

# The Life of Facts I: Their Nature and Construction

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A recent short work of nonfiction and a play. It involves the conflict between accurate facts and compelling narrative. A gifted senior writer, John D'Agata, has prepared a compelling story that holds to promise of influencing the readers of a major publication. A young, inexperienced college grad, Jim Fingal, is hired to provide some fact-checking of articles prepared by those writing "essays" for this magazine. The newly minted grad is given the initial assignment of fact-checking our esteemed writer. Many factual errors are discovered to the absolute dismay of the writer and the horror of the magazine's editor.

The dilemma is framed. The battlefield has been identified. The warriors are ready to engage in a struggle regarding narrative versus fact. The editor is caught in the middle, seeking peace and resolution. Do we publish the essay as originally written or completely disrupt the compelling, lyrical narrative prepared by this gifted writer by making it more "factual." The book and play are themselves compelling. They tell a wonderful story. Furthermore, this story is based on a real "factual" incident. And the story is being recounted by the two men who actually were the writer and fact-checker.

John D'Agata has this to say about his work and how he perceived the purpose of his writing (D'Agata and Fingal, 2021, pp. 107-108)

. . . [T]he more important thing to highlight here is the *search* for meaning. And an integral part of my search for that meaning is this attempt to reconstruct details in a way that makes them feel significant, even if that significance is one that doesn't naturally occur in the event being described. And I know full well that by saying something like that I will make a lot of people uncomfortable, but this is what I believe the job of the artist is. I am seeking a truth here, but not necessarily accuracy. I think it's very misleading for us to continue pretending that writers [purporting to convey a realistic story] have a mystically different relationship with "The Truth" than any other kind of writer. Because we don't. What we do have . . . , is a compulsion for meanings, and so . . . we arrange things and we alter details and we influence interpretations as we pursue ideas.

Jim Fingal offers a rebuttal (D'Agata and Fingal, 2012, p. 109):

I am . . . saying that there is "The Truth" and then there are localized "truths," and then there are "soft facts," and then there are "hard facts," and I'm not sure why you seem intent on pretending that they're all the same thing, that they're all equally arbitrary, because they're not. . . . People feel like they've been trifled with if they discover they've been misled on that front. I mean, the whole point of all these shit storms over the last ten years that keep popping up every time someone finds out that a memoir was "embellished" isn't that the reading public doesn't understand that writers some- times "use their imaginations\_." It's about people searching for some sort of Truth that connects with how they feel about themselves and their place in the world, finding that Truth in a piece of writing that resonates with them deeply, and then being devastated when they find out that the thing they were inspired by turned out to be deliberately falsified, as in not just reinterpreted and poetically embellished, but explicitly

falsified for seemingly self-aggrandizing purposes. And so they end up feeling alone in the world all over again.

There is an additional reason why this story strikes home and is quite relevant today—in a world where facts are often elusive and struggles regarding facts are often quite common and frequently destructive. At the heart of the matter is a fundamental conflict between two ways in which we can view and engage Facts in our world. This conflict was acknowledged recently by President Biden when he referenced the 2002 struggle between those of the “realty-based community” and those of the “empire.” Heather Cox Richardson (2023) offers the following summary account of this conflict:

That year (2002), a senior advisor to George W. Bush told journalist Ron Suskind that "guys like me were 'in what we call the reality-based community,' which he defined as people who 'believe that solutions emerge from your judicious study of discernible reality.'" Suskind responded by talking about the principles of the Enlightenment—the principles on which the Founders based the Declaration of Independence—that put careful observation of reality at the center of human progress. But Bush's aide wanted no part of that, Suskind recalled: "He cut me off. 'That's not the way the world really works anymore,' he continued. 'We're an empire now, and when we act, we create our own reality.... We're history's actors... and you, all of you, will be left to just study what we do.'"

The two combatants in this conflict are often labeled “objectivists” and “constructivists.” Ron Suskind and those of the Enlightenment would be aligned with the objectivism perspective, while Bush’s aide is clearly aligned with the constructivist perspective. The advocates for both perspectives have much to say about Facts—and help to determine the nature and duration of a Fact’s life. We begin this essay regarding facts by providing a brief description regarding each of these two epistemological (knowledge-oriented) perspectives.

### **Objectivism vs. Constructivism**

While all (or at least most) perspectives on the nature of “facts” are concerned with one very ambitious undertaking—understanding the nature of reality—there are many different turns and pathways that one can take on the way to this understanding. In general, we would propose that there are two interrelated dimensions that help to discriminate among these differing definitions and meanings. One dimension concerns the static or dynamic nature of one’s notion about being. Is “being” a noun or a verb? Are we talking about an object or about a process?

The second dimension concerns the basic assumption that it is or is not possible to ultimately identify the basic nature of being—in other words, to accurately describe and validate a description of reality. Those who believe this description is possible are called “objectivists.” Jim Fingal would seem to embrace this perspective—as least in his job as fact-checker. Those who believe it is not possible are called “constructivists.” As a compelling storyteller and essayist, John D’Agata exemplifies this constructivist perspective.

While Fingal and D’Agata, as well as Ron Suskind and the White House Staffers do a nice job of exemplifying the Fact-oriented dichotomy between objectivism and constructivism, we have already noted that it is actually more

complicated than this. Four different perspectives on the nature of Facts are available when one combines this dichotomy with the dimension of static vs. dynamic (see Table 1).

### Four Perspectives on Facts

	<i>Static Notion</i>	<i>Dynamic Notion</i>
	<b>About Facts</b>	<b>About Facts</b>
<b><i>Objectivist Perspective</i></b> <b>Regarding Facts</b>	<b><i>Technical Rationality:</i></b> <b>Objective and verified</b> <b>description of a</b> <b>stable reality</b>	<b><i>Platonic Ideals:</i></b> <b>Screened and interpreted</b> <b>version of an</b> <b>external stable reality</b>
<b><i>Constructivist Perspective</i></b> <b>Regarding Facts</b>	<b><i>Societal Inventions:</i></b> <b>Biased and resistant</b> <b>descriptions of reality</b>	<b><i>Contextual Interactions:</i></b> <b>Reality created in</b> <b>the interplay between</b> <b>two of more people</b> <b>and/or events</b>

While these four perspectives are inherently of some interest to those who are involved with the field of epistemology (study of knowledge and Fact acquisition), they are also directly relevant to the matter of expertise. Expertise is concerned with how Facts are identified and revealed. Each of these four perspectives defines one’s approach to Facts in a quite different manner. These four perspectives do not simply involve different belief systems. They encompass different notions about the very nature of a belief system, and in this sense are profoundly different from one another.

#### **Static Objectivism: Technical Rationality**

We have proposed that there are two different perspectives regarding the nature of Facts and, more basically, the nature of reality. One of these perspectives, *objectivism*, is based on the assumption that there is a reality out there that we can know and articulate. Our fact-checker (Jim Fingal) is holding this position. As Fingal and other fact-checkers (especially scientists) have noted, there are universal truths or at least universal principles that can be applied to the improvement of the human condition, resolution of human conflicts, restoration of

human rights, or even construction of a global order and community. Donald Schön (1983) suggests that this stable (and static) perspective emerges from and remains closely associated with a tradition that he calls “technical rationality.”

We are also witnessing a parallel emergence of what we may call “bio-centrism”—this is an objectivist perspective defining human beings as an objective and stable reality. From this static and objectivist perspective, we begin with the assumption that our identity and our decisions are “wired in” to our neurological structures and basically pre-set at birth. While we certainly should acknowledge that we are not a “blank slate” at birth (Pinker, 2002) we also must realize that much occurs after birth and the environment impacts in a profound manner even on neurological development prior to birth. Furthermore, neuroscientists (cf. Rose, 2005) are coming to realize that the level of complexity in neurological structures and processes make it very difficult, if not impossible, to equate mind with brain. There is a level of analysis that moves well beyond neural structures and well beyond the “wet-mind” (biological base of mind) to a “dry-mind” that is transcendent and perhaps even spiritual in nature.

The bio-centric, objectivist perspective has served us well for several centuries. It has enabled us to make great advances in medical and cultural science; however, this perspective has also created many problems with which we now live. From a bio-centric objectivist perspective, the human body, included the brain, was (and is) perceived as an advanced machine that can be altered and repaired. This perspective can be retraced to the central principles of modernity: determinism and progress.

While there is a tendency to view the world from this perspective when we are doing our own “fact-checking”, this is a very limited (and limiting) approach to the analysis and use of Facts—especially when our notion of “self” is evolving. “Being” becomes a verb rather than a noun. Attending the potential for maturation and improvement comes the potential for a shift in our sense of reality. Facts are “becoming” somewhat different from what they were in the past and they are likely to “become” somewhat different in the future (or at least will mean something different in the future). Jim Fingal’s fact-checking is likely to look a bit different ten years in the future (actually Jim left this business and became a designer of software—which probably requires some imagination and constructivism).

### **Dynamic Objectivism: The Platonic Ideal**

While many of the critiques of static objectivism are products of late 20<sup>th</sup> century and early 21<sup>st</sup> century thought, there is a much earlier source: Plato offers a dynamic objectivism through his allegory of the cave. Let’s briefly visit this cave. According to Plato, we are all living in a cave and never gain a clear view of reality, but instead view the shadows that are projected on the walls of the cave. We live with an image of reality (shadows on the wall of the cave) rather than with reality itself—which makes our sense of reality quite dynamic and a source of considerable tension. Plato, an idealist, notes that we have no basis for knowing whether we are seeing the shadow or seeing reality, given that we have always lived in the cave. Plato thus speaks to us from many centuries past about the potential fallacy to be found in a static objectivist perspective regarding the world—since we can never know whether we are living in the cave or living in the world of reality outside the cave.

Today, we live with an expanded cast of characters in the cave. First, there is something or someone standing near the opening of the cave. It can be cultural or personal narratives that we are met with on our daily life, narratives

and perspectives that block out some of the light coming into the cave. Not only don't we actually see reality, there actually is something that determines which parts of objective reality get projected onto the wall. This is what makes the Platonic objectivism dynamic. Those holding the partition have grown up in the cave,; however, they may hold a quite different agenda from other cave dwellers. There is yet another character in our contemporary cave. This is the interpreter or reporter or analyst. We actually don't have enough time in our busy lives to look directly at the wall to see the shadows that are projected on the wall from the "real" world. The cave has grown very large and we often can't even see the walls of the cave and the shadows. We wait for the interpreter to tell us what is being projected on the wall and what the implications of these images are for us in our lives.

We are thus removed three steps from reality. We believe that the shadows on Plato's cave are "reality." We don't recognize that someone is standing at the entrance to the cave and selectively determining which aspects of reality get projected onto the wall. Finally, someone else is standing inside the cave offering us a description and analysis. We can hope for a direct experience and hope that an "expert" can help us in this regard. Yet, we remained confused about what is "real" and often don't trust our direct experience. We move, with great reluctance and considerable grieving, to a recognition that reality is being constructed for us and that we need to attend not only to the constructions, but also to the interests and motives of those who stand at the entrance to the cave and those who offer us their interpretations. We must move, in other words, from an objectivist perspective (whether it be static or dynamic) to a constructivist perspective.

Plato's cave and his dynamic objectivism do provide us with the opportunity to gain insights in our reflections on the nature of the cave, the world that is projected onto the walls of the cave, and the nature and agenda of the interpreters. We should also consider whether or not to step outside the cave (direct experience). Can we actually step outside the cave? How does the coach assist us in stepping outside the cave? Is it safer to remain inside the cave then to venture outside without the help of interpreters? Should we (and can we) face the profound challenge of unmediated experiences?

Should (and can) an expert assist us by inviting us to step outside the cave? Do they help us recognize ways in which we still carry the cave shadows and cave interpreters with us when stepping outside the cave? As we step outside the cave, are we likely to confront some objective reality through our experience, or is the experience itself constantly shifting depending on setting, context, interpersonal relationships and the nature of our own past experience? These questions lead us as coaches and leaders down a path to which Julio points in his interview. It is a pathway toward constructivism.

### **Static Constructivism: Societal Invention**

Social constructivism has offered Western thought quite a challenge (Berger and Luckmann, 1966). Advocates believe that we construct our own social realities, based in large part on societal inventions—the traditions and needs of culture and the social-economic context in which we find ourselves. There are no universal truths or principles, nor are there any global models of justice or order that can be applied in all settings, at all times, with all people. While this constructivist perspective is often considered a product of late 20<sup>th</sup> century thought (at least in the Western world) the early versions of social constructivism can be traced back to the anthropology and sociology of the early 20<sup>th</sup> century. Reports from these disciplines documented radically different perspectives operating in many nonwestern societies and cultures regarding the nature of reality and ways in which members of diverse communities view themselves and their interpersonal and group relationships.

This initial version of constructivism is essentially static, for these social constructions are based on deeply rooted beliefs and assumptions of specific societies and cultures. There are specific communities that espouse their own unique ways of knowing. These communities may consist of people who are living together or people who are working together. Organizations create their own culture and their own constructions of reality. Specific ways of knowing are based on and reinforced by the community and do not allow for significant divergence among those living in the community. Furthermore, while these ways of knowing may themselves change over time and in differing situations, such changes are gradual and often not noticed for many years.

We thus find a constructivism that is static and a process of coaching that focuses on surfacing these stable, but often unacknowledged and very powerful, societal assumptions and beliefs. It is the role of the coach to challenge these assumptions and beliefs and to help clients trace out the implications of these societal constructions for their own actions as members and even leaders of these societies and cultures. As anthropologists and sociologists, organizational coaches should understand something about the culture of their society—or of a specific organization. One of us (Bergquist and Brock, 2008) recently wrote about six unique cultures that exist in most contemporary organizations. Each of these cultures has its own stable construction of reality and is resistant to change. Experts (and coaches) themselves dwell in one or more of these six cultures, hence they have their own biased perspectives that are created by and reinforced within these cultures.

### **Dynamic Constructivism: Contextual Interactions**

While the objectivist perspective was prevalent during the modern era, and is still influencing our notions about “facts,” the static constructivist perspective often played a role as counterpoint in 20<sup>th</sup> century social discourse. This static constructivism has been a source of many challenges that have upset the modernist stance on epistemology and ethics. The static constructivists have encouraged or even forced many of us to move from an absolute set of principles to a more situation-based relativism. Even greater challenges, however, are present. A dynamic constructivism moves well beyond the stability of broad-based societal and cultural perspectives. The emergence of a dynamic constructivist perspective represents a revolutionary change in the true sense of the term—and it is poignantly represented in the perspective offered by, John D’Agata, our essayist.

*Language, narratives and self:* Story and performance are hallmarks of dynamic constructivism. We live in a world of constructed realities that are constantly shifting—as John D’Agata has asserted. We live in a world of language, semiotics and narratives. Language is no longer considered to be simply a handmaiden for reality, as the objectivists would suggest, nor does it construct a permanent or at least resistant reality as the traditional social constructivists would argue.

Furthermore, language is not a secondary vehicle we must employ when commenting on the reality that underlies and is the reference point for this language. The dynamic constructivists often take this analysis one step further by proposing that language is itself the primary reality in our daily life experiences. Language, originally and primarily relationship-based, assumes its own reality, and ceases to be an abstract sign that substitutes for the “real” things. Our cave is filled with language and conversations. This is reality—there is nothing outside the cave (or perhaps the cave doesn’t even exist).

While objectivism is based on the assumption that there is a constant reality to which one can refer (through the use of language and other symbol/sign systems) and static constructivism is based on the assumption that there

is a constant societal base for our constructions of reality, dynamic constructivism is based on the assumption that the mode and content of discourse and the relationship(s) that underlie this discourse are the closest thing we have to a reality. We are constantly reconstructing our reality because this reality is based on the specific relationship through which we are engaged via our discourse. We need not stay within Plato's cave, because the relationship and the discourse is itself reality—it is not just a reflection of reality. The inside and outside of the cave are one in the same thing. The cave doesn't exist. Consequently, the process of coaching becomes a powerful (even critical) process, for it can alter reality for both the client and coach.

*Narratives of our time and of our self:* We are often distant from many of the most important events that impact on our lives. We live in a complex global community. We have many connections to a vaster world. Yet, we can no longer have direct experience of, nor can we have much influence over, this world. The cave has grown much larger than Plato might have imagined and may no longer even exist. The only access we have to this vast world is through language and narratives. As a result, we often share narratives about things and events rather than actually experiencing them. This certainly was the case with John D'Agata. He wrote (with some modifications of the Facts) about the death of a young man in Las Vegas. He described an event that very few people (including himself) witnessed first-hand.

Language itself becomes the shared experience. This perspective does not differ greatly on first review, from that offered by Plato. The narratives may be considered nothing more than second-hand conversations about the images of the cave's walls. Yet, there is a difference, for the narratives and conversations are not just about experiences, they are themselves experiences. This sense of a constructed reality that is reinforced by narrative and conversation is a starting point for dynamic constructivism—just as it is a starting point for traditional and static forms of constructivism. The key point with regard to a dynamic constructivism is that each specific conversation is itself a reality. Shared narratives and language are where we actually meet - self and others, self and society, self and shared cultural narrative. From this perspective, our stories about self will constitute our fundamental sense of self—they are the building blocks of our identity.

Perhaps our stories about self are everything we mean by the term "self." This would suggest that our stories about childhood, about major adult accomplishments, and about difficult lifelong disappointments may be the basic building blocks of self-image—whether or not they are accurate. Contemporary coaches, like Julio Olalla and David Drake (Drake, Brennan and Gørtz, 2008), emphasize the role of narrative for a good reason—narrative is a very powerful and influential tool.

We are profoundly impacted by two often unacknowledged (or even unseen) forces in these narratives. First, we are influenced by the broad-based social constructions of reality which is conveyed through the stories of the society and organization in which we find ourselves. This is the contribution made by static constructivists. Second, we are influenced by a more narrowly based personal construction of reality that is conveyed through stories we tell about ourselves (and perhaps stories that we inherit from and about our family and immediate community).

*The hermeneutic circle and use of metaphors:* There is actually a third level of narrative which makes the dynamics of constructivism and coaching even more complex and challenging. We are co-creating narratives (and ultimately creating reality) with other people—those with whom we are interacting. All meanings or

statements are referring to a system of narratives and semiotics, but this is in itself an open-ended system of signs referring to signs referring to signs. No concept can therefore have an ultimate, unequivocal meaning.

We can illustrate this complex, nested dynamic—called the hermeneutic circle—by turning to narratives and conversations that occur within a workplace. For example, once the manager of a specific department has spoken, the reality that was created when she spoke is no longer present. Even if she says the same words, they are spoken in a different context, hence have somewhat different meaning. Thus, even when our manager is “speaking”—in the form of vocalized or written words or in the form of other images (visual, tactile)—these words or images will have different meaning each time they are interpreted. Meaning will shift depending on who hears the statement, what the setting is in which the communication takes place, and which words or images have preceded and will follow these efforts at communication.

According to the dynamic constructivists, therefore, reality for the 21<sup>st</sup> century manager is a shifting phenomenon that is subject to change and uncertainty, meant to be expressed in nuanced, ever-changing ways, again and again, in response to new contexts. We see this shifting occur in D’Agata and Fingal’s (2012) account of their interactions regarding Fingal’s fact-checking of D’Agata’s essay. Their book is a “blow-by-blow” accounting of the changing reality regarding the suicide story (and the reality of their relationship) that is being created by their interaction. In the play that was created based on their book, a third person is introduced (the editor) who further complicates and influences the Facts and reality being portrayed in the published essay. The editor also helps to create a new narrative regarding the interaction between D’Agata and Fingal. The process of converting the book into a play itself changes the reality of D’Agata and Fingal’s working relationship.

Nothing stays the same. Reality is dynamic and evolving. More than ever, our organizations are based on and dependent on these dynamic interpersonal conversations and shifting, context-based narratives. Most people, resources and attention in present-day organizations are devoted not to the direct production of goods or direct provision of services, but to the use of verbal and written modes of communication about these goods and services. Given these conditions, storytelling and narrative are central to 21<sup>st</sup> century leadership. Stories are the lifeblood and source of system maintenance in both personal and organizational lives.

The construction of stories about organizational successes and failures by leaders is critical to the processes of personal and organizational transformation. Clearly, the conversations that are most effective in bringing about organizational integration frequently take the form of metaphors that are conveyed through stories. (Lakoff & Johnson, 2003) Metaphors are used to portray something about an organization—in particular something about leadership, authority, and values. These metaphors are central to the organization, for they contribute to the conversations that are at the heart of the organization. They point to a shared set of signs and narratives, and as such create, recreate and strengthen the experience of shared values.

The stories of an organization are important to fully appreciate for yet another reason: they are critical bridges between the present and past—much as there was in De’Agata’s telling of a story about a past event, and the construction of a story in their book about their ongoing, present-tense interaction in preparing this story for publication. Organizations exist at the present moment in time. The past life of an organization exists largely in the present conversations, i.e., the stories about the past. It also exists in the conversations that are now taking place about past conversations (via archival records). The formal records of the organization are the conversations that take place between people who are of the present and the past. Similarly, the organization’s

future is shaped in current conversations about this future. Narratives actually do more than tell stories, they create a framework in which the identity of the organization is perceived and presented. Storytelling is a central ingredient in relationships. Relationships, in turn, become important in the reconstruction of reality—whether this reality be personal or organizational in nature.

Several questions arise from this dynamic constructivism. In what way(s) do the personal and organizational narratives and images influence or alter one another? In what ways did the story change as a result of the encounter of D'Agata's story of the past with D'Agata's and Fingal's interaction in the present? Is there a shift in the organization's narrative when a new top manager is hired, or the organization itself is restructured? From the perspective of anyone facing the challenge of Fact-finding in an organization, there are major concerns with regard to the nature of narrative and identity that is being conveyed by the organization and the narrative and identity of each employee—and in particular the person reflecting on the Facts and making decisions based on this reflection.

### **Construction and Courage**

As transcendent beings, we have the capacity to reflect on our own experiences and to place these experiences in space and time. This is the human challenge, the human opportunity, and the human curse of transcendence. Our sense of a dynamic, constantly reconstructed universe, based in our interactions with other people, leads us inevitably to a sense of bewilderment. At a more immediate level, we are confronted with the complexity, unpredictability and turbulence of contemporary organizational life. How does one find the courage to stand in the face of this “awe-full-ness”? And what is the role to be played by so-called experts in helping us address these challenges (as well as facing their own personal challenges)?

Clearly, the movement from an objectivist to a constructivist ontology and from a static to a dynamic perspective on Facts requires personal commitment and courage—particularly courage. Our sense of self and reality—our personal reality—is always in flux. How do we live with this personal uncertainty? The remarkable theologian, Paul Tillich (2000) has written about the existential (and theological) “courage to be”—the courage needed to acknowledge one's being and one's becoming in the world. If human beings are minds, and not just brains, if they live in dynamic interaction with other people and events in their life, then they require a “courage to be.” Tillich believes that this courage is not embedded in a secular world. Rather courage is inherently spiritual in nature or at least there are spiritual demands being made on us as we are confronted with the dynamic universe in which we live.

### **Social Construction of Facts**

As we look at the long history of facts, we find that the objectivist perspective has dominated Western culture (and particularly Western science) for many centuries. However, the constructivist perspective has begun to hold sway—particularly in what is often referred to as a postmodern frame of reference in both the sciences and humanities (Bergquist, 1993). Two social scientists, Peter Berger and Thomas Luckmann, led the way in this emphasis on constructivism by identifying the “social constructions of reality.” (Berger and Luckmann, 1967). They proposed that social systems are particularly effective (and

important) in the creation and reinforcement of specific constructions in any society. Considerable reinforcement of this social constructivist framework has come from other social scientists and observers since Berger and Luckmann first offered their thesis in 1966. (cf. Searle, 1997)

Recently, we find that there is expanded support for the constructivist perspective in the field of economics from those who have championed the inter-disciplinary initiative called behavioral economics. Kahneman, Tversky and Thaler have received Nobel Prizes in recognition of their success in taking on the task of documenting how specific heuristics (what Berger and Luckmann might call social constructions) influence daily decision making as well as the formulation of public policy and commercial marketing. The behavioral economists offer a particularly important question regarding social construction regarding our topic (the nature and classification of psychopathology): who is sitting at the table? Who influences social constructions and what is the agenda being held by and inserted into the conversations by these highly influential participants? It is in the establishment of criteria for judgement and, even more fundamentally, the topic(s) to be addressed that powerful social constructions are formed and reinforced.

## **Linguistic Content and Structure**

To gain some sense of what is occurring in the social constructive act, we turn first to a basis foundation (*linguistics*) and specifically the distinction to be made between semantics and syntax. Put all too simply, semantics concerns the content being conveyed through use of language, whereas syntax refers to the structure of the language being used. We propose that the basis (in part) of social construction resides in both domains of language.

### **Semantics**

When addressing the meaning and impact of words, we can focus on individual words or on the clustering of words. Jim Fingal focused on both individual words and sequence of word when offering his critique of D'Agata's essay. Beyond the narrative offered by D'Agata and Fingal are the many instances we all encounter regarding the power of words and their use, misuse or non-use. We are all aware of the current "revolution" occurring in the use of words that reference a specific gender (usually favoring the male gender). The predominant (or even exclusive) use of male pronouns (he and his) is now being challenged and often replaced by "their" or an intermixing of male and female pronouns. This challenge is predicated on the widely held and justified opinion that the use of gender-related words matters.

There is even a more precise critique of words in which gender is embedded (such as "chair-man", "history" and "man-kind"). Do these words convey something important and often unacknowledged assumption regarding the role played by and position of power and authority assumed by women and men in our society over many centuries. We can even point to the recent efforts (once again justifiable) to abandon (or at least diminish) the use of gender-differentiating words all together.

We can point to other words in our society and to the potential impact of the use or non-use of these words. Narratives change dramatically when a specific word is inserted or left out. This is especially the case when the narrative is focused on matters related to prejudice, stereotyping, abuse and violence. We will inevitably reference the sexual orientation of two men ("gay") or two women ("lesbian") who

are in an intimate, enduring relationship, but leave out any reference to a “straight” couple (man and women). We report that a “black man” commits a crime—but fail to mention the skin pigmentation of a “white” man who commits the same crime. Recently, a major semantic struggle is to be found in the presentation of narratives regarding the role of African Americans in American history (note that this is another important use or nonuse of words—with the term African American frequently being used, but the term European American or Swedish American rarely being used).

It not just a matter of a cluster of words and narratives (such as critical race theory) being distorted and even erased from our communities, it seems that even a single, seemingly-innocent word—“systemic”—is left out of the narrative associated with a course being prepared by a major source of educational (and assessment) materials in the American educational system. This one word (“systemic”) conveys something very important regarding the prevalence and institutional support for “discrimination, oppression, inequality, disempowerment and racism” in American society (past, present and tragically future). The central question can once again be raised. Does the use or non-use of words in any way change the way in which we view reality? Stated even more simply: do Facts (as represented in single words) make a difference?

Over the past century, there have been several prominent researchers, scholars and social observers who declared that words do make a difference—especially the “systemic” (wide-spread) use of specific words and the way these words help to identify and describe elements of the “real” world. A strong case has been made for the powerful impact that the consistent use of certain words has on our construction of reality. Benjamin Whorf (2012) and his more widely accepted predecessor, Edward Sapir, were among the most controversial (and at times influential) proponents of this constructivist perspective regarding the role played by the content of language. This perspective is often broadly identified as *symbolic interactionism*. The so-called Whorfian Hypothesis concerns the influence of words on our thoughts and subsequently our decisions and actions. On the one hand, there is a version of this hypothesis that is often called the *Weak Whorfian Hypothesis*. This version is based on the strong correlation found between words and priorities: we finely articulate that about which we care.

There are many semantically defined distinctions to be made in domains where we have much invested—while there are few distinctions drawn in areas of less social value. The classic example offered by Whorf is the many different words used among the Inuit (Eskimo) when identifying and describing what most of us would call “snow.” In recent years, we can point similarly to the many words used by ski and snowboard enthusiasts for the “snow” in which they operate. Those of us with minimal interest in “snow” use just the one word, while the Inuit, skiers and snow boarders use many different words, because they are living and navigating (at least part of their life) in this “snowy” world.

We would offer the example of differentiations made by the Ancient Greeks in the domain of what we in contemporary life would call “love.” Most of us use the single word, “love,” whereas the Greeks identified four different kinds of committed engagements: *eros*, *philia*, *storge* and *agape*. The Whorfians would suggest that Ancient Greeks might have placed greater value on the domain of “love” than is the case with those of us who place greater value on and attend much more diligently to other matters. A similar case could be made for the Inuit, skiers and snowboarders. The critical point to be made here is

that this version of the Whorfian hypothesis is called “weak” because correlations do not imply causation – only mutual alignment.

Some Whorfians and renegade linguistics and psychologists move beyond this weak approach to understanding the interplay between words and thought. The *Strong Whorf Hypothesis* is based on the assertion that our language (and specifically our words) strongly influences and even determines our perceptions of and actions in the world. The strong question becomes: do the Inuit and skiers see something different and take different actions as a result of their more detailed distinctions regarding “snow”? Did the Greeks see something different in their loving relationships with one another? Were there differing perceptions that led to differing decisions and actions as a result of the words being used?

Clearly, this pull between a weak and strong Whorfian perspective is important when we turn to the use of words to understand and classify the seemingly elusive phenomenon called “Fact.” Semantics play a critical role in the assignment of labels to particular types of Fact. Specifically, we seek to distinguish between different kind of Facts regarding their validity and use. Is our concern about and “valuing” of Facts reflected in the extent to which we use differing words related to the general domain in which Facts reside?

For instance, Milton Rokeach (1976) devotes an entire book to the differentiation of beliefs, attitudes and values. We can toss in other related words—such as opinions, biases, perspectives, viewpoints, contention, stance and position. As in the case of snow and love, the fine differentiation between different ways in which “Facts” are treated suggests that this is an important matter for someone like Rokeach who makes their living by studying the way in which people treat the Facts they are presented with in their life.

What about the rest of us? We propose that there is often a lumping of everything about Facts into one or two words. We say that someone has got “strong opinions” or is “stubborn. We might instead assign a label that is more judgmental and even accusatory: we say that they are “racists” or “socialists” or “Nazis.” If we don’t like what they have said. Alternatively, we label them as “patriots”, “thoughtful” or “caring.” At an even more fundamental level we say that they are “wrong” or “evil.” (or they are “right” and “ethical”).

The Whorfians would suggest that most of don’t particularly value or are interested in the way other people handle Facts. This might be the case. However, we would like to contribute a bit to the Whorfian theory by suggesting that differentiation might also at times have to do with the level of emotions invested in the domain in which the differentiation takes place. Under conditions of intense emotionality, we are likely to find regression in all levels of cognitive processes—including the thoughtful use of words. We are fearful, angry or disgusted and simply declare that this person we have encountered is simply a “racist” or “communist”. It doesn’t really matter to us if this person is taking a political stance, positioning themselves for a particular plan of action, or viewing this situation from a particular perspective related to their cultural background.

Are their “Facts” based on and influenced by their beliefs, attitudes or values? We don’t really care. We only know that they are “right” or that they are “wrong.” Applying the Strong Whorfian hypothesis, we would even suggest that the use of a simple label itself influences the way in which we view and interact with (or not interact with) this person. It is much easier to accept or dismiss another person when we use a simple label rather than seeking to understand at a deeper level what is taking place. One of us has a friend who is a very dedicated (and successful) advocate for specific civil rights. She has indicated that she doesn’t want to learn more about or seek to understand her opponents. They are the “enemy” and are to be defeated—regardless of the reasons for their incivility.

## **Syntax**

It is not just the words being used that seem to form a social construction. It is also the way in which these words are arrayed. Some languages, for instance, are “right-branching” whereas others are “left-branching” These two terms refer to the way in which a sentence is structured. The language in which this essay is written (English) can be identified as “right branching”—for the modifiers are placed after the subject. For instance, as the author of this essay, we can write that “the domain of Facts is one in which there is considerable confusion and in which a great deal of money is at play.” The emphasis in this statement is upon the word “Facts” – while the modifiers are what we have to say about Facts. You, as the reader, are directed to attend first to the main topic: Facts. We then take you in one or more directions from this main subject.

A left-branching structure is less commonly used in English—though it is quite common in certain other language groups. When an English sentence is structured with left branching, then the subject comes after the modifiers. Our sentence would now read: “A great deal of money and considerable confusion is at play when we consider the domain in which Fact reside.” As the reader, you must wait for the “punch line.” What is the writer leading us to with this concern about money and clarification? There is drama in the use of left-branching structures (this sentence itself is left-branching). However, the left-branching structure can also produce quite a bit of misunderstanding (this is a right-branching sentence).

Many readers will recognize that the distinctive between right and left branching is perhaps nothing more than the distinctive made between active voice (right branching) and passive voice (left branching). It is more complicated than this. However, in the present analysis we will consider the terms active and right (and passive and left) to be essentially equivalent. The term “right branching” usually refers to the preponderance of (and preference for) active voice in a particular language group, with “left branching” similarly referring to the preponderance of (and preference for) passive voice.

With this clarification in place, we suggest that there is much more at play when we consider the syntactic structure of a sentence and the predominance of right or left branching communication. We are ‘in control’ with right branching communication: we set up the subject for our reader and then go to work on it. Conversely, the left-branching statement is much less clearly in our control, for our reader is likely to set up their own assumptions about what we are about to say or write. While the left-branch can be dramatic and sometimes compelling (with the reader waiting for clarity), it can also be a source of not only misunderstanding but also distraction and loss of focus.

What then, does this have to say about Facts. We propose that there is at least a *Soft Branching Hypothesis*: the way in which we structure our communication is aligned with the sense we have about our own personal control over the content of the statement(s) being offered. When we are “out of control” we are likely to be left branching. There might be an even more forceful (and controversial) hypothesis. The *Strong Branching Hypothesis* would suggest that the nature of branching has a direct impact on the way in which we construct our reality – especially the way in which we identify and act upon our assumptions about what is called “locus of control.”

When assuming we have control over the Facts we receive and the Facts we convey to other people (control in this instance being defined as a clear understanding of the nature and source of Facts), then we are likely to be assertive and direct—we are likely to make extensive use of right-branching structures. Writing like Ernest Hemingway, we are likely to express ourselves in simple, declarative statements. We “know” what is true and what is false. We live in an objectivist universe. There is no constructivist hesitation. We are clear and in charge of our faculties and the Facts.

By contrast, what if we are living in a world where we have very little control over the Facts or actions to be taken based on the Facts (whatever their source)? This uncertainty leads us to and is reinforced by left-branching statements. We are hesitant about what is true and what is false. We qualify everything and “back into” our recommendations, rather than offering them “up front.” Our writing is speculative. We are less in the Hemingway camp, and more in the camp of those 21<sup>st</sup> Century authors who can’t seem to write an intelligible sentence! We are “out of control” and are without clear bearings or direction. The world of volatile and vulnerable constructivism is alive and well (or not so well).

We will be looking at two fundamental ways in which this syntactic issue is at play when applying this linguistic notion about branching to the nature and lifespan of Facts. First, there is an important way in which the left-branching and the accompanying passive voice is indicative of an absence of certainty in the domain of Facts. Those who are working in this domain as “experts” are often “kidding themselves” if they believe there is clarity and certainty regarding Facts.

Experts often manifest an abundance of “hubris” regarding their command of the “Facts” precisely because at a deep level they don’t really believe what they are saying. We do our own colluding with these hubris-inflicted experts—for we desperately long for objective truth when our analysis of Facts is saturated with anxiety. Under these conditions we find that the domain of Facts is embedded in constructivism. Facts are elusive—and short-lived—leading to misunderstanding and misdirection in the specific modifiers (such as money and confusion) being attached to this domain.

There is a second, perhaps more profound, implication associated with this syntactic analysis. Left and right branching tends to shift the way in which we view causality. Causal analysis is a critical issue in the domain of Facts. The direction of causality is clear when the subject comes prior to the modifiers. We can say: “the boy hits the ball” or we can say: “the boy hits the ball out of the park”. In either case, it is the boy who is the primary cause. Nothing changes with the addition of more modifiers. When the subject follows the modifiers then causality can be confusing. We say: “The ball was hit by the boy”. This is the same thing as “the boy hit the ball.” However, we are a bit more in doubt, for the ball seems to be particularly important. In some way, did the ball choose the boy who is to do the hitting? Of course not.

If we replay “boy” with “person” and replace “ball” with “Fact”, then the issue becomes a bit more in doubt. “This person distorted the Facts” is not quite the same thing as “A distortion of Facts was exhibited by this person”. This second statement doesn’t differ much from “a distortion of facts seems to be prevalent in this person.” These left branching statements seem to place some causality in the state of distorted Facts: is this person becoming ‘untrustworthy’ because of the distortion—or is the distortion a symptom of the Black person’s inherent untrustworthiness (and potential instability)?

On the surface, these variations in the presentation of a description seem trivial; however, we would suggest that they are not and that any thoughtful review of contemporary theories about and strategies for reflecting on Facts (and expertise) must address the often-subtle issue of implicit (as well as explicit) causality. A sequencing of causality is critical in seeking to understand and address the challenge of judging and interpreting Facts.

While semantics plays an important role in our assigning a value of specific Facts, syntax (or at least the fundamental ordering of causality) plays a role in the formulation of assumptions about the reasons why specific Facts are being offered (and why they are to be believed or dismissed). The matter of semantics and syntax might be subtle and even elusive—however, Facts and the words being used to convey facts are powerful precisely because of the rather pernicious way in which our reality is impacted by the use and sequencing of these words (note the branching of this sentence and our focus on “Facts” and “words”).

### **Espoused Theory vs. Theory in Use**

We offer a second way in which to view the nature and course of a social construction—that we can apply in our analysis of the short life of facts. This second view comes from the work of two psychologists, Chris Argyris and Don Schon (1974). During more than twenty years of remarkable collaborative work, Argyris and Schon provided a detailed analysis of the way in which we, as leaders, members of a work group, or someone assessing the validity of an expert’s opinions, operate with two distinctive theories about human behavior and particularly about our own behavior. On the one hand, we have an *Espoused Theory*. This is the theory we offer to other people when asked why we do what we do:

“Why do I confront this person who works for me by offering examples of his misconduct? I do this because, he needs to know what he is doing in order to improve his performance.”

“As a leader, it is important for me to treat all of my employees in a fair and equitable manner. That is the modern way to be a leader.”

Our espoused theories often come from the books or articles we have read, the training session we attended last week (if we can still remember what was contained on the power points)—or the opinion offered by an “expert”. At some level, we even believe that we operate in a manner that is aligned with this theory—though we are usually aware that there are “exceptions” – such as when my subordinate has ignored my previous feedback, or when the organization I lead is “in crisis.”

This moves us to the second type of theory identified by Argyris and Schon. This is the *Theory-In-Use*—a theory that guides the way in which we actually operate. This is the theory that would be identified by someone who is being objective and perhaps naïve (the proverbial “person from Mars”) when observing our behavior. Many years ago, one of us [WB] was conducting a summer program that involved learners of all ages. His two children were attending this program. One day, he asked one of my young children what she had observed. His child indicated that there seemed to be a lot of time spent sitting on uncomfortable chairs just talking about stuff. “Dad, why do people spend all of their time sitting on their butts? Don’t they want to start doing something?” My child seems to have captured my pedagogical theory-in-use: people learn and somehow remain engaged when they are just sitting around and talking to one another.

For our thoughtful boss who is offering feedback to his subordinate, the theory-in-use might be: “I will provide the feedback, knowing that nothing will change; however, I can feel good about myself knowing that I provided the feedback and can use this as evidence that my subordinate will never change, even though I have offered him my candid feedback.” The caring leader may hold a more general theory-in-use that suggests: “the way in which to get people really working is to identify the current situation as a crisis and push hard for results. I am only being tough on people because of the crisis and will return to a more -kindly style of leadership once the crisis is over.”

Someone from the outside could probably figure out the theories-in-use of our boss, our leader (or me as educator), after watching them in operation for several weeks (or maybe just a couple of hours). The outside observer would note that the employee receiving feedback from the boss seems to be quite anxious when confronted by the boss and is not really paying much attention (seeking instead to identify the reason for their behavior or reason to blame someone else for poor performance). It might be even easier to identify the leader’s (or my) theory-in-use, for it is displayed in a very public place: the leader’s organization seems to always be in crisis, at least in part because the leader is always acting in an erratic and dehumanizing manner. My students and I are sitting on our derrieres and just talking—no one complains.

It is remarkable for each of us to note how “blind” we are to our theory-in-use – or how reticent we are to acknowledge that this is the theory we are actually using most of the time in our relationship with other people. Argyris and Schon have offered us valuable insights about our own behavior—though we are often unwilling to act upon these insights. It is not just that these insights are uncomfortable for us to hear and act upon. It goes much deeper than this.

Our theories-in-use are often self-fulfilling (we get what we expect). Our employee doesn’t do anything different after we offer the feedback. Our organization can legitimately be considered “in crisis.” Our students declare that they are “learning” even though not doing anything other than talking. This justifies our actions and reconfirms our theory-in-use. The condition in which we find ourselves and upon which we base our actions is “real” – but we are not being “realistic” (or honest) about our own complicity in bringing about these conditions.

There is yet another ingredient that contributes to our lack of theory-in-use awareness: no one is telling us what is really occurring. There is no “person from Mars”, or if there is this neutral observer, they don’t want to confront us with the “bad news”. They have their own theory-in-use about us:

“This person won’t listen to what I have said and will never change.”

“It is too dangerous to tell the truth!”

We end up looking a lot like the subordinate we identified earlier who never seems to change. Conversely, the theory-in-use of the neutral observer often concerns their own credibility or neutrality:

“I might not be seeing what is really happening” or

“I have too much at stake in viewing this situation to be in any way objective.” or

“I shouldn’t say anything at this point because I might be wrong” or

“I might be biased.”

The resulting decision takes place in the observer’s mind:

“I will remain quiet, even if asked what I have observed.”

Thus, any conversation about theories-in-use is avoided. Argyris and Schon identify this as the “self-sealing” nature of theories-in-use. These theories are non-discussable: we can’t talk about them or don’t see any reason to talk about that which is “obvious”. When you add together the “self-fulfilling” and “self-sealing” dynamics inherent in our theories-in-use, we see how powerful these theories can be and how resistant they are either to inspection or change. We continue to live comfortably with our espoused theories and close the door on our theories in use.

Why bring up this piece of social psychological and organizational change theory? Because it is directly relevant to the concept of social construction. I propose that theories-in-use are often influenced (perhaps determined) by dominant social constructions. While our espoused theories may be based on the book we have just read or lecture we have just attended, our theories-in-use are likely to be informed by much deeper, and much less explicit, constructions of reality.

## **Paradigms, Models and Practices**

We offer one other perspective regarding the social construction of reality. This third perspective is derived from the highly influential, historical framework offered by Thomas Kuhn (1962) in *The Structure of Scientific Revolutions*. Without going into details regarding Kuhn’s revolutionary analysis of revolutions, we can cut directly to the chase: Kuhn proposed that most scientific work (particularly in the physical sciences) is based on an underlying *paradigm*.

### **Kuhn’s Revolution**

Thomas Kuhn was one of the first to use the term “Paradigm”. It has now become widely (and often inappropriately) used. Kuhn has himself been accused of using the word “paradigm” in multiple ways

and has contributed to the confusion regarding this important word. Paradigm refers, in essence, to a community or cluster of ideas, practices, standards, criteria (who can sit at the table), institutional allegiances – and assumptions.

A revolution occurs when the dominant paradigm in a particular science is overturned—to be replaced by an alternative paradigm that does a better job of addressing what Kuhn calls *anomalies*. These anomalies are phenomena in a specific scientific domain that are not understood, explained or amendable to either prediction or control when the current paradigm is applied. Anomalies are first ignored and are often addressed only by those members of this particular scientific community who are marginalized because of gender, location, race, ethnicity or social-economic status. These marginalized players often lack the credentials or sufficient prestige to be taken seriously by the mainstream of a scientific community.

The successful attempts by these marginalized players to apply a new paradigm to the elusive anomaly can be effectively ignored – for a while. Eventually, however, the message gets out that something “interesting” or even “important” is occurring in this backwater location by this backwater researcher or theorist. Gradually, there is acceptance of the ideas and practices embedded in the new paradigm and successful work with the anomaly. Expansion of the marginalized approach and answers eventually leads to a revolution.

The new approach and answers become the new dominant paradigm. Many of the “old-timers” hang on to their precious but outmoded paradigm, but their time in the scientific spotlight has passed. They are now only acknowledged in the history of science textbooks. It is important to recall that Kuhn focused primarily on the physical sciences. He believed that psychology (and most of the other social and behavioral sciences) are “pre-paradigmatic”—meaning that they are operating at the present time without a dominant paradigm or (to be a bit more generous) are operating with paradigms that are frequently overturned or significantly modified.

### **The Epistemological Pyramid**

In recent years, we have tried to expand on the important analysis offered by Thomas Kuhn. We have been aided in this effort by our work during the last decades of the 20<sup>th</sup> Century with a remarkable collaborator: David Halliburton. David was the member of multiple departments at Stanford University, having made significant contributions in such diverse fields as literary interpretation and philosophy. It is quite unfortunate that David passed away recently. He had much more to contribute to the many disciplines in which he operated. The work that one of us [WB] has done with David consisted mostly of consulting as a team with colleges and universities throughout the United States on curricular matters. They often found themselves at the end of a long day of consultation sitting in a conference room with many sheets of flipchart paper hanging on the walls.

During one of these end-of-day reflections in which David and I always engaged, we both noticed that diagrams drawn with magic markers on the flipchart pages were quite similar to the diagrams we had drawn on many other flipcharts working with different disciplinary groups in

other educational institutions. We began to realize that there were three fundamental ways in which issues were being addressed by the academics with whom we were working.

The first way was viewing their curriculum as a monad (a single theme or issue) from which the total curriculum emerged. The second way was based in dualism: identifying and building on a fundamental tension engaged in the field on which the curriculum was being built. The third way concerns a three-fold analysis (in the form of a triangle or lens) that led from clarity to diffusion and then back to clarity and then back to diffusion and so on.

David and I came to recognize that these three ways in which to conceive and construct a curriculum were actually paradigms! It seems that paradigms exist not only in scientific realms, but also in areas of diagnosis and design. We went further in our analysis and identified a process for working with academic teams. We noted that specific *Models* seem to emanate from (or help to modify) the fundamental paradigm.

Furthermore, the models are often imported from other fields. When they are imported these models bring with them some underlying assumptions, ideas and perspectives from their original field. With the models in play and with one or more underlying paradigms informing and reinforcing these models, a community (such as an academic department) can produce specific *Practices* (what Kuhn called “normal science”).

Halliburton and Bergquist began to refine this Epistemological Pyramid by identifying and describing Three Assumptive Levels. They proposed that Paradigms in a particular field or discipline tend to be:

- (1) Few in number,
- (2) Quite simple in construction, and
- (3) Very powerful.

As an example, we can point to the analytic tradition that is to be found in many of the physical, biological and behavioral sciences: we break things down into their fundamental parts in order to best understand them and then we reassemble them. David always pointed to the “smashed frog” critique in biology: when we dissect a frog in the biology class, we might find out how the frog’s leg works and how the frog’s brain is connected to other parts of its body via the spinal cord. However, we can never bring the frog back to life. The parts can never be reassembled to create a living organism. This failure to create life remains a mystery and relates to what some philosophers and scientists refer to as “emergence” (the unexpected creation of new, higher order phenomena by integrating several lower order phenomena: the whole can’t be predicted from the parts)

In the case of Models, Halliburton and Bergquist proposed that they are:

- (1) Based on paradigms (though the underlying paradigm might not be acknowledged—being part of the tacit knowledge base proposed by Michael Polanyi),
- (2) Moderately large and diverse in number,
- (3) Moderately powerful and influential, and
- (4) Often borrowed from contemporary popular technologies.

The fourth tenant is particularly important to engage when we turn specifically to the assumptive world of psychopathology. As an example, Sigmund Freud based his drive theory in part on the recent invention (in the late 19<sup>th</sup> Century) of the pneumatic pump. One pushes down on a piston in one part of the room and then a piston in another part of the room moves upward with great power. The power is being transferred via air (or a liquid) from one domain to another domain (this is where our psychological concept of “energy flow” comes from – not the flow of electricity, rather the flow of air or a viscous liquid). Thus, we “push down” a disturbing thought or feeling, which travels to another location and reemerges with great power (as a physical symptom or self-destructive act).

In contemporary times, we find a similar borrowing of models and technical terms from the computer technologies. We use terms and models such as “interface” and “processing.” The other very special technology of our era is space travel. From this domain we have borrowed such words and related models as “module” and “launch”. The “ghosts” (assumptions, values, fears, hopes, conflicts—even paradigms) that emanate from these technologies are brought along (unconsciously) with acquisition of the new technology. The haunting of these ghosts shows up in the inappropriate assumptive worlds associated with specific models (and practices).

Our third tier, practice, is associated with its own set of tenants. Halliburton and Bergquist proposed that practices are:

- (1) Based on models that are usually conscious (explicit knowledge): though the espoused practices (articulation of the model) might not align with the enacted practices
- (2) Many in number, and
- (3) Much less powerful or influential than models or paradigms

We can readily transfer this Three Level Pyramid to a three-level analysis of social construction. I would suggest that we see the world through a set of social constructive lens that are paradigmatic in depth and influence. These social constructions, like all paradigms, are simple and small in number. They frame the basic way in which we interpret and predict what is occurring in our world. These are the firm convictions that are circling around us and preventing us from being surprised by what we see in the world.

Our tri-partite categorization also leads us to consider a second level of social construction. This is the level of socially constructed models. While paradigmatic constructions are usually not readily acknowledged by us—being tacitly held beliefs and frames of reference that are never examined or even discussed in a specific society—some social constructions are acknowledged or at least pervade our language and portrayals. The *paradigmatic* assumptions embedded in an analytic approach to studying biological systems (“the smashed frog”) are assuming to be “obviously true” and need no justification.

Conversely, a *model* such as “launch” or “processing” is clearly visible and is vulnerable, therefore, to inspection and even criticism. For instance, we find that a model such as “teamwork” (borrowed by business from the domain of sports) is sometimes subject to critical review: “a group of people working on an important project are doing something much more important than scoring a touchdown.” “There are no quarterbacks on this team, only co-workers and co-learners.” While this kind of push-back is rare,

it is done and is viewed as legitimate. Socially constructed models, in other words, are not “God-given.” (as are paradigmatic constructions). They are made by humankind and are contained in our everyday language. Using the term introduced by Argyris and Schon, models are discussable (rather than being “self-sealing”).

*Practices*, which are the third element in our tri-partite categorization, are clearly not social constructions. They are explicit and readily discussed. Alternative practices are always available, though the number of viable options might be quite limited if the underlying models and paradigm(s) are particularly powerful and compelling. The story is a bit bigger than this. The options are often limited, constrained and strictly enforced under conditions of pervasive and sustained anxiety--especially when there is pervasive volatility, uncertainty, complexity, ambiguity, turbulence and contradiction (Bergquist, 2020). These conditions are common in our mid-21<sup>st</sup> Century world.

### **Facts and the Epistemological Pyramid**

Very infrequently the fact can influence the paradigm. The fact becomes an "anomaly" that can't be fully absorbed in the existing paradigm. This becomes an either/or that can flip a paradigm ("turning point") Facts reside in and are produced within an "institution" -- the institution can be reputable (inside existing paradigm) or it can be renegade (outside the existing paradigm). A cutting-edge fact is more likely to be produced in the renegade institution. However, this fact is more likely to be accepted eventually if it comes from a reputable institution.

### **Conclusions**

We turn back to where we began. John D’Agata is struggling against the Fact-laden intrusion of Jim Fingal, that young “wiper-snapper,” who insists on doing the job assigned to him. He is fact-checking everything that John has written. The book which D’Agata and Fingal co-wrote is filled with all the minute corrections offered by Fingal. As D’Agata notes (D’Agata and Fingal, 2012, p. 99) notes, “sometimes we misplace knowledge in pursuit of information.” We try to gather the Facts, but in doing so we lose the meaning inherent in the Facts and find, as a result, that the Facts are of little use.

“Sometimes” as D’Agata notes (D’Agata and Finga,2012, p. 99), “our wisdom, too, [is misplaced] in pursuit of what’s called knowledge.” We suggest that this “wisdom” often is founded on a thoughtful and critical review of the linguistic biases, unacknowledged (and reinforced) theories-in-use, and inappropriate use of models that influence—and perhaps even govern—our navigation through mid-21<sup>st</sup> Century life. The nature and construction of Facts requires that we are diligent in our engagement of this reflective process.

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