mechanisms from folklore to technology.

Because sales professionals had to perform in practical behavioral change terms, they were more effective than therapists of the fifties and sixties. The income of sales professionals depended on getting a customer to change a mind from "NO" to "YES." Sales professionals were paid by the result. Therapists had the luxury of getting paid by the hour. Their frames were quite different: Their behavior was quite different. The incentives for the therapists to change were lacking until managed care emerged on the scene and shocked most of them into real behavior change (Yeager, 2002b). The therapists' motivational frames were forcibly changed. As the saying goes, "if you can't easily train the rat, reshape the maze". Frames represent the maze that must be run to reach the cheese.

Meaning and Manipulation

Many commentators over the generations have noted the central role that language and communication plays in behavior. Those commentators range from Shakespeare to Orwell. Linguistics has developed tools for the applied use of communications among qualitative workers. One of the more succinct ways of expressing

the role of language is provided by writer Philip K. Dick (2004), "The basic tool for the manipulation of reality is the manipulation of words. If you can control the meaning of words, you can control the people who must use the words".

While Dick's (2004) quote may imply manipulation, the idea of manipulation is inherent in a great deal of psychological work. We want our tax accountants to prepare our taxes so we pay only what we owe and nothing more. To do that requires manipulation. We want a surgeon to manipulate surgical tools with great skill to produce a healthy outcome. Linguistic methods are tools. Good or bad use of them is, as always, a matter of ethics of the professional employing those tools.

In practical use, words and emotions occur as a complex motivational package of linguistic behavior. By effectively managing the way we use words, professionals can produce deliberate qualitative changes.

Framing a Motive

All of the above narrative sets the frame for our practical examination of motivational frames. One of the most important aspects of a motivational system occurs in the way in which an individual "frames" a motive. Motivational frames organize the most powerful components of any motive's architectural rules because of the simple fact that they pre-empt any violations of the rules of the frame(s) within the individual's motive. For instance, baseball represents a set of rules or frames. By analogy, if an individual frames their mental "game" (i.e., a motive) in terms of baseball, they will be motivated in terms of home runs and strikeouts. By changing a frame, behavior can be dramatically modified as we have seen, above, in the case of psychotherapists.

Such specific framing precludes the individual "scoring" a communications game in terms of touchdowns or field goals. Those miscast notions from another frame of reference can't operate within the framework of the motive. Motives operate with internal consistency.

The observation by Lawrence Sanders (1981) in his novel *The Third Deadly Sin* describes how a belief works to frame the consistency and operational boundaries of a motive. The protagonist, Detective Delaney, is asked why a female serial killer kills. He replies:

> She has her reasons. Maybe they wouldn't make sense to anybody else, but they make sense to her. It's a completely different kind of logic. Oh yes, crazies have a logic all their own. And it *does* make sense --- if you accept their original premises. For instance, if you really and truly believe that the earth is flat, then it makes sense not to travel too far or you might fall off the edge. The premise is nutty, but the reasoning that follows from it is logical. (p. 326)

If motives do not operate within the boundaries of internal consistency (their frames), the tendency is to label the resulting behavior as abnormal or dysfunctional. Badly framed behavior can also be defined as "out of context" to the local customs. For instance, "wife beating" is a domestic example of a "frame disorder/dysfunction" in psychotherapy, yet in some sub-cultures wife-beating is acceptable. As we know in the

Middle East, killing of innocents is framed quite differently than it is in the West. Killing of innocents is framed as abnormal in the West. The way an individual frames and organizes personal experience, quite literally, frames the motivational game for the individual and, in turn, for the researcher or practitioner to observe and document. If you know the frames, you know the game.

Motives do operate with lightning speed in spite of being quite complex. One entire class of psycholinguistic tools, among many classes of related tools, exists for behavior change. They are known as "reframing" techniques (Bandler & Grinder, 1982). Motives can be altered systematically to suit the purpose at hand, with reframing techniques.

Simultaneous Frames

Many frames operate simultaneously within any given motive. Structurally, frames are nested within one another in a manner similar to the way popular Russian and Japanese dolls are nested one-within-another. Examples of common cultural frames are one's nationality, religion, political affiliations, and gender. Nested within those larger frames are more subjective frames with examples such as: how one frames issues of strong emotions, identity, cooperation, guilt, competitiveness, violence, brand preferences, suspiciousness, interpersonal dominance, lying, risk, loyalty, consequences, odds of a good outcome, self-interests, and so on.

Cultural frames and personal frames operate seamlessly together at the overt surface of behavior. Usually, the more immediate frames obscure the larger, implicit frames. For example, in the context of recent world events, how an individual frames national identity (perhaps covertly) has newfound significance. Nationality, in times of peace, often becomes a background issue. In war, it comes to the foreground. Naturally, motivational components vary in emphasis and effect upon the motive's outcome.

In any case, one can elicit any motivational frame by questioning and observation. A motivational interviewer needs to probe deeper to separate the frames that distinguish the foreground from the background frames. The frames in issue vary according to the priorities of the interviewer's task at hand. Rapport skills to conduct such interviews are taken for granted as a prerequisite among those who conduct in-depth interviews. Numerous resources offer an in-depth presentation of rapport skills (Dilts, 2004).

Frames, Personality, and Attitude

Many of us commonly name some easy-to-see motivational frames as attitudes or personality traits. While that is a valid commonsense observation, it is not a correct understanding of how traits and attitudes actually operate in the context of motivational systems architecture. Within a motivational mechanism, traits or attitudes are often motivational frames in disguise.

For instance, someone with a suspicious "attitude" in actuality has already framed a great deal of experience as untrustworthy. With such a frame dominating one's perceptions, interpersonal encounters will frequently be framed in terms of that suspicion. In other words, many personality traits and attitudes are pre-fabricated, ready-to-use motivational frames that are applied to various situations.

In effect, terms like personality, attitudes, and frames can change hats depending on the role they play in a largely invisible motivational mechanism. The phenomenon is analogous to the way we speak in everyday conversation. That is, only an English teacher is likely to notice if we split an infinitive or use an intransitive verb. If we say that someone is "beautifully devious" or "deviously beautiful" the meaning is much the same, although the nouns and adjectives have changed hats because of the change in syntax.

Motivational frame analysis usually seems obvious only to a trained eye, yet again, in a manner similar to the expertise of an English teacher in recognizing the various components and relationships of grammar. As is true among experts in English, there are various levels of expertise in linguistic motivational parsing. There are those who are intuitively effective at identifying selected components of persuasive verbal content such as advertising copywriters, therapists such as the renowned Milton Erickson, and sales professionals.

Generally, an introductory program offered by any of numerous training institutes at the "practitioner" level of expertise would be an excellent beginning (Dilts, 2004). Topics such as "reframing" become familiar tools for motivational analysis and intervention. Reframing is a class of techniques routinely used in sales, advertising, and psychotherapy. Reframing, in essence, changes the meaning of a given stimulus so that a change in behavior occurs. The behavior in question may involve an individual in therapy, a customer changing a brand preference, or a population as large as a nation being influenced by an advertising campaign.

A simple example of a "reframe" would be to suppose you, the reader, are holding a pen or pencil in your hand. If someone were to convince you that the pencil was dangerously radioactive you would instantly drop that object. The stimulus, the pencil, has stayed the same, but its meaning and, hence, your response has changed. That change is a "reframe," i.e., "same stimulus, different response." Your "frame of reference" regarding the object has changed, not the object.

As another simple example, in fashion shopping, should an ad for a brand of product convince you that your original brand preference was "out of fashion," your choice would be to choose another, more fashionable brand, which meets your criteria. The motive, to buy a fashionable item, would remain the same, but the brand choice has been reframed to a different choice. Reframing is a staple method in advertising and sales and psychotherapy as well as in educational circles (Bandler & Grinder, 1982).

Context and Motivational Strategies

Context affects frames: At home someone may be deferential to an elder in response to a learned frame of respecting one's elders. At work, one may be forceful toward elders who are junior in the local organizational hierarchy because the game is framed as a competition. In essence, people frame their situations uniquely. Once we have an example of the way a person frames different contexts, prediction becomes much more effective.

Motivational frames are the first falling dominoes in a series of dominoes that make up an individual's decision strategies. To make a choice or a decision, an individual has to engage a complex mental process with numerous steps within which the psycholinguistic mechanisms operate. For instance, everything has to happen somewhere

so the perception of context, or situation, generally sets the stage for numerous other steps.

Examples of the steps are: (1) To identify and frame a problem or opportunity, (2) Set a goal, (3) Consider optional ways to reach the goal, (4) Characterize one's role, (5) Consider tradeoffs among the options, (6) Anticipate consequences, (7) Consider risk, and (8) Estimate the worth of pursuing the goal to its payoff. These steps happen in an eye-blink within the mind. Yeager (2003) has illustrated such components in applied settings. The example to follow (Arkes, 2003) illustrates many of these features.

In spite of the lightning speed of the process, behaviorally engineered questions will reveal the motivational process in a manner analogous to analyzing a strip of movie film examined via slow motion, frame-by-frame. Questioning techniques are an entire subject unto themselves. Language is an indirect map, or model, of reality. A direct map is sensory experience such as taste, touching, music, pictures, and so on. Language maps that direct experience to provide mental representations of that experience. Language is the means for delivering that stored experience in the form of individual maps of reality. Since language is a representation, an individual requires training in real time "testing" of the reality of maps one learns. Some of these maps are transmitted culturally by imitation of parents, others are learned personally. The result is a system of beliefs that range in quality from high to low. Those whose training in language usage is of high quality tend to have high rates of success in managing reality. Bandler and Grinder (1975) developed a fundamental set of questions labeled the *Meta Model* (Appendix A). The role of systematic questioning is to improve the rates of success in achieving one's motives. The questions elicit the architecture of a given belief (or reality map, if you like) and test the reliability and validity of that particular map.

An example of a belief is, "I hate all journalists for being such insufferable liars." Such a statement has a great many architectural components that are recognized by Bandler and Grinder's (1975) psycholinguistic *Meta Model* map-test. The test(s) is stated in the form of questions.

- "Do you hate all journalists?" questions the generalization feature of the statement.
- "Is there even one journalist that doesn't lie?" questions the deletion feature of the statement.
- "How do you know that all of them are liars?" questions the distortion feature of the statement.

These are selected questions among many that might be asked. The reasons for the *Meta Model* questions are that all language has inherent architectural limitations. That is, no language is a perfect replica or model of any given reality. Therefore, most any statement will express deletions, distortions, and generalizations compared to hardcopy reality. The *Meta Model* questions are designed to enrich the language used to elicit a more accurate map than might be offered at first. Often, the mere process of asking the questions alters the perception of one's sense of reality and changes one's behavior in a corresponding way (McKay, Davis, & Fanning, 1983).

Reciprocal Interventions: Matching Structure to Structure

The application for this or similar useful motivational characteristics is simply to match the characteristic in communications with the person at hand. If the person's motives are organized in terms of *same* or *difference* or *same with difference*, the wordsmithing used must match their category/or frame in order to: establish and maintain rapport, influence their decision making, or change them from no to yes regarding your product. For example, you would make a product that offers to a consumer a sameness frame in terms of the offer being cast as the *same* kind of product they are used to using. A difference-organized individual would get that same offer cast in terms of the offer being something new and different. The mixed category would be offered as something improved or better than they have now. The effects of such matching strategies have proved to be profoundly effective.

In any given motive, there are literally a dozen or two such unconsciously organized language structures in the operation and execution of the motive at hand. Many of them are elicited with specially phrased questions that produce nicely predictable types of answers. Asking such well defined questions insure that areas known to reveal motivational components are revealed. This is especially productive with frames. Frames dominate the overall systems architecture of any given motive under consideration. Leveraging that dominance offers significant intervention potential. Preferences for brand X or brand Y, or the preference to identify with one peer group versus another, are equally accessible to the intervention potential in frames.

Situational Recognition and Framing One's Role

The most important part of motivational analysis occurs at the initial step where the individual identifies a problem or opportunity. Cognitively speaking, not much happens until we notice we have a situation, for good or ill, on our hands. We all know the famous phrase from the Apollo space program: "Houston, we have a problem." At that point of recognition, the situation is instantly framed according to the individual's experience. For example, while tuning your car radio, one person will notice music yet another person will notice a news broadcast. Frames predispose attention to focus motivation in terms of those frames.

Roles in life also frame motives. When building a house, a carpenter frames his or her role toward the house and his or her involvement in terms of timber and nails. A plumber frames the role toward the same house in terms of pipes and pumps and valves. In a related aspect of frames, experience from forensics shows that essentially all "bad guys" frame their role as "good guys" in spite of their criminal acts. Frames such as "It was not my fault" or "I had no choice" or "I couldn't help myself" or "The devil made me do it" allow rationalizations that frame the behavior that follows. In marketing circles, this assists in profiling similar dominant features of customer behavior.

Frames, typically implicit and unconscious, often occur in perception as paired opposites, antonyms. Some individuals perceive the opposites as either/or while others perceive the opposites as a continuum of degrees from one opposite to the other. Some common motivational frames are

- Competitive versus Cooperative
- Dominant versus Subordinate
- Defense versus Offense
- Emotional versus Logical
- Winning versus Losing
- Good versus Evil
- Male versus Female
- Direct versus Indirect
- Time: Past Tense, Present Tense, Future Tense
- Cause-effect versus Superstition

Routinely, a number of frames such as those listed above will engage and operate simultaneously. Some will come obviously into the foreground as overt conversational terms; others will merge into the background and are found only with probing techniques. In behavior change interventions, often changing one single frame will cause a significant change in behavior.

For instance, consider male versus female gender. In the 1970s, male and female behavior had some fairly distinct, rather mutually exclusive frames, which were not easily modified. Women used hair dryers as a matter of course. Men did not use hair dryers because it was a feminine thing, but vigorous advertising campaigns of the period changed the rules of the game and "reframed" the use of hair dryers by men as an acceptable masculine behavior. This kind of intervention and change is now understood as being deliberately accomplished by the use of "reframing" technology from an applied linguistic toolkit.

Out of Context Statistical Strategies

Statistical Profiling Versus Linguistic Profiling Strategies

Professional literature, largely benchmarked with Chomsky (1968), Bandler and Grinder (1975), McClelland (1961), and Yeager (1969) showed that motivation has linguistic mechanisms of action. Those mechanisms allowed detailed analysis and application to numerous behavior change situations including psychotherapy, forensics, experimental research, marketing, qualitative research, executive decision-making, and behavioral prediction.

Bandler and Grinder (1975) made a watershed break with traditional psychological theorizing. They met with three legendary therapists, Milton Erickson, Virginia Satir, and Fritz Perls. All were acknowledged as extraordinarily effective at producing behavior change but none of them had a satisfactory explanation for their success. Bandler and Grinder recorded these therapists at work. Instead of theorizing, they used systems analysis and linguistic tools to parse the literal language characteristics (verbal and non-verbal). Their breakthrough results were published in 1975 as *The Structure of Magic*.

These qualitative linguistic developments in the 1970s and many others represented a significant advance for the analysis of behavior. Previously, and still

customarily, behavioral analysis has been coded by widely ranging, arbitrary schemes conceived by a host of researchers (Boyatsis, 1998).

One very popular coding scheme is to create a list of behavioral items that tend to be framed as generalities, largely out of context to any given individual. Examples are

- At parties I stay by myself.
- At parties I socialize and have fun.
- At parties I do a little of both.
- At parties, I hide if my boss is present.

To each of the items in the rating scale is added, often, a set of "quantified" choices such as a Likert scale: 1= always true; 2= mostly true; 3= in-between; 4= mostly false; and 5= always false. Those items are scored in some quantitative fashion against a criterion group or concept (e.g., "sociability") then statistically profiled, compared to a population(s), and "interpreted" by comparing one population to another or a single individual to a population.

Often this approach is applied to standardized tests, to behavioral ratings, and criterion checklists. The statistical approach is also used in many other applied settings such as research projects, human performance ratings, consumer surveys, product comparisons, data base mining, and many more situations. The obvious handicap with this approach to behavior is that it has *no* mechanism of action because it is an exercise in statistics. Statistics has *no* mechanism of action.

For instance, a practitioner of behavior change would need to know of significant context changes. In the above example, the statistical profile deletes the context change of the boss entering the scene and the fact that it alters the subject person's behavior. This knowledge is lost because of the method used to profile behavior. In comparison, imagine a scenario where you were to take your rough-running car to a repair shop for a tune-up. Suppose the mechanic told you most of the cars of your car's year and model run very well, on the average. Would you be impressed?

Staying in Context

You would expect the mechanic to find the "cause", in the context of your car, not compare or characterize your car to others in a conceptual and irrelevant way. In the assessment of behavior, as soon as question and answer or stimulus and response are separated for quantitative computations, the causal connections are lost. The implications of any given test score would need to be "interpreted", which is a fancy word for guessing. Hopefully your mechanic would not guess about the cause of your car's problem.

In contrast, with a linguistic approach the practitioner would be required to interview the individual. Again, using the above example, to induce a change one needs to know the important fact that a specific context change (the boss's presence) alters the behavior in question. For the sake of relevance, one must ask, why bother with the "quantified" tool when an interview is more direct, is in context, and provides the causal linkage without interpretation? A competent interview provides the necessary ingredients to diagnose and prescribe and intervene successfully.

Conventional statistical profiling methods routinely take each answer out of context of the question and aggregate the *quantified* results as a set of statistics. As a diagnostic tool, it does not tell the practitioner how to proceed to obtain a change in behavior. There is no directly related prescription for change.

Parenthetically, a parallel difficulty exists for psychiatry and psychotherapy in general with the DSM IV (*Diagnostic Statistical Manual*) in that it is becoming widely recognized that the large numbers of disorders listed within its covers have absolutely no bearing on the interventions that might be offered to successfully treat those "disorders" (Saggese, in press). Any intervention selected is left to chance or the arbitrary judgment of the practitioner. In contrast, with psycholinguistics, regardless of the application at hand, (say, business, social, or personal issues) the practitioner can elicit the relevant information to manage an intervention in a straightforward and predictable manner. Cause and effect, diagnosis and prescription remain intact.

Separating a question from its answer and statistically characterizing an aggregate of disconnected answers, creates an exercise in futility if one wants to understand behavioral cause and effect. If a hapless psychotherapy client wants to hide less from the boss, one must know how that behavior is constructed in order to deconstruct it and remodel it using language mechanisms. To characterize the behavior as a score of, say, "1" on a scale of 1 to 5 is a setback to the purpose at hand. A score of "1," an abstraction, does not tell us how the person thinks and feels in terms of the motive in question, nor does it tell us what the behavior means to the person.

Statistics is, by definition, an indirect approach. In contrast, applied linguistics has a direct cause and effect mechanism of action in the form of language architecture. A mechanism of action is needed if one wants to change behavior as opposed to merely characterizing or fruitlessly labeling behavioral artifacts with statistics. When behavior change is at stake we shall see, in case examples below, how ill suited the popular statistical profiling approach is for motivation, decision-making, and problem solving.

Qualitative Representation of the Mechanisms of Motive

The key issue to grasp is that the behavior change occurs *within* the individual linguistically, not statistically on the average among members of a population. Linguistic behavior varies systematically within the individual while individuals speaking the same language, say, English, will differ from each other systematically within the boundaries of that language architecture.

Communication is possible because people, who do differ within a shared context, can reconcile those differences in motive and meaning by conversational maneuvers that reconcile different points of view. Negotiators, sales professionals, family members, and others do this everyday. Language offers a powerful medium of change when the mechanisms are understood. That means that the motivational profile obtained should represent the mechanisms that operate the individual's motives and not a statistical quotient.

The motivational mechanism of action represented in language architecture operates on a specific and complex cognitive-emotional system, representing how people think and feel. Profiling those mechanisms provides the tools for change. The mechanism of any given motive is at least as complex as the engine in a modern automobile and drives an individual as surely as an engine propels a car.

The most effective tool for qualitative motivational analysis is a special qualitative form of psycholinguistic decoding of spoken or written language. Similar to the grammatical analysis of English, psycholinguistic decoding relies on a complex technology of qualitative features inherent in language architecture (Yeager, 2003).

Richard E. Boyatsis' work, *Transforming Qualitative Information: Thematic Analysis and Code Development* (1998), is an excellent example of a well-written book on how to do qualitative research in traditional qualitative ways. A close reading of his book reveals a serious limitation in that all of the coding schemes are arbitrary. That is, the main missing ingredient is the absence of a fixed point of reference (i.e., a mechanism of action as the basis of code structures). Boyatsis captures the essential meaning of relativistic coding schemes.

"Often what one sees through thematic analysis does not appear to others, even if they are observing the same information, events, or situations. To others, if they agree with the insight, the insight appears almost magical. If they are empowered by the insight, it appears visionary. If they disagree with the insight, it appears delusionary. (p. 1)"

It should be a great relief to qualitative researchers and practitioners to know that language architecture provides a stable and universal means for coding motivational behavior. Language parsing for motivational profiling depends on language characteristics that are similar but parallel to basic grammar. All language expressions contain identifiable characteristics such as those represented by the *Meta Model* (Appendix A). For instance, employing the questioning techniques of the *Meta Model* typically will "reframe" the belief at issue and induce a corresponding behavior change. The language interventions of motivational characteristics such as that represented by the *Meta Model* routinely change behavior in known ways (Dilts, 1998; Yeager, 2003). The resulting motivational profiles provide diagnostic and prescriptive tools for predictable interventions.

For example, everyone who endured grade school grammar knows there are eight parts of speech. Should you want to code for those parts of speech, it would prove to be a stable, universal system. For instance, nouns and verbs are hard to confuse with one another if you know their definitions. Similarly, psycho-linguistically trained behavioral coders know language components such as frames, predicates, modal operators, universal quantifiers, and so on. One can learn these codes from a wide range of literature (Dilts, 2004) and training programs (Sommer & Yeager, 1982).

These universal ingredients of qualitative language structure cannot be confused once a practitioner or researcher is trained. The essential advantage of qualitative language coding of motivational components is that language mechanisms add a much-needed feature to the qualitative researcher's tool kit. That is, motivational assessment and diagnosis enters the realm of cause-and-effect engineering mechanisms rather than mere arbitrary codes. Motives can be parsed reliably and validly: The resulting prediction and modification of behavior becomes routine and precise. Simply put, in terms of the *Meta Model* examples, it is clear that motives, as expressed in language, contain a dozen or so systematic flaws that can be systematically reframed to good effect. The architecture and dynamics of language are the delivery system for motives. When motivational machinery is tuned up it effectively gets us to our goals. More commonly, those language flaws or characteristics appear in dialog as *beliefs*. Those language

characteristics (especially beliefs) affect the quality and adaptive effectiveness of a motive. Those language characteristics, whether well-formed or ill-formed, are clearly identifiable and correctable by *Meta Model* interventions and a host of other related methods. In terms of psychometric definitions of reliability, language is an utterly reliable instrument of measurement and intervention (Yeager & Sommer, 1988).

Validity: Statistical versus Qualitative

A great deal of qualitative behavior change work is conducted via interviews or document analysis. In qualitative terms, an interview is a test and language coding is a way of scoring behavior. Messick (1995) generally represents the well-known quantitative point of view of the *Educational Testing Service*, yet he incorporates the qualitative perspective in his broad-brush definition of validity. Messick, (1995) says, "Validity is not a property of the test or assessment as such, but rather of the meaning of the test scores." (p. 741)

Consistent with this view, validity is not necessarily a function of statistical reliability. Thus Messick recognizes that the direct scoring or coding of language is a valid pursuit if the meaning of the measurement is kept intact. Messick (1995) adds

> Thus, the term score is used generically in its broadest sense to mean any coding or summarization of observed consistencies or performance regularities on a test, questionnaire, observation procedure, or other assessment devices such as work samples, portfolios, and modern realistic problem simulations. (p. 741)

Language technology provides a key difference over customary approaches in terms of the validity of coding structures. In Boyatsis's work (1998) we have seen that qualitative coding is traditionally conventional or arbitrary in common practice. However, language provides inherently valid structures that require only that one recognize the relevant elements of language. One recognizes a noun in a sentence: One recognizes a frame in a sentence. Recognition dispenses with any need to interpret. An automobile mechanic identifies the engine or any other part of the vehicle's system being examined and notes its function for good or ill. Interpretation is not an issue. Applied to motivational components, that represents a significant advance in validity.

The traditional premise in much quantitative work is that statistical validity is dependent on statistical reliability. David McClelland (1972) declared that assumption is misplaced when dealing with behavior change. Behavior change is not a statistical phenomenon within the individual; it is a mechanistic phenomenon within the individual. In a qualitative behavior change setting, high validity is the issue, not high reliability.

McClelland made this telling point over 30 years ago. As McClelland characterized it (1972)

> My results have zero reliability but 100% validity. The difference is that I want to document a change. Statistical reliability assumes things stay the same. If the effort works, the behavior changes. That's unreliable but

> that's a good thing. It all depends on what you assume you are trying to do.

Statistical validity is usually assumed to be a function of statistical reliability. That assumption is wrong: the phenomenon of measuring change is not statistical but cause-effect in nature. Change depends on a mechanism of action. A change in behavior from one point in time to another is a valid qualitative goal, but does not match the statistical assumption of repeated measures requiring repeated results.

A valid result of changed behavior is, statistically, an unreliable phenomenon. That is, you start with one behavior and end with a different behavior. If you are skillful, the changed behavior is the behavior you wanted to produce. But qualitatively speaking, change is the purpose. You want to produce a different behavior. Statistical assumptions about "sameness" remain out of place when one seeks to measure behavior change via a mechanism such as language.

Behavior Change and Linguistics

As noted almost 50 years ago in the apocryphal dictum by linguist, Benjamin Whorf (Campbell, 1997), in its paraphrased form, "the limits of my language are the limits of my world."… Often named, the "Whorfian hypothesis," or the Sapir-Whorf hypothesis, it says (Wales & Sanger, 2005): "The fact of the matter is that the 'real world' is to a large extent unconsciously built upon the language habits of the group" (section 5).

To illustrate, in the African Congo lives a group of people known as the Mbuti. They conceptualize time as a bubble and everyone is in the center of that present-time-tense bubble. Partially, their environment helped shape this feature in their language. If they were cold, they merely wrapped up in a big leaf from some nearby plant. If they were hungry, they lifted a rock and ate whatever they found. Everything in their world happened in the present time tense. Their language maps that reality.

As a practical matter, imagine that you arrive in their village from New York City attempting to sell life insurance to people who literally can't conceive of "tomorrow." So you see the practical implications of how language shapes the reality of our perceptions and vice versa. If a language does not have a word for something, thinking that thought will be quite difficult.

In the Sapir-Whorf hypothesis, Whorf's ideas along these lines are captured by Campbell (1997):

> We dissect nature along lines laid down by our native languages. The categories and types that we isolate from the world of phenomena we do not find there because they stare every observer in the face; on the contrary, the world is presented in a kaleidoscopic flux of impressions which has to be organised by our minds - and this means largely by the linguistic systems in our minds. We cut nature up, organise it into concepts, and ascribe significances as we do, largely because we are parties to an agreement that holds throughout our speech community and is codified in the patterns of our language. The agreement is, of course, an implicit and unstated one, but its terms are absolutely obligatory; we

> cannot talk at all except by subscribing to the organisation and classification of data which the agreement decree. (Campbell, 1997, section 7, para. 3)

One of the premises of applied linguistics is that speakers of the same language do see the world in different ways. Language is our "reality-mapping tool." Sometimes the tool does not represent reality as well as an objective observer from, say, Mars, might prefer.

The *Meta Model* illustrates one way to use questioning processes to provide a closer match (a more objective map) of reality between the initial map of a situation versus an enriched map. Harmonizing the views of people with differing experience is often a crucial agenda item in many situations even if the parties are nominally using the same language. Experienced negotiators and family counselors know that any given word often does not connote the same meaning to everyone in a shared context. Opposing reactions in a shared context to a word such as "fairness" might elicit anger from one individual while calming another.

Any experienced negotiator in business or diplomacy learns to "parse" the vocabulary of the parties to the transaction in order to minimize misunderstandings. As a curious aside, the authors have spoken to countless scientists in a variety of fields over several decades; many were not native speakers of English. Essentially, all of the non-native speakers of English stated that English, a second language, was their preferred language for science because it was better at objectively representing scientific reality than other languages. Nonetheless, qualitative motivational parsing has worked in the languages explored by the authors. Those languages range from Spanish to Greek to Japanese.

In other words, people cannot think, be motivated, and decide without linguistic mechanisms. Linguistic decoding, originally enabled by the "transformational grammar" discoveries of MIT's Noam Chomsky (1968) had opened the door to technological developments, using the architecture of language that today permits efficient and effective, widespread analysis of motivation.

Whorf's (Campbell, 1997) assertions about the importance of language to behavior, at the time, were not considered to be significant in most behavioral circles. Today, the idea is generally taken for granted by many working in applied situations such as therapy, education, research, forensics, marketing, and advertising.

Convergent Versus Divergent Differences

The common use of inferential statistical approaches in theoretical research typically results in "divergent" loose ends, i.e., more questions and conceptual divides – uncertainties, if you will. Those divides are hard to cross because the inferential methodology tends to further fragment reality with each new study or author according to the diversity among individual researchers' approaches and variations in use of inferential techniques.

In contrast, applied qualitative research on motivation is "convergent" in that it uses methods that provide frameworks, closure in decision-making, and targeted outcomes rather than fragmentation. It is also convergent by nature because any motive,

by definition, has a point to it, which brings closure once the motive is achieved or frustrated. Applied qualitative research is routine among marketers, executive coaches, operations managers, attitude surveyors, advertising executives, and so on. Consumers choose products, executives choose staff members and vendors, advertising executives choose ad copy, and individuals choose jobs. One aspect of a motive strategy is often to create multiple options from which to choose the most viable under given contingencies. So motivation is about formulating and making choices. Choices, per se, select one thing and discard other choices. In organizational research, statistical inference will be found to dominate quantitative demographic research but not qualitative motivational research. Those distinct roles are quite appropriate.

The Historic Context of Behavior Change and Linguistics

Andrew Salter (2002) developed the premises of much behavior change technology with his 1949 book entitled *Conditioned Reflex Therapy*. However, he was lacking in techniques to make his well-founded ideas work with any more effectiveness than co-existing techniques of competing psychologists. Essentially, Salter had proposed a well-conceived Pavlovian conditioning model, but used conversational interventions that resembled Freudian and dynamic techniques of the time. Salter did not identify language per se as the crucial mechanism it would prove to be. Contemporaneous linguistics of the era, such as general semantics, remained quite conceptual and lacking in any applied technology for systematic behavior change.

On the other hand Wolpe, arguably, may have been the first expert in behavior change to suggest a relatively crude mechanism of action of any kind via his technique of reciprocal inhibition. That is, in psychotherapy Wolpe (1958) had developed the first systematic desensitization of phobic behavior using the technique of reciprocal inhibition. Wolpe utilized one given state of the nervous system to crowd out another competing state for a successful change of behavior. For instance, it is not likely that one would laugh out loud and, simultaneously, feel outrageously angry, nor is plausible to prefer brand “x” and brand “y” at the same time. His was a notable development, of course, but he, too, overlooked the potential offered by language.

During the 1950s and 1960s the development of qualitative behavioral technology advanced very little if one’s interest was in causing deliberate behavioral change in most any applied field. Behavioral science was accurately and often, dismissively, termed a “soft” science. As we shall see below in the example of Arkes (2003), this remains a problematic perception in current events. Even though Freud’s methods of therapeutic change were in decline in the sixties due to ineffectiveness, very little effective technology for systematic and deliberate behavior change had yet evolved.

From a qualitative perspective, during the 1960s, McClelland (1961) had initiated qualitative linguistic motivational analysis. McClelland’s work with content analysis was largely focused on the description of motivational themes. The focus was, indeed, on the content as described by Boyatsis (1998). The deep structure of language as a mechanism of action was yet to be discovered. McClelland offered little emphasis on prediction or intervention in those motivational themes because the mechanisms of language behavior had yet to be recognized in a practical way.

Neither Skinner (1957) nor Holland and Skinner (1961) moved the ball forward in applied circles as their presuppositions and philosophy deleted the mechanisms of mind in preference to working basically on the "outside" of behavior, mental processes and subjective states were deleted from serious consideration. Skinner did, however, make a notable break with the prevailing quantitative hegemony in how he went about this work. In Skinner's obituary, Skinner's colleague, Holland (1992) notes, "His methods were also different from the orthodoxy in psychology. He studied individuals, not groups of subjects. Group averages, variances, and tests of significance were of no interest because lawful control is seen in individual behavior" (p. 665).

Skinner's search for behavioral variables within the individual are consistent with psycholinguistic technologies as developed over the last generation. Such lawful variables "within" the individual, of course, are the mechanisms of language. Frames are the specific lawful characteristic of immediate concern. In the era of the sixties, the generic folklore of advertising and sales, political propaganda, and religious conversion offered the most developed systematic, though crude, behavioral engineering options. Yeager (1969) coined the term *behavioral engineering* as some of the components of linguistic behavior change began to emerge.

As a result, therapeutic systems of the era are fairly characterized as being fragmented into schools of thought largely based on any given author's theory as well as considerable amounts of trial-and-error. Technology for plumbing the depths of motives and behavior change, if it could have been called technology, lacked a definitive portfolio for producing change. Many concepts were ventured but little behavior changed due to deliberate interventions.

Explanations and theories multiplied like rabbits, but interventions were woefully lacking in actual results. By comparison, a carpenter hired to hang a door could comply with the request. In contrast, motivational interventions of the time did the equivalent of hanging a conceptual door, not a real door. Change experts relied heavily on luck. Not much real behavior actually changed and, conceptually, clientele of any kind, provided with such motivationally "conceptual" doors, would have been quite cold in the winter.

The "customary" quantitative studies were conducted with gusto, but behavior stubbornly continued to be resistant to change because the tools were as ineffective as if someone added up the digits on the dial of a telephone and expected them to mean something. However, quantifying was used as an option in that qualitative desert because it was at least quantified, and we know that psychophysics was the first name for psychometrics. Behavioral scientists have had "physics envy" that lasted most of the 20th century. That envy resulted in a century of preoccupation with quantification.

In applied settings, failure to achieve psychotherapeutic change was typically blamed on client resistance to the intervention effort. Without exaggeration, it is fair to say that an experienced bartender or competent grandmother could have obtained better behavior change results than practitioners of the several dozen theories found among the fractious and argumentative therapeutic community. If one failed to produce behavior change in the role of, say, copywriter for an advertising campaign, one was simply fired from the job.

In those early days, therapists blamed the clients for not wanting to change. One should note the fact that when technology lags, as it did then in the behavior change business, then opinion, theory, and self-appointed authorities dominate the scene.

Tectonic fault lines among professionals developed according to ideology rather than science or technology.

Enter Linguistic Behavior Change

Interestingly, McClelland's (1961) descriptive methods were not focused on behavior change per se though he did touch upon it. McClelland was in the right ballpark to lead others to language-as-mechanism as opposed to mere description. Chomsky (1968) initiated a new way of conceiving the underpinnings of behavior. Chomsky proposed language "deep structure" as the basis of mechanisms for cognitive-emotive action, but it took Bandler and Grinder (1975) to formally connect the dots to the applied, systematic beginnings of behavior change technology.

Their landmark book, *The Structure of Magic* (1975) resulted in the first widely usable coding and decoding tool for behavioral analysis and prediction based on linguistics as a form of qualitative content analysis not based on mere opinion. Their resulting coding system known as the *Meta Model* (see Appendix A) became a real-time tool for analysis of dialog as well as for text analysis. Behavior change technology began to make significant leaps after this auspicious beginning.

Bandler and Grinder (1975) focused their early applications specifically on psychotherapeutic applications of prediction and change via language mechanisms. They avoided the then-popular convention of interpreting their observations. Instead, they literally recorded psychotherapy transcripts and then linguistically parsed the language of major psychotherapists (e.g., Milton Erickson, Fritz Perls, and Virginia Satir) (Dilts, 1998). Their primary conclusion: Since language drives behavior, if you change the language, you change the behavior.

Those therapists, themselves, were unable to articulate their own means of success without the help of Bandler and Grinder (1975). Bandler and Grinder found the underlying linguistically coded mechanisms of those therapists' exceptionally effective and rather routine success in behavior change. They did not interpret what they observed. They simply decoded and recoded language mechanisms. Subsequently, from the late 1970s to the mid-1980s, Bandler, Yeager, Reese, Sommer, and Reese formed a corporation using their last names, respectively, and collaborated on many other applications of the technology for contexts such as business, military, education, and forensics.

Inadvertently, the advent of managed health care in the 1980s forcibly overcame traditional resistance to rapidly effective therapeutic interventions (Yeager, 2002a). Strictly limited numbers of therapy sessions forced psychotherapists to adopt effective methods over traditional talk therapies. Biofeedback got a foothold in this demanding environment, as did linguistic methods. The reason was simple: The methods worked and they worked rapidly. Most schools of less effective technology became rapidly obsolete. Rarely today does one hear any mention at a cocktail party of someone employing a Freudian analyst. More likely, someone will mention employing a personal coach with psycholinguistic expertise.

Contemporary linguistic interventions in applied contexts are fairly characterized as exceptionally rapid. Further inroads made by linguistics produced, for instance, formal research methodologies (Yeager, 1983) and numerous persuasive business applications,

such as in training (Sommer & Yeager, 1982), consulting (Yeager, 1993), sales, (Drozdeck, Yeager, & Sommer, 1991) as well as formal training programs for behaviorists (Dilts, 2004; Sommer & Yeager, 1982). Developments quickly gained professional and corporate adherents involving applications to populations of physicians, executives, psychotherapists, military, education, employee populations and international consumers.

Linguistic Conversational Maneuvers

For instance, to change the motivation of an individual, at first one diagnostically decodes the motive's linguistic structure then one uses that data as a prescription for the changes an interviewer may have in mind. A basic tool for this process is the *Meta Model*. The *Meta Model* is a universal, linguistic "decoding and recoding" tool developed by Bandler and Grinder (1975). The language codes making up the prescriptions are developed as the reciprocals of the psycholinguistic diagnostic codes. Cause leads to effect. Every single day motivation is profiled and/or changed using this kind of cause and effect psycholinguistic method. The applications range from marketing and forensic investigations to executive coaching, psychotherapy and advertising.

Language, in general, substitutes for instinct in humans. Language is an indirect means for mapping reality and storing experience for successful adaptive behavior. The ability of language to represent reality accurately is crucial. Typically, conversational ambiguity between the day-to-day verbal representations of reality versus objective reality per se is a constant issue of concern. Language is semi-precise in its representations of reality unless it is actively managed for clarity. For instance, if someone mentions the word "cup" out loud, the odds are quite remote that casual nearby observers would envision the same cup in their mind's eye as the speaker. One individual sees their favorite ceramic Starbucks cup, another sees a generic Styrofoam cup.

The rough idea of "cup" is conveyed, but precision on the order of an engineering drawing of a cup is missing. It takes a focused effort to obtain a refined understanding (or map, if you like) to fit the needs of any given context. In other words, while language offers streamlined communications, the tradeoff between speed and precision often occurs in terms of low quality representations of the intended idea. Language mapping has three systematic ambiguities. Bandler and Grinder (1975) summarized the three systemic ambiguities as *generalizations*, *distortions* and *deletions*, which are further, separated into a few subcategories for each of the three main limitations (see Appendix A).

The ambiguous features of language must be routinely managed in communications by real-time validation testing by using well-formed questions in active conversation or with written text. Language use, being a map, must pass the tests of real-world validity. Real world validity in language terms is known as "well-formed" language. Bandler and Grinder's (1975) *Meta Model* represents a breakthrough mechanism of real-time language tests designed to remove the ambiguity from verbiage and produce well-formed language maps of reality. Effective communication and desirable outcomes usually result.

Meta Model Examples

Nominalizations

For instance, from numerous types of ambiguity, one type is known in *Meta Model* terms as "nominalizations," i.e., a mere label. In dialog, one might be told, "My grandmother wants to come to town." Grandmother would be the ambiguous term. The reciprocal conversational verbal test might be, "Which *grandmother* specifically, your maternal or paternal grandmother?" and the response, "Oh, I meant my maternal grandmother" provides the specific answer. Now both parties share the same map of the same territory. This *matching* of meaning is a crucial aspect of effective communications. In this case the motive of the original speaker was not at issue. Rather, the accurate verbal *representation* of the speaker's motive was at issue.

Modal operators

Another *Meta Model* example would be linguistic "modal operators of necessity." The vagueness might take the form of "We have to leave for the party by 7:00 PM." Modal operators of necessity imply that one has no other choice except to comply with the modal operator, "have to" dictates of the language as presented by the speaker. Often such a statement represents a belief held by the speaker, which, in effect, deletes alternative possibilities. The receiver can test the statement with several variant phrasings, all designed to test the belief implied in the statement. "What do you mean we 'have to' leave by 7:00PM?" Or, alternatively, "Why, specifically, does it 'have to be' 7:00PM?" Or, "What would happen if we left by 7:30?"

Beliefs are the verbal form of indirect reality testing that substitute for direct experience. When such implicit beliefs are challenged in dialog or in written text, usually other possibilities emerge. This is the essence of linguistic communications technology, i.e., enrichment of one's choices and possibilities for enhanced results in pursuit of one's motives. In this case the "have to" part of the motive was altered from one departure time to another.

Universal quantifier

"My boss always gives me the worst cases to solve." Represents a third type of incomplete representation. "Always" is the key word in this example and is known within the *Meta Model* as a "universal quantifier" that expresses a belief that may be inaccurate. The verbal test could take the form of "No kidding! *Always*, in each and every case?" The reaction of the speaker usually produces a response such as "Well, not literally always, but it seems that way a lot of the time." An elementary exchange such as this one when completely explored will usually result in a change of belief and a subsequent change in overt behavior. In this case, the belief of "always" was modified and perhaps an angry confrontation between boss and subordinate was avoided.

In other contexts, one may hear a juror say "All crooks should be in jail," or a consumer say "No one should buy the products of the XYZ Corporation" or a therapy client say "My spouse hates me." In everyday communications such representations of

subjective mental maps are routine and typically represent "beliefs" that are taken as subjective gospel "truths" – until they are opened to other possibilities by appropriate question-based tests of the presuppositions implied in the statements. When done systematically in terms of the language forms offered, routine changes of mind are the rule (Yeager, 1993).

As a rule, any given sentence or statement will have several *Meta Model* flaws of vague representation. A bit of training in a linguistic program hones one's ability to select the term with the most leverage to obtain a successful intervention. It must also be mentioned that such questioning is not done in a vacuum. These challenging questions work best when they blend naturally into a pleasant conversational demeanor. One of the pleasant results is the absence of argument in that the individuals are not put on the defensive when the questions are asked in the context of rapport.

Skilled application of these kinds of linguistic tools typically produces dramatic leaps in cooperation, persuasion and problem solving in a wide variety of contexts. A singular advantage of psycholinguistic analysis is that it can be done within the real-time constraints of an interview as quickly as an announcer can report the plays in a professional sports broadcast (Yeager, 1993). There is no necessary requirement for a delayed analysis with a trained expert at hand in most cases. In the same way a trained English teacher can identify grammatical components and the parts of speech in real time dialog, so can a trained researcher or practitioner.

Psycholinguistic Prescriptions for Change

As shown in the examples above, the diagnosis and prescription components within a motive are easily revealed. Those components will cause the changes that an interviewer has in mind. Those prescriptive components are the language reciprocals of the diagnostic code embedded in the written or spoken language of the subject. Of course many such language components exist and the more familiar one becomes with these elements, the more refined one's interventions can be. Changes of mind can be induced, for example, in a forensic context, to successfully modify a suspect's attempts at deception or to change a suspect's misplaced sense of loyalty to a co-conspirator. In business applications, motives can be changed about job choices. Brand preferences can be changed and boss-subordinate relationships or marital relationships can be enhanced. The common denominator across these varied contexts is language. Wherever we find people, their motives can be profiled and modified using these language-based interventions.

Overlapping professional literatures offer many avenues for working with motivation. For example, professional specializations exist in decision-making, choice, persuasion, sales, heuristics, advertising, problem solving, and influence. All have rich and overlapping literatures. They all produce techniques of dealing with motivational issues. The *Meta Model* of Bandler and Grinder (1975) represents a powerful tool in this constantly expanding armamentarium of tools. Other such tools can be found in Dilts (2004) and Dilts and Yeager (1992).

The result: current schools of thought about motivation are diverse and very much in flux as new technologies are developed. There are quantitative and qualitative methods, statistical approaches and, more recently, psycholinguistic structural

approaches. When utilizing interviews or documents in various organizational settings, with real-time pressures, qualitative psycholinguistic technology represents the state of the art (Yeager, 2003). Other examples are profiling of customer populations, profiling criminals, motivating better job performance, selecting motivated job candidates conducting an employee performance review, or conducting focus group interviews in a marketing or political polling context. The methods work equally well at the individual, group, or population scale of intervention.

Question Engineering: A Real-Time Test and Illustration

Here is an example of a behaviorally engineered question that we will ask you, the reader, to stop reading and answer, in your mind, before you continue. Think about your career for a moment.

"What is the relationship between the work you are doing this year and the work you were doing a year ago?" Or phrased another way, "What is the connection between the work you are doing this year and the work you were doing a year ago?"

Take a moment and make a note of your answer. To set the stage for this, we all know that in English we have three time tenses (e.g., past, present and future). We know that lawyers cite past precedents as a major aspect of their work. Stand up comics must deal with the present tense reaction of an audience to their jokes. NASA rocket scientists look futuristically for designs for their next generation of space programs.

The question asked above is designed to identify how an individual thinks about the lesser known "change tense" in language. This question is designed to extract a type of information that defines one aspect of a motivational pattern among dozens that are routinely identified in motivational work. Just as one is not normally conscious of the time tense used in ordinary conversation, nor is one aware of the numerous implicit features of one's frames such as "change tense."

There are actually only three basic ways one's answer can be categorized. So here is a sample of how each would be answered to indicate the change tense in which the person is framing their motive about the context of career (or any other context in which any given motive will operate). There are endless ways that the answers could be phrased, but nonetheless, they will fall into one of the three change tenses.

Table 2

Answers to Questions When Parsed via Language Structure

Change Tense	Sample Language Expression
Sameness tense	"I prefer routines like the ones I had last year and this year."
Difference tense	"There is no connection between then and now. I was a student then and I'm on the job now."
Sameness with difference	"Well, I am still using my sales skills, but since I was promoted I use my skills to motivate my sales staff instead of customers."

The sameness response is characterized by phrasing that makes it clear the person perceives their experience as having stayed the same or that they wanted things to stay the same. Please note that another person with the identical experience might perceive it as totally different or somewhat the same with some difference. Many other aspects of motivation routinely frame perceptions in terms of the change tense, every bit as much as they are framed by the time tense.

The difference response characterizes the experience of then and now as quite different. (Again, different people with the identical experience can frame the situation with either one of the other two responses.) In the fashion industry, change is the watchword each and every year. No one wants to re-offer last year's outdated fashions.

The sameness with difference response perceives some of the experience to be the same with other aspects being different. Assuming, again, that individuals will differ from context to context, executives often frame their answer in this same-with-difference manner because many of them will perceive that they are building on skills they have acquired and will maintain while they still add to their skill repertoire in order to move ahead.

The application for this or similarly useful motivational characteristics is simply to match the characteristic in communications with the person at hand. If they are organized in terms of *same* or *difference* or *same with difference*, the wordsmithing used must "match" their category. You would make a product offering to a consumer with a sameness frame in terms of the offer being cast as the "same" kind of product they are used to. A difference-organized individual would get that same offer cast in terms of the offer being something new and different. The mixed category would be offered as something improved or better than they have now. The effects of such matching strategies are profoundly effective.

In any given motive, there are literally a dozen or two such unconsciously organized language structures in the operation and execution of the motive at hand. Many of them are elicited with specially phrased questions that produce nicely predictable types of answers. Asking such well-defined questions insures that areas known to be revealing of motivational components emerge. This is especially true of frames, which are initially explored during an intervention for their dominant role on the overall system's architecture of any single given motive under consideration.

Oyster-like Applied Behavioral Remedies – the Frame of Whole versus Parts

To illustrate, presume that somehow a great deal of uncertainty comes to attention as a problem within a given organization or department. Management, as we have seen above, has readily available options to deal with such a small-scale behavioral issue.

One nearly universal response to any organizational problem is to treat the problem the way an oyster treats an irritating grain of sand. The oyster forms a pearl around the problem; management forms a program around the problem, regardless of scale. It does not matter if the program is a one-time-only phenomenon (choosing an office location) or a recurrent phenomenon (continuous recruiting of new staff or manufacturing a series of rockets for NASA). This "program" solution is a routine management reaction. The program serves as a local context and frames the issues at hand. The programs are of the types described above, such as coaching for individuals

and larger scale interventions such as market research for removing the uncertainty from persuasive advertising campaigns or giant programs such as building a new jet aircraft.

If a single individual is problematic about handling uncertainties, the individual may be replaced by making use of an "outplacement program" or salvaged by use of a temporary coaching service. If a number of individuals present a problem, management may purchase a program in the vein of "interpersonal communications" seminars to teach techniques that resolve the interpersonal uncertainties at hand. Should leadership be the source of the problem, a new supervisor may be coached or a new supervisor appointed. If a failing advertising campaign is the problem, new marketing research might be considered.

In essence, management has little time to devote to substandard motivation or substandard performance. That is largely because individuals and programs are selected for use on the presumption that they will fit the tasks assigned to them. If they do not, then it was a bad selection that must be fixed quickly or the choice must be replaced with a better solution. If the problem cannot be solved within the general parameters of the customary choices, usually the problem is jettisoned as outside the scope of the business's operations.

Executives and owners of companies operate upon a series of interrelated frames that more or less define how the organization will operate. All organizations are scored with the universal "bottom line" measurement. As a rule, all behavior related to the performance of the company's profitable bottom line would fall within these general, qualitative, organizational frames. The following table lists the typical nested frames from the most general, at the top, downward, toward the more specific.

Table 3

Organizational Meta Frames with Generic Examples

Organizational Meta Frames	Example 1	Example 2
Positioning: Organizations must compete	Exploit competitive opportunities in 1 segment	Be # 1 in market share among all competitors
Purpose: The purpose of this competition	Dominate all competitors	Emphasize profits
Policy: The major theme of operations	Emphasize luxury market segments	Emphasize sales volume
Programs/Processes/ Products: How to compete	Build high quality customer services	Outsource manufacturing and advertising
Procedures: The mechanisms of *how*	Programming of high tech equipment	Use web distribution

These qualitative frames focus the overall motivation of the players within the organization's competitive context. When organizations and their performances are compared, as stockbrokers often do, it is fair to consider each organization's behavior as an experiment in the complex application of these frames. As in sports, it is less the rules of the game as set by the game frames and taken as "given," than it is a matter of

coordinated execution of the motivated behavior that drives the game frames of the organization.

Frame Blindness

Qualitative Frames versus Quantitative Frames – A Comparative Example

Considering all of the above-mentioned qualitative characteristics of motivational frames, many in the behavioral community continue largely unaware of the current state of the art in applied linguistics. As a rule, the prevailing conventional wisdom in designing research projects is to create a quantitative framework using inferential statistics. From the applied perspective of, say, a motivational consultant, the following example illustrates some difficulties.

Arkes (2003), a researcher, presents a rather telling example of how one can do the "*quantitative* rain dance" yet fail to produce real rain in the form of a behavior change among the parties. It took considerable fortitude for Arkes to be so forthcoming about his failure, but that is one way we learn from our mistakes.

Let's revisit this lead article in a major journal, *Psychological Science*, to see what we can learn about how Arkes (2003) framed his research in quantitative terms and how he could have produced better results by using a qualitative frame of reference. Arkes (2003), himself, tells us in his abstract about the failure of his quantitative research project.

> In 1994 the Government Accounting Office (GAO) issued a report critical of some features of the proposal review process at the National Science Foundation and the National Institutes of Health. I provide two examples of procedures the agencies could have adopted to address the GAO's criticisms. I also relate the history of the two agencies' reluctance to use the psychological research literature to guide them as their new research procedures were instituted. Finally, I enumerate possible reasons for the agencies' decision not to follow or even test suggestions based on the judgment and decision-making research literature (p. 1).

Arkes' (2003) project was designed to address bias among raters who routinely awarded research grants using rather loose criteria. "The use of unwritten, implicit criteria is unfair to novices or other persons who are not part of the 'in group'" (p. 6).

In fact the product of his work was judged "irrelevant." The executives in question wanted to change, it seems, yet they had a criterion that the change had to make sense. A statistical model could not address that issue. Arkes' (2003) own quantitatively framed map of the situation was actually quite different than the reality of his executive clientele (many of whom were technically oriented people). For instance, it is rare for a consultant to observe a client/executive converse in terms of abstruse quantitative "z-scores" or other statistical vocabulary. Instead, executives tend to communicate in day-to-day language which is easily accessed and managed by qualitative methods. And it seems quite natural to the participants.

From the point of view of Appendix A to this paper, Arkes (2003) approached the task with the implicit belief, a distortion, that his clients "really ought to want" his quantitative solution. That belief framed his approach to the project in quantitative terms. He presumed that by quantifying a host of qualitative facts he would add a kind of

objectivity. There is, it seems, more than one way to solve such a problem. He did not perceive the value of solving the problems in terms of the executive-reality of his clients. Executives in social systems act like politicians within that social pecking order as they constantly communicate their interests, goals and preferences.

No one should doubt that the National Science Board consists of extremely intelligent and dedicated people. However, I suspect that they are not well informed about techniques of evaluation, the literature on judgment and decision making, or of the fundamentals of psychometrics. Neither z-score standardization of panelists' evaluations, cutoff scores, nor disaggregated ratings were adopted by the national Science Board (p. 3).

Qualitative linguistic strategies would have been factually objective in measuring and managing such a process, and it would have been acceptable to his clients. Instead Arkes' (2003) result was rather like a heart transplant that was successful, however, the patient, his project, died.

Rejection Explored

A linguistic intervention (Yeager, 2003) often will strategically frame a research project as a systems analysis of communications behavior. As mentioned above, one item of implicit communications behavior that transmits constantly among the parties is the verbal and non-verbal language that defines the social pecking order. The pecking order operates as an implicit context in most any situation and almost always frames a good deal of the problem at hand.

An obvious feature of social structures; members compete for position even while they cooperate on achieving mutual objectives. Any change that puts a member's payoffs in question will frame their motives toward cooperation with the change or competitive resistance to the change, as they perceive it affecting their positioning for good or ill. Jockeying for position is a constant phenomenon in most work situations. Many people disparagingly refer to this phenomenon as "politics." Arkes (2003) simply ignored the overarching framework of this political context. Reading his paper makes this clear by the absence of any mention of the topic.

In many qualitative interventions involving social systems, the object is to change the behavior of the parties involved. Normally, human motives are as scattered as a handful of marbles dropped on a hardwood floor. That makes managing the motives the prime concern. An intervention must find common ground among the parties to gather and focus the various motives at hand. Interventions in a social context frame nicely in terms of qualitative communications issues among the parties. The framework of seeking agreement and cooperation on goals dominates virtually all organizational matters in competitive settings.

Obtaining agreement requires reconciling those scattered motives with some sort of overarching "communications" process that frames all of the parties' interests so that agreement can be obtained on the goals at hand. Gaining agreement is a social and "political" persuasion process. Persuasion a major aspect of the overall meta frame. That is, the meta frame is the dominant frame as defined by the selected system parameters for the question at hand. Sports become a competitive meta frame within which baseball and football are local competitive frames. Persuasion is predominantly a linguistic

phenomenon of the verbal and non-verbal kind. In Arkes' (2003) case, the competitive frame of the social system was omitted from consideration in favor of a belief that cooperation was the norm.

Arkes (2003) wanted to change the behavior of the raters. The essential problem for Arkes was that he framed his project as an abstract exercise in statistics instead of framing the project in persuasive terms. Like a quantitative evangelist, he was, perhaps, blinded by over reliance on statistical methods. His improbable expectation seems to have been to expect his clientele to appreciate his belief in his methods and to spontaneously embrace his recommendations. They did not. Spontaneous persuasion seldom happens in contentious contexts.

In the aftermath of the rejection of his approach, Arkes (2003) later attributes the rejection of his work due to the "soft" image of psychologists and the controversial facets of the ratings game being played by his clientele. That is, he wonders, "What image of psychologists do hard scientists have?" That lament is immediately followed by another speculation of his, "A second possible cause of our profession's lack of impact is that our data are germane to very controversial social issues" (p. 6). From an applied and qualitative perspective, his point of view is naïve in the extreme. Let's look at the "role related" flaws in his mental map.

Table 4

Role Framing Differences Between Strategic Maps of the Situation

Role	Quantitative map	Qualitative map
Role of the project	To change rating techniques	To change raters' motives
Role of techniques used	To calculate statistics	To gain rapport
Role of the interventionist	To present statistical results	To sell political changes

He clearly misperceived role of the problem as being one of changing rating techniques. Actually, a consultant's role is better framed as an effort in persuading changes in the political behavior of the raters. Arkes (2003) misperceived his role as focused on merely generating a "better" rating ritual for these executives. And, finally, he misperceived the differences in the frames of quantitative statistics versus qualitative methods. The choice would prove to be a crucial issue in producing the motivational changes that were actually at stake.

There is an old saying "give a small child a hammer and everything looks like a nail." In this case, statistics were Arkes' (2003) hammer. He used the conventional quantitative tools to frame the project, but those tools were irrelevant to the frames, which were on the minds of his clientele. In a manner resembling Mr. Spock of Star Trek fame, he got the "right" answer, from his statistical point of view, but it totally missed the human element of the situation. Spock always left out the emotional component.

Any beginning consultant knows that to change behavior, one must deal with the social context's power games and politics. This reality imposes a prerequisite that the

intervention method selected should provide the mechanism by which an intervention changes a group's process by altering the motives of those involved. Communications of the linguistic kind that will alter motives are the logical selection in such a context. One must persuade the parties to change using terms and tools that are relevant to changing their perceptions. One needs a mechanism of action to "cause" such changes, and we know from linguistics that client perceptions and motives are driven by their language and communications mechanisms.

Arkes (2003) innocently chose to impose his scientific statistical rationales upon his clients. Client practicalities often do not respond well to these rationales. There is a strong undercurrent in behavioral circles that presumes quantification strategies such as that chosen by Arkes equals scientific objectivity. However, that rationale is seriously lacking in state of the art applied know-how and has about as much reality as quantifying Shakespeare. Even though Shakespeare is fiction, Shakespeare is much more realistic in a sense than miscast quantitative strategies in applied situations.

Any consultant also knows "the customer is always right." Arkes (2003) didn't find out how to frame his audience's interests in terms of them being customers or clients. He appears to have framed them more in terms of uneducated students. Arkes assumed that a complex and academically designed statistical method was the strategy of choice. Based on the results, it was a very bad idea. His conclusions, stated above, tell us how radically misconceived his ideas turned out to be. Nonetheless, this ill-fitting quantitative approach is very popular in behavioral circles.

More Frames

In other words, Arkes (2003) deleted the reality of local politics, the social system, and the needs of his clients. He did not frame the essence of his work as solving "people problems" because his frame was implicitly to solve for quantitative issues instead of qualitative behavior change and motivational issues. He didn't provide the executives with a solution. From a consulting perspective Arkes' worsened the problem in spite of good intentions and in spite of using the "right" tools. Arkes' solution would actually complicate executive work by offering an irrelevant solution. The clients made the crucial point, "The scientific data aren't relevant" (p. 6). They were right.

Arkes' (2003) rationale framed the task of refining a ratings process as a research project, when he could have done better had he framed it as a qualitative consulting project. He needed to persuade the clientele. Instead, he framed his work as a justification supplied by research literature itself. The executives, for at least one very good reason, rejected the result. To repeat their crucial point, "The scientific data aren't relevant" (p. 6).

It is debatable whether this quantitative approach was actually scientific. It was quantitative and statistical, but scientific? Not necessarily.

In applied behavior change circles, a given behavior must be changed deliberately with tools or technology that will produce the desired behavior change with certainty. Sales professionals routinely change client minds from "NO, I don't want your stuff" to "Yes, I do want your stuff." In applied linguistics this kind of deliberate change happens just as routinely. In both cases there are deliberate means to produce the changes.

Arkes (2003) followed the more or less standard protocol of creating items, then adding Likert scales, then calculating norms and standards for use in a seemingly objective fashion. Such an approach may be producing pseudo-scientific data. Arkes had tables of data that, in his view, ought to have changed behavior. The data did not change the targeted behaviors of the clientele.

Arkes' is a case of superstitious expectations (Yeager, 2003). The entire rationale resembles a case of magical thinking. That would be similar to believing that a proper rain dance would make it rain behavioral changes in the people in the situation. Simply put, he solved the wrong problem because he had the wrong beliefs about the real problem. He used a quantitative strategy instead of a qualitative strategy.

From an applied linguistic and qualitative perspective the irrelevance of his solution was a very good reason for the executives to reject the results. Also Arkes' (2003) frame of mind presumed that he should look for classic generalizability. Generalizability clearly has as its purpose to produce a rule or a finding or a principle that operates "independent" of any context. Qualitative linguistic work presumes that generalizability operates within the individual according to language "game" rules *within* a given operational context.

As noted by Holland (1992) earlier, change occurs within the individual regardless of context. Context sets the stage for behavior to operate systematically within that local context. The context of a problem might be within a therapeutic situation, a marketing situation, a business setting, an educational or military context, or any other setting where motivating people to change is the issue. *Language frames all of the game rules across and within all motivational contexts.* That is a generalization that does generalize.

In general, the permanent and portable motivational context within the individual and across all individuals is language and its qualitative structures. This motivational-linguistic context operates at any conceptual scale. That is, the scale may be the motivational frames and mechanism of one individual's specific motive or it could be the collective motivational frames and mechanisms of a large population of people. As implicitly sought by Arkes, (2003) false generalizability was built into his presumptions about a good quantitative solution. But it becomes a problem when normatively framed, statistically designed studies leave out the key motivational ingredients of a successful intervention.

Instead many interventions should be framed within a communications context as linguistic "ipsative studies" whether the scale of intervention is one individual, a group of people, or a population. Ipsative is a relatively rare word in the literature, so a definition of the term is in order. To illustrate, parents often stand a child against a wall or a doorframe and measure their height with a marker. Months later they may repeat the measure. There are two ways for the parent to express the difference between the two measures. The normative measure says, "This is how tall you are compared to other children your age." The "ipsative" measure says, "This is how much you have changed compared to last time." The ipsative approach is one form of the "N = 1" single case experimental model (Barlow & Herson, 1984). Ipsative measures compare observable changes within the individual (or within a group) to its self, not to norms. To the contrary, Arkes (2003) created a complex rating scale rationale to forcibly overlay the

motives of his clientele. His solution seemed impossibly cumbersome in the minds of his client audience. They were right given their context.

While statistically correct, Arkes' (2003) solution, had it been accepted, would have been the equivalent of a bridge engineer requiring a motorist to solve an engineering equation before driving over the bridge. That kind of cumbersome solution did not solve the problem in spite of the fact that Arkes was puzzled by their lack of response to his fractionated rating system. Arkes (2003) notes, "Finally, some NIH (and NSF) personnel and grantees placed very little weight on the research literature that supported disaggregated evaluations or calibrated ratings" (p. 5).

In qualitative terms, his solution was beside the point. He was trying to change behavior of clients by preaching about statistical rationales. That is like explaining to a teenager at home that statistically they must consent to making their bed and doing their homework.

Qualitative Frames Versus Quantitative Frames – A Second Example

In a newly published book, we can find additional support for the effective selection of tools for understanding motivation. Kramer, the author of *Managing Uncertainty of Organizational Communication* (2004), has followed the protocols of conventional quantitative research and profiled motives in an applied situation in business organizations. As we will see, the results are equivocal at best due to a misapplication of quantitative strategies to a qualitative task.

Let's take the bird's eye view for a moment to consider his perspective. In his introductory rationale Kramer (2004) presents his main research question in well-defined terms. He describes the behavioral issue with an example leading up to the uncertainties of how smoothly the transition to the millennium might have occurred.

According to a Gallup poll, which he cites, about half of the population in America did nothing out of the ordinary to prepare for potential cataclysmic disaster of the transition to the 21st century. Pundits predicted that computer systems would implode, aircraft would fall from the sky, electrical supplies would disappear, and civilization might end. About half stockpiled food or water while a few went to extremes; stockpiling food, weapons, seed stocks, money, and water. Kramer's (2004) central question is: "Why did people respond so differently to the same situation" (p. 2)?

This question frames the rationale of his strategy about the motives behind such behavior. This is a motivational issue, and he frames it as such. When "why" frames a situation involving people, "why" usually is about motive.

The author describes specific types of uncertainties as well as the types of techniques commonly used by individuals to cope with the many uncertain situations one might encounter among peers, colleagues, customers, and bosses within organizational contexts. He characterizes real motivated people in everyday situations who are uncertain about encounters with others using techniques to resolve uncertainty (e.g., direct questioning of others, consulting written materials, observation of others, imitation of others, and so on).

Enter the Quantitative Frame

Then his strategy goes quantitatively astray. For example, his item scales explore items such as, "I'm not sure I'd know what to do," or "People might think less of me if I asked." He anchors these scales with the conventional Likert approach of rating the items on a scale of 1 to 5. Of course, this scaling process is the gateway to quantification, which we find so often in research. This frame dooms the results from the outset.

From the perspective of inferential statistics and a pure research perspective, no faults can be found in this approach. Those colleagues of Kramer (2004) working with similar tools in a theoretical context will find this strategy a well-formed, solid piece of work. Comparatively, sailing close to shore was considered good work in 1491.

However, applied qualitative strategists will find this work frustrating. Implicitly, this quantitative frame "deletes" the possibility of finding or managing a mechanism of action in communications behavior. With the design chosen, no opportunity will occur for a mechanism to be found. In terms of the framework model of *motive*, *opportunity*, and *means*, there is no *means* in a statistical approach to find a mechanism thus deleting the *opportunity* to find any such phenomenon. There is an implicit assumption in statistical strategies that someday, some far-far-away day, enough inferences will be drawn so that a grand inspiration will occur. That inspiration will lead an inquiring mind to the mechanistic pot of gold at the end of the inferential rainbow.

Quantification as Kramer (2004) has done fragments cohesive behaviors into "item analyzed" parts like Humpty Dumpty's egg. Will he be able to put it together again? No. Practitioners usually need tools that parse behavior and then reassemble it. That is the inherent meaning of behavior change. That change option disappears because of the quantitative design chosen for the project. It is based on statistics. Statistics have no cause-effect connections.

Explaining

Inherently, statistical inference leaves numerous contingencies and loose ends unanswered, thus requiring further research on the theory. The usual methods leave uncertainties about uncertainty. This is a typical problem when framing the inquiry about a motivational strategy with a quantitative strategy as opposed to a better fitting qualitative strategy.

Traditional in much quantitative research, items and scales are put into play and, eventually, statistically analyzed. Generalization of such findings is an often-hopeful outcome. Usually, though, the results of this customary quantitative approach "explain" certain considerations *within the limits of statistical methodology*. Generalizations become trapped within the limits of the methodology. Also, the arbitrariness of any given author's preferences in statistical recipes becomes a factor. Personal opinions about the best choice of statistical recipes mean that the generalized results compare at such an abstract conceptual level as to be metaphysical. So far in Western civilization, metaphysics generally remains unconfused with scientific method.

In effect there is no "explanation" in the sense of cause and effect: One obtains merely a conceptual rationale with no sensory means to observe the elements of behavior in question. Separating stimulus from response in the design forces that outcome upon the

investigator. Such an explanation is a "convention," perhaps, even a fiction. Numerology is also a convention, but few consider it scientific though numerology certainly is fiction.

Fiction in books and movies looks real but isn't. "Faction" is the term sometimes used to define the blend of a bit of fact and a bit of fiction. Faction can't be realistically separated into true versus false any more than the stars can be separated from the sky. Faction does *not* explain behavior in cause-effect terms: It explains the statistical methods used.

Frame Blindness to Methods and Context

The authors routinely see highly educated experts acknowledge the inferential nature of their statistical methods. Routinely the authors see those same experts draw cause-effect conclusions from the inferential data. In fairness, a good label for this flawed logic is "frame blindness." They don't realize their error or the ineffectiveness of their chosen methods for the context they need to address.

From an executive perspective Kramer's (2004) rather conventional statistical strategy will produce no direct value in the kind of applied context he studied. Kramer's book really considers, at great length, subjective states to a detailed degree that could not be supported in a competitive applied context. For instance, employee navel-gazing about one's uncertain states of mind is not well received in competitive organizations. People are required to perform and that performance requirement also includes the use of properly framed research strategies.

Nor do Kramer-like results offer tools to anyone willing to pursue this type of quantitative findings. For instance, the questionnaire methodology utilizing Likert-type questionnaires and statistical analysis is a rather abstract and indirect approach to the phenomenon at hand. At its essence, uncertainty or any other psychological issue is a direct motivational issue in any conceivable corporate context.

A supervisor noticing uncertainty in an employee may simply ask "What's wrong?" to discern the cause and possible solution. Would the supervisor administer a questionnaire? No. If uncertainty, or any other psychological issue, becomes a problematic phenomenon it will require definitive management action – not conceptual discussion. As mentioned elsewhere, management will form a programmatic "oyster" around the problem to solve it.

If one were to try to apply the results of such a quantitative study, one would have to draw very large inferences while hoping the findings of the study will put one in the ballpark when selecting effective responses. Analogously, that would seem like using the results from a statistical analysis of generic "sports behavior" to infer which sport is at issue. The practical outcome might be that a baseball player would be supplied with a hockey stick to use when at bat in baseball. *When you lose the context, you lose control*.

Suppose an errant employee was given a questionnaire on "uncertainty" to complete. The responses, however scored, would not give a performance coach any useful information about how to proceed to treat the problem. The approach tells us nothing of the causes that make any given individual or department or manager uncertain.

Applied situations need to know how people "tick" in behavioral engineering terms. In Kramer's (2004) rather typical statistical strategy, the context is lost. It is routine in internal employee attitude surveys to, at least, keep group and team identities

intact as a context so that something like uncertainty could be spotted and remedied with management action. Similarly, in marketing research the tools used must provide specific, action-oriented information that leads to effective ad copy and ad visuals that result in persuasive ads that beat the competition's efforts. The dots must remain connected.

Should an individual employee's performance be in question, for, say, lacking the "right stuff" in some way, the two choices are always to "build" or to "buy". The question always pivots on whether it is more cost effective to "build" the performance in the employee with a training program or to "buy" a new employee with the right stuff. Researchers in applied settings need to keep these aspects of the organizational context in mind when designing research projects.

Erroneous Quantitative Conclusions

At the conclusion of the book, Kramer (2004) returns to the *framing* question posed at the beginning (i.e., the behavior of people at the turn of the millennium): "In the introductory chapter, I argued that uncertainty reduction theory was unable to 'explain' the different responses that people had to the changing of the millennium" (p. 218) .

He reverses his initial position and concludes that uncertainty reduction theory (i.e., URT) sufficiently "explains" the phenomena of differential behavior. The authors feel the explanation is ineffective because with this change of mind at the end he decides that, "TMU (the management of uncertainty) provides an explanation for these different reactions to the uncertainty. People manage their uncertainty through a combination of cognitive processes and information seeking" (p. 218).

This conclusion is so general a concept as to be useless from an engineering perspective. His "explanation" is not an explanation in meaningful terms. His explanation is merely a conceptual rationale, an opinion based on specious evidence gathered by a misplaced statistical strategy. Instead, one must ask practical questions such as, "What specific combination of cognitive processes and information seeking?"

As usual with conceptual, quantitative research, we are left to guess at the mechanism of action involved and what to do about it. Many quantitative researchers simply proceed with the often-observed "leap of faith." That is, the findings act like a Rorschach ink blot wherein the researcher projects upon the findings an intervention out of thin air and leaps to a misleading conclusion. Here is a perfect example:

From this, they develop a personal perception of the uncertainty in the situation and act accordingly. Kramer (2004) closes his work with, "A theory of managing uncertainty offers an approach for managing these issues" (p. 218).

To the contrary, there is absolutely nothing substantial to work with here in terms of behavioral engineering. As Hayakawa has demonstrated (Yeager, 2003), concepts layered upon concepts quickly separate us from reality and leave us with frustratingly circular, philosophy-like rationales with no real world connections--another instance of "faction."

While this kind of "soft" reasoning may prove harmless in conceptual settings, in applied settings the results of such a rationale can be devastating. Depending upon one's perspective an individual therapy client might remain symptomatic for lack of a qualitative intervention. Or a billion dollar advertising campaign could fail for lack of a

qualitative intervention. The authors have seen these kinds of dysfunctions happen, as well as many others.

Qualitatively, one must ask, "How do they develop a personal perception of the uncertainty in the situation and act accordingly?" We are left with no clues at all with Kramer's approach (2004). In practical terms, a practitioner in an applied setting gains no useful tools or strategies beyond armchair concepts. Kramer (20040 believes otherwise as he notes with this thought: "A theory of managing uncertainty offers an approach for managing these issues" (p. 218) There are no tools that offer any connections to any means of managing the issue in real world terms. In other words, this academic view of the real world is impossibly naïve, but it happens often.

Reinventing the Wheel

The answers to such practical qualitative questions are offered via the tools of applied psycholinguistics. Qualitative tools are devoid of ill-fitting quantitative inferential strategies when motivational engineering is at stake. The mechanisms of action offered by qualitative motivational profiling and decision-making have been solved for almost three decades (Bandler & Grinder, 1975). The task remains to gain broader implementation of these behavioral engineering strategies.

The issue left unsaid is that the Kramer-like explanations are conceptual, resulting in no hard data for an applied practitioner to use to change the uncertainties at hand. This is similar to the current problems with the DSM-4 noted above (Saggese, in press). Such ethereal connections run the risk of continuing the accusation that psychology is a soft science. The engineering is here. Broader based acknowledgment seems yet to come.

Even though Kramer (2004) chose an applied setting and expected to obtain applied results, he did not. Kramer's approach, though common, is not an effective approach. The approach fails to meet the stated goals of his book and the approach fails because the chosen frame does not permit the actual profiling of the motives he wanted to investigate. His conclusions are so general from an applied perspective that they are useless for the actual management of the behavior at issue. There is no "how to use it" information involved in the conclusions. The reader is left to guess: not so with applied linguistics.

In other words, using miscast quantitative methods, Kramer (2004) has solved a non-problem and created another non-problem to solve in the future. In the process, he has missed the fact that this "wheel" of managing uncertainty has already been invented. Qualitative behavioral modeling of communications behavior has been managing uncertainty and other psychological issues in countless contexts for well over a generation (Dilts, 1998).

Open Versus Closed Systems

In effect, Kramer's (2004) ball has not moved forward in terms of his own goals nor has he covered new ground, nor added a new tool to the extensive applied kit that already exists. His methodological frames constrained him to limited results defined by the "closed" system generated by the statistics he used to frame the task. He covers old ground and offers no practical solution to organizational problems. This observation is

also true for the work presented by Arkes (2003). These ineffective outcomes are all too common for behaviorists. To open new ground and make discoveries that advance the concerns of the profession require appropriate choices of methods at the beginning.

It is fair to say inferential approaches of the kinds illustrated here are "circular" and rather customary quantitative rationales. Perhaps the quantitative state of the art qualifies as a case of few experts having noticed the emperor's clothes. In contrast, linguistic strategies by definition are "open" systems. Open systems allow the experimenter to expand the definition of the initial frames of a project to encompass any potential phenomena that might be relevant to the inquiry. Open systems allow the investigator to get on top of their box. That is how discoveries are made: The method adapts to match the phenomenon. The linguistic methods do not act like a Procrustean bed that hacks and cuts reality to fit the method.

Qualitative organizational practitioners, in contrast to the quantitative, seek solutions to problems that would impinge on efficiency or effectiveness in a given context. Those practitioners may be executives, psychologists, marketers, researchers, coaches, and other roles. The serious contribution they make occurs in the form of competitive advantages gained by their clientele.

Research Versus Practice in Communications and Motivation

Wanting is a synonym for motive. And in the arena of motivation, we should explore a perspective that can add to the pool of ideas for our readers. We must return to the meta frame of *motive* and *opportunity* and *means* as an overall framework for modeling human behavior. James (2004a) has set the task for us, "Our ideas must agree with realities, be such realities concrete or abstract" (sect. 7).

From the framework of those three "universal" ingredients, *motive*, *opportunity*, and *means*, surely motive takes logical precedence over uncertainty as the "universal foundational focus" of communications theory.

Motive dominates the applied world of human behavior. *Motive* is the "foundational universal focus." In various settings patients in therapy, consumers in marketing, elected officials, and employees in organizations all must have motive, opportunity and means for behavior to occur. In this light, to assign "uncertainty" the lofty status of the universal foundational ingredient would seem unproductive in comparison to the obvious dominance of motive. James (2004b) offers us yet another insight about the value of context, "To know an object is to lead to it through a context which the world provides" (sect. 8).

Kramer's (2004) misplaced conclusions are to be expected because the miscast use of quantitative methods. Those methods framed the project in such a way that such conceptual tangles and abstract flaws in the results seem virtually inevitable. The whole of the explanation is seen through the lens of the methodologically narrowed perspective.

As a constant in a dynamic organizational setting, one can assume that an efficient and effective organizational outcome is always at stake. Business as a form of organized human behavior performs to competitive standards. Competitors are in a race to win, and the first thing we all learn in a race is that "no one waits for you." Competitors and the profit motive drive the motives of those in charge of decision makers. Motive dominates

in organizational contexts and uncertainty (sometimes perceived as risk) is one of many contributing yet manageable components of organizational decision-making.

The authors have profiled motives in a wide range of settings and there is no doubt that motive sets the framework within which uncertainty occurs. Motive is the Holy Grail, not any particular component of a motive such as uncertainty. Motive is the "foundational universal focus" in the meta context of motive, means, and opportunity.

Considering Choices of Intervention Strategies

Linguistics offers qualitative researchers and practitioners the ability to measure behavior change extremely accurately – within the individual. Behavior change is usually the issue at hand and it can be measured one case at a time or one situation at a time as defined in the *Usability Glossary* authored by Brink (2004):

> single-case experimental design a method for determining the effect of an experimental manipulation with only one test subject (one user, one organization, etc.), basically by applying and removing the intervention over time (p. 219):
>
> 1. Measure the dependent variable initially
> 2. Apply the intervention, and measure again
> 3. Remove the intervention, and measure again.

Let's consider a table that lays out some of the differences between qualitative and quantitative strategies. Their respective frames are significantly different. These frames define the investigator's game.

Table 5

Comparative Intervention Strategies

Qualitative linguistic frames	**Quantitative inferential frames**
Behavior generalizes within context	Behavior generalizes across contexts
Cause-effect mechanism-of-action frame	Correlational frame
Political hierarchical positioning frame	Academic informational frame
Ipsative measurement frame	Normative measurement frame
Solving for simplicity (Occam's razor)	Solving for statistical robustness
Solving for a workable human solution	Solving for inter-rater reliability
Solving for the client's frame of reference	Solving within a statistical vacuum

Solving for mechanism of action	Solving for statistical inferences
Solving the client's problem	Solving for the rules of statistical methods
Observations maintain causal connections*	Likert scales separate Q from A (S from R)
Observations maintain context & motives	Deletes context and sidesteps motives
The sentence is the basic unit of measure	Statistical interpretation of Likert scales
Methodological success solves the problem	Methodological tail wags the dog
Behavior routinely & predictably, changes	Behavior remains unchanged

* (Question and Answer – Stimulus from Response)

Simple Predictions

Arkes' (2003) framework for using an ill-suited quantitative approach was a spectacular, but instructive, failure. Kramer's (2004) outcome offers an equally effective insight. Let's consider what a linguistic consultant could predict by considering these contrasting approaches.

First, an experienced consultant, using a qualitative, motivational linguistic frame of reference could easily predict the total and utter failure of such a quantitative behavioral approach. Most organizations can be fairly characterized as having three main ingredients: finance, technology, and people.

Regardless of how simple or complex an organization may be those financial and technological ingredients are always subordinated to the motives of the people component. People design organizations. People decide how organizations operate. People decide how finance and technology are applied. That means the dominant issue in designing interventions becomes the motives of the people. People make the policies and any intervention program must fit the policies and preferences of the people who are in charge. James (2004a), again, sets the stage, "Moreover, mental facts cannot be properly studied apart from the physical environment of which they take cognizance. [i.e., thoughts, feelings, and knowledge can only be understood within a social-cultural context…]" (sect. 2).

Statistical strategies cannot comply with James's (2004a) criterion. In turn, that means that any applied problem, such as a merit rating system, in Arkes' (2003) case for research grants, must be conceived as a people problem at its roots. In Kramer's (2004) case, we are offered a false solution of generic conceptual results but without any technological substance regarding "how to." A business setting requires "how to" results. Motivational investigations usually work best when conceived as a qualitative, linguistic communications system. Interventions intended to persuade, to change, the behavior of those individuals or groups require motivational profiles of one kind or another.

The single truth in anything involving people is the old Zen wisdom that "everything changes." Tools for measuring and utilizing change must match the task.

Qualitative methods offer tools for change in motivational territory. Quantitative methods do not. One cannot expect a statistical motivational profile to actually profile a motive when it substitutes bunches of data for the motive itself. The effect of the statistical strategy, in motivational terms, resembles sending your prom date a photograph of yourself instead of the real you. The substitution hardly suffices. In contrast, language, or communications if you will, frames the primary medium of diagnosis, prescription, and treatment of any kind while keeping the motive intact.

Strategic Impact

The quantitative intervention presented by Arkes (2003) followed all of the conventions of quantified intervention strategy. But in spite of the quantitative, *scientific* approach, it did not produce an effective result, nor a result that would be useful in an applied situation. The same is true of Kramer (2004). Both cases generated a good deal of data to be sure, but they proved as comparably useful as an astrology reading or numerology chart. As Kranzberg (1990) has observed, "Info, info everywhere, but no one stops to think" (p. 265).

The data looked real to Arkes (2003). The data looked real to Kramer (2004). Other such similarly miscast projects look real unless you look through the lens of a more appropriate strategic perspective. Their findings were more akin to fiction regardless of how properly quantified they were in scientific terms. It was "science fiction" by comparison to the strategic qualitative "precedents" that would have worked. Just because something is quantified, does not make it real. Just look at an annual tax return. There is a lot of creative fiction to be found among the numbers.

The difference in proper roles between the quantitative and qualitative strategies has substantial impact in the real world. In an issue of the *Monitor on Psychology*, we find an article, "*Criminal profiling: The reality behind the myth*." The author, Lea Winerman (2004) reports a difference in the inferentially-oriented psychologists versus the qualitative, mechanism-of-action- oriented FBI agents that says

> Among those in the profiling field, the tension between law enforcement and psychology still exists to some degree. 'The difference is really a matter of the FBI being more oriented towards investigative experience than [academic psychologists] are', says retired FBI agent McCrary. (p. 69)

The authors observe that errant psychologists routinely insist on employing statistical tools that lead them astray. The agents of the FBI use cause-effect qualitative methods in their investigative efforts. Psychologists have the option of using the qualitative tools of linguistics with power and effectiveness. Qualitative strategies would be more in keeping with the needs of their client, the FBI.

The tension reported by Winerman (2004) implies, to the authors, that the psychologists lack rapport skills in not being able to get along with their clients. Or they are imposing inappropriate methods on their clients such as shown in the examples illustrated in this paper? How often do psychologists forget that "the customer is always

right"? In other words, those who study motives need to be clear about their motives and their methods.

Summary

Psycholinguistics and systems analysis have transitioned many topics in the professional literature of motivation from exploratory motivational science to applied motivational engineering technology. A key factor in this transition relates to the growing recognition of the mechanisms of action that language provides for systematic and deliberate change of human behavior to suit the purpose at hand. These developments have received uneven recognition among the behavioral professions for at least a generation. This lag results in some notable ineffectiveness in the choice of quantitative versus qualitative strategies among experts studying motivational issues.

Psycholinguistics generally follows the "N=1" model of research design. An analogous situation to qualitative "N= 1" experiments is offered to us by stand up comedians. A comedian tells a joke, "the stimulus". The audience reacts, the "response". If the audience does not laugh, the comedian must alter the next stimulus. In qualitative work of the motivational kind, verbal techniques are altered in a parallel way to what the comedian must do in order to achieve a desired result. If the audience does or does not laugh, there is immediate feedback about the effectiveness of the intervention. This is exactly parallel to the behavior change work in psycholinguistics.

An expert may test an intervention on the spot in, say, a focus group, a survey interview, or message testing in an ad campaign. If the potential customer responds to a well-designed intervention, the client company can take that money to the bank. That is because the behavioral tools get well-formed and valid information that can be scaled up from a focus group into a national ad campaign. In therapy, education, management supervision, and other applications the effect remains the same. When you have the mechanism of action, inferences are irrelevant, no matter how sophisticated. Inferences are irrelevant when misapplied in spite of the fact that they are conventional wisdom in much of the psychological community.

From an applied perspective, the result of the quantitative/inferential approach to motivation is like a dog chasing its tail, running in ever-smaller circles. Applied situations generally cannot tolerate limitless fractionating of concepts and their endless data collections. Zeno, of Greek myth, shot his arrow at a target but the arrow never reached the target because his arrow closed the first half of the distance, then half of that remaining distance, and half of each remaining distance, endlessly, never connecting with the target. Zeno might well represent the misapplication of inferential statistical strategies to motivational matters.

The literature clearly documents the power of the more direct, qualitative, experimental methods. As researchers and as practitioners, these authors wonder why those using inferential approaches have been slow to realize the power of the qualitative approach. Partly, it would seem, it is an issue of **"**market dominance" or superior branding in that psychometrics has a larger presence in university curricula than does psycholinguistic methodology.

Professionals have a bit of work ahead of them to insure the roles of quantitative and qualitative research are effectively applied. In this comparative look at how strategies

are framed, these authors hope the respective roles of quantitative versus qualitative methods will provide the basis of more effective choices in project design whether theoretical or applied.

When an interested party understands how a person frames experience, a great deal of prediction becomes a straightforward matter of identifying their game frames. Frames define research subject motivational rationales as well as those of the experts studying such phenomena. When a practitioner or researcher frames a strategy, it should fit the task at hand.

Frames, in qualitative motivational work, have a wide array of defining features and operational characteristics such as those discussed above: behavior change, persuasion, open systems, systems analysis, cybernetics, dynamics, and prediction. Knowing the motivational frames at hand allows one to keep score of the cascading consequences of those frames throughout a motivational strategy. When you know the frame, you know the game.

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Appendix: A

Meta Model for Behavior Modification via Applied Linguistics

Communication enhancement occurs when beliefs are questioned to elicit the full representational map of the speaker. Deletions, generalizations and distortions represent closed mini-systems. The questioning response opens the closed system to new information and behavioral options.

Questioning Procedures for Gathering Missing Information

Deletion: Statement with missing, excluded, or deficient information. Ex. I am uncomfortable. Ex. I don't understand.	About what? About whom? You don't understand what? What do you mean? What/who are you talking about?	Recover the missing information and gather fuller description.
Comparative Deletion: Missing standard of evaluation. Ex. She's a better person. Ex. He's the worst presenter.	Better than whom or what? He's the worst amongst whom? Compared to what or who? What do you mean?	Recover the standard of comparison

Ex....statements with words like "best/worst, more/less, least/most".		
Lack of Reference to Person or Thing: Unidentified pronouns. Ex. They don't listen to me. Ex. That doesn't matter.	Who, specifically, doesn't listen? What specifically doesn't matter? What do you mean?	Identify non-specific pronoun.
Vague Verbs: Verbs that delete specifics of How, When, Where. Ex. She rejected me. Ex. He left me.	How did she reject you? Where did he leave you? What do you mean, "left me"?	Recover specific information about the experience.
Labeling: Verbs made into nouns (things or events) thus obscuring the process or action. Ex. I want recognition. Ex. I must improve communications.	How do you want to be recognized? How would you like to communicate? What happens if you add "...ing" to that word? (e.g., recognizing?) What is a verb synonym to that noun? How about changing that noun to a verb?	Re-establish the noun as a verb (as a dynamic, on-going act)

Questioning Procedures for Expanding Limiting Generalizations

Statement with Intrinsic Limitation	Response: Challenging Question	Predicted Result of Response
Generalization: Generalizations that preclude assuming exceptions or alternative choices. Ex. She never listens to me. Ex. No one tells me the truth. Ex...statements with words "all", "always", "never", "every (one)".	Never? What would happen if they did? Is there really only one way? Isn't there at least one exception?	Recover the exceptions, contradictions, counter-examples, alternative choices and consequences
No Choices Allowed: Words that require particular action Ex. I need to do that. Ex. I can't do that. Ex. statements with words "won't", "may not", "must", "should", "have to".	What would happen if you did/didn't? What stops you? What difference would it make? What would that get you?... and *that*? How do you know that? Who says so? Is there a precedent that requires this? Is this written in stone somewhere? Is this required or merely desired?	Recover outcomes or consequences. Recover causes for the generalization

Questioning Procedures for Exploring & Reforming Distortions

Cause-Effect: assuming a specific stimulus causes a specific experience. Ex. He makes me sick. Ex. His voice irritates me. Ex. He made this happen. Ex. They did this to me.	How does he make you sick? How does his voice irritate you? How do you know that for sure? How could you prove it in court?	Recover the imagined process of the causal connection.
Mind Reading: assuming you know what the person thinks, feels, etc. Ex. You don't like me. Ex. He should know that I like him. Ex. He knows what I mean.	How do you know I don't like you? How should he know you like him? How can you be sure or certain of that?	Recover source of information.
Obscure or Obsolete Rules: assuming a value judgment or opinion in which the source or relevance of assertion is missing and no choice is possible Ex. It's bad to be inconsistent. Ex. This is the right way to do it. Ex. This is official.	How do you know it's bad? According to whom? Who says it's the right way? Who says that's the way it's supposed to be? How do you know that?	Recover source of opinion or belief.

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DABLEE: Diplomate American Board of Law Enforcement Experts
DABPS: Diplomate American Board of Psychological Specialists

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