'ECTIVES ON WARFIGHTING

Number Five

WHY METAPHORS MATTER

Understanding the power of implicit comparison and its uses within the Marine Corps

by
Dr. Alan Beyerchen

Marine Corps University
Perspectives on Warfighting
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ACKNOWLEDGMENTS

People who encounter the word "metaphor" outside literature courses are apt to wonder how it applies to the world of practical affairs. This publication is designed to increase your effectiveness in communication, as well as your ability to analyze and adapt to changing situations. These are eminently practical concerns.

Depending on your background and exposure to literary and cognitive analyses, you may choose to proceed from the introductory material directly to the applications addressed in Chapter 3. You could then turn back to Chapters 1 and 2 for technical explanations of the multiple roles of metaphor as words and as perceptual filters. The end notes not only supply references for specific statements, but offer sources for further reading.

A number of Marines and others provided information and insight into the relevance of metaphors for Marines. Lieutenant General Paul K. Van Riper convinced me to undertake this project and provided encouragement throughout. Brigadier General R. R. Blackman, Jr., Colonel Kevin Conry, Colonel Robert Lee, Major Thomas Baker, Major Thomas Eipp, Captain Thomas Fox, Sergeant Major John Mersino, Dr. Paul Belbutowski, Mr. Robert Brugger, Dr. Brad Meyers and various anonymous reviewers played helpful roles in improving this publication. I thank all of them for their generosity with their time.
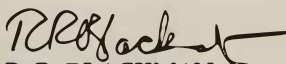
Dr. Alan Beyerchen
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FOREWORD

Leaders at all levels need to be able to convey a mission and articulate intent in order to succeed. An organization lacking effective communication will not have direction, and without direction, will not be effective. So whether it's a simple oral "Frag" order given by a fire team leader or the Commander's Intent delivered at the MAGTF level, our leaders need to clearly convey their message. Dr. Alan Beyerchen's publication on Why Metaphors Matter attempts to make us better communicators and better receivers through enhancing our understanding of the power of the metaphor.

Readers of this text should come away with several things. They will certainly gain a better appreciation for the value of effective communication, and in particular, the impact that implicit comparison may have on an audience. The publication takes a historical look at how the Marine Corps has used the metaphor in such fundamental areas as the application of doctrine or the exercise of leadership. The intent of this writing is to enhance our ability to communicate, analyze, and adapt-- all worthy goals in today's uncertain world.

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WHY METAPHORS MATTER

Alan Beyerchen

WHY FOCUS ON METAPHORS?

The simple answer is that they are a critical part of our use of language, and the more we understand them, the more effective our use will be. Metaphors filter our conceptual structures in crucial ways. Better comprehension of how they perform this task enhances our ability to operate in the world around us.

Metaphors are often employed as literary embellishments, but they can also convey deep messages to listeners and readers about how we think and believe. When we pay serious attention to their role in our speech and visual expression, we learn how to send more accurate and skillful messages. We also learn how to receive messages from others more clearly and decipher their meanings more intelligently. Attention to metaphors, in other words, can improve the precision and depth of both our ability to express ourselves and to understand what others are indicating. Precision in communication has advantages for every Marine.

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Yet metaphors are not just carriers of thoughts we generate entirely without them. Metaphors form part of our cognitive processing embedded in systems of images and meanings, systems that cohere in the form of cultures and ways of perceiving the world. Attention to how metaphors do this pays off in clearer thinking, better cross-cultural relations and greater openness to change and difference. Each of these means better anticipation of possibilities. Better anticipation of possibilities enhances adaptation to new or changing circumstances. Greater adaptiveness offers advantages wherever we can obtain it.

> *Better anticipation of possibilities enhances adaptation to new or changing circumstances.*

Presenting the results of some recent research into metaphors this publication aims to improve your precise use of language and adaptiveness to changing circumstances. You will find greater emphasis on the cognitive role of metaphor than on its literary aspects. In order to demonstrate that metaphor is not limited to poetry or scholarly research on cognition, however, we will begin with some illustrations of how metaphors function in general.

Metaphors perform many tasks integral to the process of communication taking place at many levels throughout our day and our organizations. One thing they do is create strong impressions by using familiar images to convey messages to an audience. For all the diversity of the many tasks it undertakes, the Marine Corps is a highly cohesive organization. Shared metaphors are an important part of its cohesion. A few examples from the 31st Commandant's Planning Guidance (CPG) illustrate the point. In the opening paragraph, the Commandant calls the CPG a "keystone document," and a "road map."[1] It is, of course, not a piece of stone at all, nor is it literally a piece of cartography. Such words are employed metaphorically, using familiar

objects to generate pictures in the minds of readers, impressing upon them the importance of the Commandant's statement of goals and means.

This simple example also illustrates the ways metaphors offer a kind of pattern recognition concerning the life experience of the user of a metaphor and that user's expectations about the life experience of others. The Commandant expects everyone in the Corps to know how important a keystone is to the structural integrity of an arch and how to use a road map well. His choice of words reveals both his own life experience and the experiences he considers typical for Marines. Often such choices are very highly revealing of the background, assumptions and culture of the user.

> *Metaphors offer a kind of pattern recognition concerning the life experience of the user of a metaphor and that user's expectations about the life experience of others.*

Metaphors also imply much more than they state. The CPG continues with a statement of priorities: "The two most important things that the Marine Corps does for the nation are to make Marines and to win battles." The Commandant later emphasizes the need to recruit "the right people--the lifeblood of our Corps." If this were a business organization, or an academic one, or even an athletic one, "lifeblood" would still provide a clear message. But this image is particularly vivid in a military organization with a long tradition of blood spilled in combat, valor despite enemy wounds, and physical sacrifice. It is suffused with the names of battles and deeds of individual Marines in the past. Furthermore, it coheres with the notion of shared blood in the Corps as a "band of brothers" and other images of a Marine Corps "family" or "a breed apart." And when the Commandant refers to non-EAS attrition as a "drain on our personnel and fiscal resources," he induces a sense of infusion of new blood offset by leakage. Losing one-third of first term enlistees every year is a truly serious hemorrhage. In order to win battles, the Corps must first make Marines, and in order to make Marines, it must first recruit the right people: the "lifeblood" metaphor conveys real urgency.

> *"The two most important things that the Marine Corps does for the nation are to make Marines and to win battles."*
> *-31st Commandant's Planning Guidance*

> *In order to win battles, the Corps must first make Marines, and in order to make Marines, it must first recruit the right people: the "lifeblood" metaphor contains real urgency.*

Recruiting the right people is highly dependent on advertising techniques that indicate how metaphors can be potent visual images instead of words. Since 1971, when the military services began commercial advertising campaigns, an essential ingredient for success in print and electronic media has been conveying a distinctive identity for the Marine Corps among the clutter of images and information thrown at young people daily. The dress blue uniform, the emphasis on meeting the challenge of becoming a Marine, and reiterated phrases such as "The Few" and "The Proud" cut through to reach those potential recruits who may be the "right people." The "We Never Promised You a Rose Garden" set of commercials in the 1970s was particularly effective, taking their cue from a popular song.

> *Metaphors can be potent visual images instead of words.*

In the 1980s and 1990s, a succession of advertising campaigns using a single root metaphor has strikingly differentiated the Marine Corps from the other services. The J. Walter Thompson agency, which handles the advertising account for the Corps, has managed to build each campaign on its predecessor so that they resonated with one another. The television ads "Sword," "Knight" and "Chess" have all struck complementary chords: the Marine "Mameluke" sword is forged, tempered, and laser sharpened--then appears in the hand of a Marine in dress blues, who smartly salutes with it; a medieval warrior returns from a quest, receives an electric charge as the sovereign knights him, then accepts the Mameluke sword and rises as a Marine wearing dress blues, engaging in the same precise sword movements as his predecessor; and the knight in combat on a chessboard, whose Mameluke blade upraised in victory calls down a lightning strike that transforms him into a Marine also in dress blues flashing through the sword drill. Clearly a civilian prospective Marine is not a piece of raw steel, nor on a medieval quest, nor moving about on an oversized chessboard. These ads draw upon implications of a root metaphor of change that appeal to the viewer's imagination.

> *These ads draw upon implications or entailments of a root metaphor of change that appeal to the viewer's imagination.*

A visual crescendo of the campaigns has been reached in the television ad "Transformation." A young man dressed vaguely like Indiana Jones arrives at a maze, which he then negotiates, overcoming obstacles and dangers with speed, strength, intelligence and daring, while stirring music pounds in the background. As he comes to his goal, withdrawing the enchanted Mameluke sword from a globe in a manner reminiscent of King Arthur's pulling of "Excalibur" from the stone, a futuristic, virtual-reality knight emerges from the wall behind him. They engage in the final challenge, a sword fight. The voice-over during the last scenes says, "It is test, not just of strength, but of the power of the mind. And, if you complete the journey, you will be changed--forever." The young man's victory is capped by the now-familiar lightning strike to his upraised sword, as he is transformed into a Marine in dress blues saluting and snapping the Mameluke to his side. The announcer intones to climactic music: "The Few. The Proud. The Marines."

The metaphor of the lightning strike from the heavens is essential to the transformation. In just 30 seconds, sandwiched between other ads and the television programming of the hour, the audience is exposed to a team of indelible metaphors reinforcing the impression that joining the Marine Corps is more than mere signing up. It involves a challenging journey and a transformation at journey's end. The implicit message of the images is more powerful than the supporting, explicit words in the voice-over at the end. The interlocked metaphors of test, journey and transformation tap deep meanings in our culture. Few viewers are likely to conclude that the story is about something as superficial as the young man's change of clothes or even as serious as winning a contest. Many people would be even more impressed if they knew that the central figures in all these ads have been actual Marines and not actors.[2]

The fact that much of television's programming and nearly all its advertising are metaphorical may lead to the mistaken conclusion that metaphors are somehow less real than other forms of expression and comprehension. Situation comedies, soap operas, hospital and

police dramas, movies, talk shows and other programs entertain rather than enlighten. But they also captivate huge audiences compared to other media. Their nonverbal messages about how to dress or behave, who counts (by being present) and who does not, or what products are worth buying and what are not (by being absent) are as crucial a part of the medium as the often inane scripts or cardboard characters. The metaphors on television are usually in the images rather than the dialogue, affecting us at a visual or aural nonverbal level.

The metaphors on television are usually in the images rather than the dialogue, affecting us at a visual or aural nonverbal level.

The ability of metaphors to move us at a primitive level of cognition <u>constitutes</u> their reality, and is a major reason that many researchers now talk of "metaphor" (in the singular) as a process rather than "metaphors" as words. The journey and transformation metaphors used by J. Walter Thompson on the airwaves are complemented on the ground by the "crucible" that is currently the capstone of Marine boot camp and Officer Candidates School (OCS). The idea of a demanding test near the conclusion of training is not unique to the Corps. But the name given this final set of field problems, especially since they require continual teamwork, invokes a specific perspective on what it means to become a Marine. The ads are addressed to a wide audience of potential recruits for both the enlisted and officer ranks, but they focus on the challenges faced and met by an individual. After all, even the "right people" join the Corps as individuals. But the crucible exercise drives home the understanding that to become a Marine is not just to attain individual achievement. It becomes a metaphor for the subordination of ego in favor of belonging to the Corps. The term also connotes a connection with the "transformation" ad campaign, its predecessors and the Commandant's claim that <u>making</u> Marines is one of the two most important things the Corps does for the nation. This is the true significance of metaphors: they are not merely individual words, but interwoven ways of understanding the world we live in.

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CHAPTER ONE

The Role of Metaphors
in Language

METAPHORS IN LITERATURE AND RHETORIC

Although there are a number of competing conceptions of metaphor among today's researchers, they all cohere in one general sense: metaphors are expressions that affect or reveal the structure of our perspectives on the world around us. These expressions seem literally false according to the rigid, idealized rules of formal logic, but are nonetheless true according to other, more imaginative or less idealized sets of rules. How they are true and what these other rules might be are issues that have occupied many minds. There are two basic questions that have broad implications beyond literary analysis: how central metaphors are to language, and how central they are more generally to cognition. In this chapter we will take up the first question.

The role of metaphor in language has conventionally been wrapped up in the long debate between adherents of literal and figurative expression. Many commentators have deemed literalness to have greater value in describing reality, and have consigned figures of speech to "mere" artistic imagination. Literal language corresponds to experience, while figuration is fiction. Others have argued that figurative understanding is every bit as important a route to truth as literalness, certainly in the realm of rhetorical use of words and other symbols, but even when describing the real world as <u>humans</u> experience it.

As the story of the Marines leads to a better understanding of individual Marines and the Corps as a whole, the history of metaphor improves our understanding of individual metaphors and the process of metaphor as a whole. Most accounts of current language theory concerning metaphor begin with Aristotle, because his views on the subject of

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figures of speech are still influential. Plato, Aristotle's teacher, believed that experiences of the body, including emotions generated by poetic expression, were less trustworthy than "pure and unadulterated" thoughts in the mind.[3] In contrast, Aristotle was more inclined to credit the visceral power of language in our lives. In his treatise on poetry, for example, he claimed that poetic language derives from our desire to imitate the world around us and our delight in improvising and learning things. Metaphorical

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words add greatly to ordinary, familiar language. His definition was direct: "Metaphor consists in giving the thing a name that belongs to something else." This may sound like simple error, but it is not if the goal is learning and adapting. Aristotle therefore also maintained that "the greatest thing by far is to be a master of metaphor . . . and it is also a sign of genius, since a good metaphor implies an intuitive perception of the similarity in dissimilars."[4]

Aristotle's concept underlies all our dictionary definitions of metaphor. The Oxford English Dictionary, for example, indicates that a metaphor is a "figure of speech in which a name or descriptive term is transferred to some object different from, but analogous to, that to which it is properly applicable." Webster's New Universal Unabridged Dictionary adds that a metaphor is "an implied comparison, in which a word or phrase ordinarily and primarily used for one thing is applied to another." The notion of a transference comes directly from the Greek roots: "meta" means "over" or "beyond," and "phor" stems from a verb meaning to "carry" or "bear." The word "properly" hints that metaphors tend toward some kind of impropriety or error. What these definitions do not say is that Aristotle held metaphor in such high esteem among the elements of poetic expression.

These definitions also do not tell us that Aristotle thought the use of metaphors was not suitable for slaves. He implied that it would make their language too unnatural. Perhaps he feared that slaves would embarrass their masters by failing to use appropriate metaphors--or perhaps he feared they would succeed all too well.[5] It is possible, as some commentators have noted, that Aristotle understood how constraining slaves to speak plainly was a way to hold them in their places. Such constraint affected their ability to imagine different circumstances and social conditions, for metaphors often open new vistas for the mind.[6]

Another influential facet of Aristotle's treatment of metaphor was his notion that metaphors work by way of substitution. Giving one thing the name that belongs to another involves replacing the original word with another. According to Aristotle, these substitutions were of four kinds: substituting the general for the particular, the particular for the general, transferring laterally at the same level, or constructing an analogy. Aristotle offered as an example of the first: "Here stands my ship," where standing replaces lying at anchor, which is a particular kind of standing.[7] For the second, one could today use "The Marine Corps forged a successful television commercial," since forging is a particular member of the general category "making." A metaphor arises from analogy whenever four terms are related so that the first is to the second as the third is to the fourth. In Aristotle's view, analogy became a metaphor when a substitution occurred: "As old age is to life, so is evening to day. One will accordingly describe evening as the 'old age of the day,'. . .and old age as the 'evening' or 'sunset of life.'"[8] Returning to the priorities in the CPG, as the individual pillars of a Greek temple support its roof, so the five elements of the Commandant's vision support the future of the Corps. Thus he can metaphorically refer to the "five pillars that are the foundation of how we make Marines and win battles."[9]

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existence, however, were subcategories of hierarchy: among trees the oak was superior to the bramble, among the elements water was above earth, among metals gold was nobler than brass.[12] The metaphors make sense within this structure and offer clues to how people perceived reality. This networking feature of metaphors is a linguistic characteristic wherever they appear, not just in literature.

The language of persuasion, rhetoric, often also relies upon patterns of metaphors, but these are usually less clearly exposed. Not all metaphors are startling or innovative. In fact, they often work most powerfully in teams or systems in which they reinforce each other and contribute to a sense of what should be regarded as natural. They can therefore constrain perception and thinking rather than liberate them. Metaphors taken for granted are usually classified as familiar, clichéd or dead metaphors. In the latter case, the metaphor is often regarded as a literal statement. A time-honored example is the "legs of a table." Of course, when such a metaphor is enlivened by some cultural tension, its force becomes apparent again. In Victorian England, for instance, there was a concerted effort among members of polite society to suppress sexual expression. Therefore, many households placed discreet aprons on those tables from an earlier age that had been fashioned with sensuous, curving legs.

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Familiar and clichéd metaphors are prime elements of persuasive language. These are essential social lubricants, making communication simpler and more fluid than would be possible if we had to figure out meaning from scratch every time we encountered another person. But they pervade the speech of lawyers, clergy, politicians, salespersons, ad campaign managers and leaders of any kind who use language to win over listeners, readers or viewers by means other than strict logic and empirical testing. In such an environment, someone who challenges the root metaphors is either unlikely to gain much of a hearing, or is likely to cause a deep reconfiguration if heard.

Many examples of radical challenges to prevailing metaphorical structure are embedded throughout the work of a key developer of the "new sciences" of the seventeenth century, Galileo Galilei. A prose author rather than a poet, Galileo still expressed himself in deeply metaphorical language. This was one of the reasons he became one of the most effective advocates for modem science who has ever lived. A famous contention of his makes the point:

> Philosophy ["natural philosophy," which we call science today] is written in this grand book, the universe, which stands continually open to our gaze. But the book cannot be understood unless one first learns to comprehend the language and read the letters in which it is composed. It is written in the language of mathematics, and its characters are triangles, circles, and other geometric figures without which it is humanly impossible to understand a single word of it; without these one wanders about in a dark labyrinth.[13]

> *The image of nature as God's second book was not original with Galileo, but his tying this image to mathematical language, characters and implicit illumination was so innovative, indelible and persuasive that his interlocking metaphors are still quoted today.*

Readers immediately understood the parallel Galileo was drawing with the belief of most Christians that the Bible was the book of truth for humankind about the universe. At the time he was writing, one of the greatest changes sweeping over western and southern Europe was the increasing importance of literacy and access to texts in the era of the printing revolution. It also meant each person could individually examine and interpret the knowledge of the ancient Greeks and Romans--and the teachings of the Christian faith. The image of nature as God's second book was not original with Galileo, but his tying this image to mathematical language, characters and implicit illumination was so innovative, indelible and persuasive that his interlocking metaphors are still quoted frequently in university science classes today.

Another simple example from Galileo's writings shows how a shift in metaphors can change the basic framework within which discussion of inquiry and truth take place. In his time many people believed that the greater the number of authoritative writers such as Aristotle you could assemble to support your contentions, the more weight they carried. The basic metaphor was that an argument was a kind of heavy structure supported by authorities as its foundation and pillars. In part, this view belonged to the tradition of Scholasticism, which had emerged and flourished at the same time as the great cathedrals of Europe were constructed. Galileo chose to check things out for himself, rather than rely on any past authority. He preferred <u>dis</u>covery to <u>re</u>covery of knowledge. But to make his point, he kept the notion of weight--and changed the context entirely. Reasoning, he claimed, was not a kind of hauling, but a kind of racing in which a "single Arabian steed can outrun a hundred plowhorses."[14] Winning an argument in science was no longer understood as the weight supported by the authority of others vertically, or even pulled horizontally. It was a matter of being the best and coming in first. This was consistent with the period of European exploration and expansion. Modern research is still framed largely by metaphors of discovery and the race to come in first, metaphors for science that Galileo pioneered.

One of the interesting things about the rhetorical power of metaphor is that even prose writers who have wished to condemn metaphor have often done so in metaphors or readily resorted to metaphorical structures of expression themselves.

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Thomas Hobbes, who had just lived through terrible social upheaval during the English Revolution and civil war of the first half of the 1600s, believed that not only the book of nature, but the book of human reasoning and human affairs was written in the language of mathematics. He is often regarded as a thorough-going materialist and quintessential realist. But his objection to reasoning with metaphors was that it was a "wandering amongst innumerable absurdities," only producing "contention, and sedition, or contempt."[15] "Wandering" is a metaphorical term, since he was not actually walking over physical terrain. In the context of his concept of sedition, the term betrays his unease with

words--and perhaps speakers--not under control. What sedition meant to Hobbes is given on the first page of his book, with the metaphor of the state as "an artificial man," in which:

> the sovereignty is an artificial soul, as giving life and motion to the whole body; the magistrates . . . artificial joints; reward and punishment . . . are the nerves; . . .; counsellors . . . are the memory; equity and laws an artificial reason and will; concord, health; sedition, sickness; and civil war, death.[16]

Sedition was metaphorical "sickness" in the body politic. In another writer's text, such an apparent contradiction between condemnation and use could merely indicate sloppy thinking. Given so precise and powerful a thinker as Hobbes, however, it is apparent that even those who distrust or condemn metaphor are unable to avoid using it.

Another example was John Locke, whose rhetorical denunciation of all figurative language was as clear as his use of such language. Locke was a generation younger than Hobbes, and looked back upon the transformation of England in the Revolution as constructive. Yet, like Hobbes, he considered himself an empirical believer in the material world and the methods of mathematics applied to the propositions of reason itself. On issues such as metaphor, he claimed that "all the artificial and figurative applications of words eloquence hath invented, are for nothing else but to insinuate wrong ideas, move the passions, and thereby mislead the judgment."[17] Scarcely two pages later, he reached for a metaphor to make a point about the "abuse" of language in public exchange: language is "the great conduit, whereby men convey their discoveries, reasonings, and knowledge, from one to another," and anyone who uses words unsteadily "does break or stop the pipes whereby it is distributed to the public use and advantage of mankind."[18] The notion that language is a conduit for the flow of thought from one person to another has remained a powerful image underlying our sense of communication as sending and receiving messages. The resort to images of plumbing stands in stark contradiction to Locke's professed disdain for metaphor.

One of the most famous writers on the subject of warfare, Carl von Clausewitz, decried metaphors in a similarly contradictory and intriguing manner. Clausewitz claimed that critical analysis must avoid "an ostentatious exhibition of ideas" and avail itself of plain speech. One error was using narrow systems as if they were formal bodies of laws.

> A far more serious menace is the retinue of jargon, technicalities, and metaphors that attends these systems. They swarm everywhere--a lawless rabble of camp followers."[19]

To condemn metaphor in such a colorful metaphorical manner implies that Clausewitz, like so many other original and influential writers, thought in profoundly metaphorical terms.

Clausewitz's great work On War is rife with metaphorical words, expressions and structures. Some of the most well-known expressions are fog, friction and centers of gravity in war, but every chapter contains a number of colorful or conceptual metaphors. The very first

page of his treatise offers a definition that is one of the structural metaphors embedded throughout the text: war is a duel.[20] The word in English conveys an extended set of images associated with sword fighting or with pistols fired under formal rules of distance and timing. These images are bound up with further metaphors of honor and manhood. Yet Clausewitz offered an entirely different extension of the German word (Zweikampf) usually translated into English as "duel." His suggestion in the next sentence was to picture a pair of wrestlers trying to throw one another. This conjures up very tactile images of sweating bodies gripping one another in quick interchanges of holds and contorted positions neither would assume alone--an entirely different metaphor for war. Yet the gentlemanly duel in the translation is so powerful that most readers simply ignore Clausewitz's own suggested image. The correct understanding of this prime metaphor is essential in grasping that Clausewitz understood war as a close-quarter wrestling match, no matter what physical distance might separate opponents. The images of holds, moves, countermoves, quick changes of offense and defense, balance, leverage and application of strength are associated metaphors applied explicitly or implicitly throughout his text.

> *Clausewitz's great work On War is rife with metaphorical words, expressions and structures.*

Clausewitz is not the only major figure whose lasting writings on war have employed metaphor in important ways. Thucydides and Sun-Tzu combine literary and rhetorical metaphor throughout. Thucydides clearly believed that Athens was, as Pericles said in his funeral oration, the "school of Hellas." But his entire Peloponnesian War is a schooling in the flaws as well as strengths of Athens, the nature of war, the process of historical storytelling, and so forth. The "school of the Greeks" was the Peloponnesian War itself, which is the metaphorical construction at the heart of the work. Similarly, the plague that strikes the Athenians becomes a metaphor for rebellion and war themselves. As one recent commentator has written, "the diagnostician Thucydides" believed his account would be "of educational value" to coming generations.[21] An understanding of what this commentator means, and what Thucydides is about, is greatly impoverished without an understanding of metaphor.

An understanding of the masterpiece attributed to Sun-Tzu, The Art of Warfare, is not impoverished without a grasp of metaphor; it is impossible. The coherence of polar opposites, one shady (yin) and the other sunny (yang), makes no sense unless understood much the way Shakespeare poetically structured Romeo and Juliet. Sunshine and shade are mutually exclusive in one sense, but complementary and interactive in another. Relationships are always in flux, moving on a continuum of contrastive polarities. A recent translator has written, "The general and most basic language for articulating such correlations among things is metaphorical: In some particular aspects at some specific point in time, one person or thing is 'overshadowed' by another."[22] The same holds true for Chinese thinking on theory and practice, which is why "military strategy, like any of the other 'arts' (culinary, divinatory, musical, literary and so on), can be used as a source of metaphors from which to shape philosophical categories."[23] The analogies that characterize Sun-Tzu's treatise are structured within this metaphorical interplay of shade and sun. There are occasional western-appearing metaphorical expressions; one such is

> *An understanding of the masterpiece attributed to Sun-Tzu, The Art of Warfare, is not impoverished without a grasp of metaphor; it is impossible.*

the declining state of an enemy's morale from the morning, through the noon and into the evening of a war.[24] But the metaphor of shade/sun must be understood as the terrain over which the analogies flow.

METAPHORS IN RHETORICAL PRACTICE

There are two further features of metaphors as literary or rhetorical devices that require brief attention before moving to metaphor as a cognitive process. The first is the place of metaphor among other elements of figurative language. As important as metaphor is, it is not the only figure of speech that matters. We should not lose sight of this context and overemphasize the role metaphor plays in our communication. The second is a consideration of what it takes to employ metaphor well. This is not a manual on writing or style, but a look at some criteria of good and some common sources of bad metaphor will add to your understanding of this powerful and sometimes tricky feature of language.

One figure of speech often mentioned with metaphor is simile. Many students in school learn that a metaphor is merely a weakened simile with the word "as" or "like" omitted. This is actually backwards, for a simile is a metaphor with "as" or "like" added to restrict its meanings. The notion that a metaphor is simpler than a simile is at variance with the views of all serious authors on the subject. A metaphor is more sophisticated, because a simile's terms of comparison are explicitly stated, and the stress is on similarities. A metaphor's comparisons are usually implicit, and both similarities and differences are evoked, leading to more imaginative interpretations of what has been expressed. Most authors regard a simile as a scaled-down version of a metaphor that requires less work by a reader or listener.[25]

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In the western literary and rhetorical traditions, some of the most important figures of speech are also categorized as tropes. In general a trope is a figure of speech by which one thing stands for another. Terminology varies, because ancient classical writers elaborated on and refined Aristotle's treatment, generating a wide range of numbers and categories of both figures and tropes. Today four are usually considered the master tropes, with metaphor often regarded as the most important of all.[26] The relationships among the four are complex, and it is not necessary here to try to untangle them. But in order to place metaphor itself in a broader context, it is useful to mention the others briefly.

Like metaphor, irony is a trope that involves a shift in perspective. In simplest terms, ironic expressions state the opposite to what is meant, often with an implied wink to the listener or reader. They thus shade into sarcasm. In a broader sense, they can also indicate a recognition that actions have led to results opposite to those intended. In using irony there are implicitly two audiences, one of whose members are expected to take the ironic statement literally, and a second whose members are taken into confidence by the speaker or writer.

The ironic situation can also involve seeing someone or something else as oneself, but from a vantage point of distance or later development. Recognizing the presence of yourself in a younger or inexperienced person is one example. Parents, teachers, trainers, seasoned veterans, and mentors of many kinds find themselves in this position. In the dramatic irony of plays or films, the advantage of already knowing what is going to happen to someone is the playwright's or director's point of view. As the director displays scenes not known to one of the characters, the audience is taken into confidence and can tell in advance what is likely to happen when the character turns the corner or enters the room. The viewer or reader can identify or empathize with a character who does not know of an impending betrayal, disaster or good fortune. The viewer can also succumb to a feeling of superiority over the characters, because their field of perception is more limited.

Irony is also an element of the perspective of historians, who usually already know how events are going to work out for the people under study. Thus irony plays an important role in military historical studies, where the student knows what the participant does not. As in the movies or theater, this trope can easily lead students of history into the trap of a false sense of superiority and easy judgment.

Metonymy and synecdoche are the tropes that give force and expression to the reductionist impulse, whether in literature or in science. As is the case with metaphor, irony and sarcasm, these are Greek words (metonymy meaning "change of name" and synecdoche meaning "receiving jointly"). When we reduce something to its attributes or associated characteristics and let one stand for the whole, we engage in metonymy: "The White House [standing for the President] announced the nomination today." When we take the part for the whole, representing the action or essence of the whole by that part, we engage in synecdoche: "The pen [writing, or discourse] is mightier than the sword [arms, or warfare]." Some authors use the term synecdoche for moving either way within a predetermined hierarchy--from the particular to the general or from the general to the particular. These two tropes often work as a pair, since an attribute can be thought of as a part of the whole, too.[27]

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In science, they are fundamental to the construction of models, where the attributes are known as variables, and a selected subset of variables is the part that stands for the whole. The ideal, prototypical synecdochal construction is a microcosm, in which the whole is embodied in the part. In contrast to the cloud of associated implications conveyed in a metaphor, an analytical model simplifies and restricts in the manner of a simile. This can be extremely productive when it is useful to

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idealize a system mathematically. It may come as a surprise to realize that "literary" devices shape much of what we understand as scientific expression, but even equations are sentences (in which the equal sign stands for "is") nested in the semantic contexts of theories. And something has to guide the intuition of scientists at the research forefront, where the rules for reality have not yet been clarified.

These tropes also underlie many social constructions important to us on a daily basis: all notions of representative government, for example, are founded on synecdoche. The idea that a single person or even a political party can truly "represent" (i.e., re-present, "make present again") the members of the body politic would make no sense without it. The United States Congress was in turn designed to be a microcosm of the interests of the people. Social judgments are often made on the basis of an encounter with one or a few supposedly representative members of some category of persons (synecdoche), whose perceived attributes are then ascribed to members of that category as a whole (metonymy).

Exactly who is regarded as representative and which attributes are noticed are important issues with far-reaching implications. For instance, the U.S. Army is widely regarded as representative of the American people, especially due to the notion of the citizen-soldier in time of conscription. What the Army does and what attributes it displays carry the name of the people as a whole, even in times without conscription. As one consequence, unlike the situation in countries lacking representative government, the American people perceive a stake in and responsibility for their Army's actions. This forms a fundamental justification for media access to military decisions and operations.

Synecdoche is also the trope that, in conjunction with metaphor, gives power to such expressions as: "The individual Marine IS the Corps."[28] To regard a single Marine as representative of the entire Corps is to imply that each Marine is a microcosm of the organization as a whole. To go one step further and understand the individual as the Corps in any serious way is to establish a metaphorical framework for seeing all 174,000 Marines at once. The statement cannot be literally accurate, or the Corps would only comprise a single Marine and the budget for the Marine Corps would be instantly jeopardized in Congress. It is nonetheless true and meaningful in a profound sense. This is an example of a metaphor built upon a synecdoche. A metaphor often operates in conjunction not just with entailments of the images it creates or other metaphors, but also with other tropes. This versatility is part of its cognitive function, which will be discussed below.

There is no single list of the criteria for generating a good metaphor, but appropriateness, coherence and vividness are commonly mentioned characteristics of success. Aristotle stressed the necessity of ensuring that a metaphor fit the purpose for which it was intended. If you want to heighten the importance of something, you should employ serious or grand metaphors. If you want to diminish its importance, then

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trivial metaphors are appropriate. You also must consider the members of the audience and use a metaphor that resonates with their experience.

An illustration of appropriateness for an audience may clarify this vague-sounding criterion. A literary critic has told the story of a lawyer friend of his, who was defending a large utility against a suit from a small one in the American South.

> All the law seemed to be on his side, and he felt that he had presented his case well. Then the lawyer for the small utility said, speaking to the jury, almost as if incidentally to his legal case, 'So now we see what it is. They got us where they want us. They holding us up with one hand, their good sharp fishin' knife in the other, and they sayin', 'you jes set still, little catfish, we're jes going to gut ya.' At that moment, my friend reports, he knew he had lost the case. 'I was in the hands of a genius of metaphor.'[29]

The metaphorical relationship of big utility to little utility is established by the difference in size of the fisherman and the catfish being held in the air. But there is also the image of the fisherman as menacing, with the catfish at his mercy. The little fish is not even going to serve as dinner, it is just going to be gutted. In a courtroom trial the key move is often to frame the case for the jury in a way that predisposes its members to find for your client. This metaphor certainly did so, by meeting the criterion of appropriateness in a memorable manner.

The coherence criterion applies to the fact that not just any fish would do: a catfish is familiar, harmless and easily caught. Holding a knife to a shark or a marlin would not convey the innocence and need for help that the catfish image delivers. Imagine the incoherent impact of saying, "You jes sit still, little shark." Furthermore, "jes set still" metaphorically implies that the big utility wants the little utility not to complain or sue when it is threatened. We speak of people or their organizations not sitting still for having their interests threatened; a catfish would hang or lie or flop there, rather than sit. Coherence is also related to the compactness that characterizes metaphors. Metaphors always imply more than they state. When they are coherent, their implications reinforce each other to intensify the energy of the message.

Metaphors work best when they are also vivid, and novelty or daring creates vivid impressions. There is a surprising amount of energy in the scene the lawyer created. It stems primarily from the tension in the air as the fisherman is about to plunge the knife home. It also derives from the unexpected juxtaposition of corporations with fishermen or fish. (It would be more common to describe the utilities as a big fish about to eat a little fish in a merger.) Furthermore, there is an implied need for the jury to intervene on behalf of the small and innocent.

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The life of the catfish is a metaphor for the livelihood of the smaller utility. Given this framework, the jury is called upon to save this life. No wonder the lawyer for the big utility realized that the points of the law were hardly relevant and the case was lost then and there.

If appropriateness, coherence and vividness are hallmarks of successful metaphors, then violations of these criteria are sources of poor results. Many metaphors are inappropriate due to the lack of a sense of proportion: grand metaphors do not diminish, trivial metaphors do not heighten importance. A grand metaphor applied to a common item--as too often occurs in advertising and sports' announcing--undercuts the credibility of the user. Hyperbole (overstatement) can be a useful rhetorical form of sarcasm, but hyperbolic metaphors often produce only a sense that the speaker cannot be taken seriously. Recently a local sportscaster reported that a football player "parted the Red Sea of blockers" in returning a punt for a touchdown. Aside from the fact that the blockers were his teammates and a lane through the tacklers is what made the run possible, the metaphor of the player as Moses racing up the field was incongruous and unconvincing.

> Frequently, mixed metaphors simply provoke amusement at the expense of the writer's message: the politician "is leading the people over the precipice with his head in the sand." It is truly difficult to lead anyone in that position.

Mixing metaphors, as emphasized in any style manual, produces incoherence. It is one thing to mix metaphors in successive sentences. This is not optimal, but the differing metaphors can be understood as successive members of a list.[30] It is quite another to mix them in one sentence, which means within one thought. Because their implications are divergent or at cross-purposes, the listener or reader must work to construct a serious meaning. Frequently, mixed metaphors simply provoke amusement at the expense of the writer's message: the politician "is leading the people over the precipice with his head in the sand."[31] It is truly difficult to lead anyone in that position. Of course, this is perhaps not so bad as accidently confusing a metaphor with the literal meaning of one of its words: "a crash course for student pilots."

Familiar metaphors and clichés dull imagery by their overuse. Phrases that were once clever or evocative, such as "face the music" or "straight from the hip," convey very little. Many metaphors follow a "life cycle" from novel through familiar to clichéd to dead, after which they are taken as literal unless someone reopens their etymology. In most cases, stringing together familiar metaphors and clichés simply lulls the listener or reader. This knowledge is what prompts some sports announcers, whose coverage of events abounds with such outworn expressions, to reach for a Moses to part the Red Sea on a touchdown run.

CHAPTER TWO

The Force of Metaphor
in Cognition

In this chapter we will take up the question of the cognitive dimensions of metaphor--in the singular. The ground for the study of metaphor has shifted considerably in the twentieth century. In literature the main issue has been the poetic, evocative dimension of metaphors. In rhetorical fields there has been a keen appreciation of the persuasive power of metaphors. The literary and rhetorical understandings of metaphors are still taught in high school and college English classes, where they largely pass for common sense. But the focus of earlier understandings was on metaphors as words. We now see that approach as addressing only one layer of significance and interest, and it is common to encounter serious concern for metaphor in many other fields.

The focus of earlier understandings was on metaphors as words. We now see that approach as addressing only one layer of significance and interest.

Today's emphasis is on metaphor as a cognitive process, most of whose operation is hidden below the surface of our conscious processes of communication and perception. Researchers have only begun to explore those deeper contours, where metaphor functions as filter, framework, template, etc. The recent surge of interest in metaphor differs in character across the various disciplines where it has been rising. Philosophers, anthropologists, cognitive psychologists, linguists, computer scientists, for example, all recognize the importance of metaphor, yet in ways specific to their disciplines. The goal in this section is to offer you a brief overview of a few of these discussions to indicate how they relate to one another and what patterns may be available for application. We will again proceed historically. As with the Marine Corps as an organization, language and concepts evolve over time, and our understanding of where we are today is deepened if we attend to the traces of the past embedded in our present. In the next chapter we will draw upon selected fields and authors for insights into areas of particular interest to Marines.

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FROM RHETORIC TO COGNITION

Many of the fundamental changes in our understanding of metaphor were already apparent in a set of lectures given by I. A. Richards in 1936 and still in print after more than 60

years. Richards was a literary critic, but he has become a much-cited transition figure, because his work went well beyond that of his predecessors. His analysis implicitly set the baseline for any modern theory of metaphor, which must simultaneously present a theory of human language, perception and cognition.

Richards began with the notion that rhetoric should not be the study of artful or persuasive language. He urged instead that it should be "a study of misunderstanding and its remedies."[32] One of the chief causes of misunderstanding, he argued, is the belief "that a word has a meaning of its own (ideally, only one) independent of and controlling its use and the purpose for which it should be uttered."[33] What we usually call the "definition" or denotation of a word, as found in a dictionary, assumes a stability of meaning that is misleading. In fact, Richards referred to the assumption that meaning belongs to words in their own right as "a branch of sorcery, a relic of the magical theory of names."[34]

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Such stability that does exist comes from the "constancy of contexts" that give a word its meaning. These contexts in turn are relatively constant only in a few settled regions of technical fields in the exact sciences, where usage is constrained and long training creates a shared adherence to the meanings of terms. But our normal spoken and written language is in unceasing contextual flux. The patterns that can be found are much closer to those in biology than in physics.[35]

What, exactly, is a "context"? Richards did not shy away from this notoriously slippery notion. He did not mean just the words before and the words after the word in question. Nor did he mean an entire book nor even the conditions under which it was written. Richards understood context very generally as any cluster of events which recur together--including their prerequisites and whatever we regard as cause and effect to explain them. A word is an abridgment for both this recurrence and how we think about it. A word is a type of sign for the missing parts of the contexts whose power to affect us is delegated to it by our usage. Words are "substitutes exerting the power of what is not there."[36]

The fact that Richards was interested in what recurs rather than what occurs stemmed from his concern for perception. A thermometer responds to its environment is a simple way that constitutes sensation: the length of its bead of mercury varies directly with the temperature at the moment. But this response is only of the moment, it is a mere datum, an it; past and future readings and their order of recording have no bearing on a properly functioning thermometer. Richards believed that, unlike many of the instruments we make, we have no real sensations in our minds:

> Instead we have perceptions, responses whose character comes to them from the past as well as the present occasion. A perception is never just of an it; a

perception takes whatever it perceives as a thing of a certain sort. All thinking from the lowest to the highest--whatever else it may be--is sorting.[37]

We are responsive to our environment in a peculiar way that we call animated, with perceptions based on sorting in turn based on remembered past experience. All perceptions are thus simple forms of interpretation. Perceptions require experience. Language gives that experience a particular shape in our minds.

One implication of his views only hinted at by Richards is that a truly unique moment does not make for a perception. The mind does not process it. There is a record, of course, but no way to read it. There is no perception until there is a pattern, which means there is no comprehension (and perhaps no memory) of what happened. The unique moment is a "zero-th" occurrence. What we call the "first" occurrence of something in our lives is only perceived at all as a recurrence of something else. It takes two points to create a line, and it is not the initial point that enters our perception, but the trajectory between the first pair. The past is not dead--it provides a starting point for our understanding of the present and our anticipation of the future.

We are pattern-questing creatures. This quest is a general phenomenon of human experience, and is the heart of the process of interpretation. We even seek or invent patterns where none actually exist. Richards insisted that not only what is heard or seen plays a role in this process, but how it is heard or seen must occur in relation to other occurrences: a musical note takes its character and plays its role in relation to other notes; the perceived size or distance of an object depends on other things seen with it. He went even farther: what is not experienced on the given occasion but was experienced in the past can also play an important role in the current perception. In perceiving the size or distance of something, "all sorts of actions we might take in walking towards it, or grasping it, come in--though we may never think of them--to guide our interpretation.[38]

Richards held that everywhere in perception we find that something is interpreted only in regard to other things, and certainly this is the case in meanings of words. An uttered word is animated by the contexts, that is, recurrent groupings of events in our experience, from which it draws the power to affect us. The other words uttered with it bring their contexts along, too. And beyond this--as with the size or distance of something involves actions we might take in relation to it based on experience--the unuttered words in various relations to what is said may play parts we never consciously realize.[39] A word has meaning as a perception among other perceptions. There is always a background to any foreground. Words "interanimate" (prompt life or vigor among) one another.[40]

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Richards set out a continuum regarding the "interanimation," or mutual invigoration of words. The strict expository writing in some of the sciences has a large proportion of words that are relatively independent: "They mean the same whatever other words they are put with; or if a

word fluctuates, it moves only into a small number of stable positions, which can be recorded and are anchored to definitions." But we have taken this kind of frozen, stylized writing as the norm for communication. Richards contrasted a metaphor of fluid writing as a norm instead: "This is much as if we thought that water, for all its virtues, in canals, baths, and turbines, were really a weak form of ice." At the other end of the continuum lies poetry, in which not just words but the entire sentence-thought is unstable and open to a multitude of "interanimated" meanings. The poetic utterance exhibits a dynamic pattern of movement among meanings.[41]

The bottom line was Richards' view that meaning is the power of words (as signs) to bring together the missing parts of their various contexts. If context determines meaning in this way, then discourse is "over-determined," that is, words have a multiplicity of meanings. They are not atomistic blocks put together to form sentences. Instead, sentence-thoughts are the operative units from which we try to isolate the discrete meanings of words. Ambiguity is not a fault in our language to be remedied, but "an inevitable consequence of the powers of language."[42] One implication of Richards' ideas is that unlike contradiction or incoherence, ambiguity has important positive qualities. It is an indicator of the inherent complexity of human communication. Ambiguity cannot be eradicated, for it is essential to many of our most important modes of expression. The efforts of bureaucrats to eliminate ambiguity are as doomed as their efforts to cover every contingency.

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Based on his theory of perception and language, Richards disagreed with the vast majority of authorities on rhetoric dating back to Aristotle himself. Metaphor was not a clever trick with words, an ornament added to literal language. Richards' most well-known passage claimed that:

> [Traditional theory] made metaphor seem to be a verbal matter, a shifting and displacement of words, whereas fundamentally it is a borrowing between and intercourse of thoughts, a transaction between contexts. Thought is metaphoric, and proceeds by comparison, and the metaphors of language derive therefrom.[43]

Some transactions worked through a statement of identity or direct resemblance (the two contexts linked by the verb "is" or its equivalent). Others produced their effects through some common attitude we may have toward both contexts of the metaphor. Yet others worked more through disparities than through resemblance. In addition, the boundary between literal and metaphorical meanings could be blurred because we intend both meanings at once: would a person's wooden leg be a metaphorical or literal leg?[44] Metaphors invoked both similarities and dissimilarities, and the process of transaction was a way to perceive the new through the old, the unfamiliar through the familiar, the unknown through the known.

Richards believed, anticipating many contemporary researchers, that most thought was driven less by logic than by metaphor. The mind is a connecting organ, and metaphor is a

process of sorting and ordering the mind itself. (Dreams are one kind of metaphor activity.) The tension or ambiguity between the two contextually contrasting, yet compared, elements of a metaphor can spur the mind into action. Indeed, the paradigmatic activity of the mind is perceiving one thing in terms of another, not just registering data.[45] The transaction between contexts is the fundamental manner in which we comprehend something as something. Metaphor is the name we give to that transaction.

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Richards had many insights that were original, but in other ways he was not unique. Close to the spirit of Richards was Owen Barfield, a British lawyer who wrote extensively on the importance of metaphor in our cultural and social lives. One of his many suggestions was: "The full meanings of words are flashing, iridescent shapes like flames--ever flickering vestiges of the slowly evolving consciousness beneath them."[46] Barfield's experience with language in the courtroom reinforced his conviction that organic interaction among contexts was one of the essential features of the meaning of both words and actions.[47]

The views of Richards or Barfield explicitly convey what Marines implicitly know. What the word "Marine" connotes today, for example, depends clearly on both the historical and contemporary contexts. Even in the life of a single Marine, what the word is understood "as" changes dramatically over time. The full meaning of "Marine" to the individual is one thing during boot camp or OCS or The Basic School (TBS), another in the Fleet Marine Force, another after 5 or 10 years in the Corps, another after 20 years of service. The legacy of each experience informs and provides an ever-shifting coloration for the perception and comprehension of the next. This cognitive process is fundamentally metaphorical.

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Perception derives from contextual experience--the old and familiar provide a filter for understanding the new and unfamiliar. The underlying consciousness slowly evolving beneath the iridescent shape of the meaning of the word "Marine" operates at both the individual and organizational levels. If the individual Marine is the Corps, then "Marine" is itself a powerful metaphor for the experiences of the Corps. The identity of the organization depends upon the mutual invigoration of this term and words such as honor, courage and commitment. In exactly the sense argued by Richards, each animates and gives meaning to the others.

METAPHOR AS A COGNITIVE PROCESS

Richards' writings on metaphor touched upon a number of areas of concern to many philosophers and social scientists. One issue has been whether metaphors stretch our imaginations to tell us something truthful or whether they distort and deceive us about our world. Another issue is the role of metaphors as frameworks for addressing problems, and the ways in

which they open possibilities or restrict our horizons. A third has become the question of how commonplace metaphors really are, and whether their use is or could be limited to only some people and only some domains of activity such as art.

Since the beginning of the twentieth century analytical philosophers have been occupied with the use of language, principally in generating propositions that could be proven true or false. An important view was that the facts of the world are independent of the observer and are discovered rather than created. The world is neither more nor less than the sum of the facts that comprise it. But another view claimed that our understandings of these facts were themselves statements involving categories of definition and experience. The issue was the limitations that philosophers should place on everyday language in order to create a rigid exposition of the sort used in some areas of the sciences. Although in the 1950s many of them had abandoned the effort to create a thoroughly specialized language form and instead took up issues surrounding the ways in which ordinary language works in our world, this issue remained important in computer programming.

Some philosophers decided that, since metaphors are a vibrant part of ordinary language, it is important to understand their cognitive status. How metaphors work, and whether what they tell us is verifiable and reliable, turn out to be very complex issues. Max Black, the most influential writer on the subject, basically subscribed to the views of Richards: metaphor involves an interaction of contexts. Many metaphors work by projecting on the primary subject (such as "the right people") the system of implications associated with the secondary subject (who are the "lifeblood of the Corps"), and then eliciting in the mind of the hearer or reader a dynamic feedback loop between the two things in transaction (loss of the right people is a hemorrhage.)[48] But Black and others agree only that there is no general principle with which to describe how all metaphors work. There are too many contexts to consider and too many exceptions to any rule so far formulated.

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The reliability of what metaphors tell us about the world around us depends in great measure whether we are talking about the world that would be here without us, or the one we actually live in. To imagine the world without us is to imagine a world that is not real (we are here), yet that is the one many people take to be "objective." Because we are limited in our perspectives, the world we are in--the existing world--is always necessarily our experienced world under some description.[49] This issue is steadily gaining significance due in large measure to the ways in which our computers enable us to "experience" the world at a distance from their perspective through such means as visual displays of sensor data. Such displays are, of course, not mere sensations. They are a way of perceiving events in terms of their representations. They are metaphorical and carry the same complex issues of meaning as representations in words. In order to avoid semantic confusion, some authors have started to write of the "actual" world, a world in which we exist and into

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which we place more and more objects of our own making.[50]   These ideas have far-reaching implications for any notion of dominant awareness of a battle area or space.

There seems to be agreement that metaphors are about shifting our perspectives in this world, so that aspects of things are brought into clearer focus by the metaphorical process. We use metaphor to stretch, twist and expand our understanding of the world for cogent reasons: because we search through and test conceptual categories that are elastic and permeable; because the literal resources of language are insufficient to connect relationships, correspondences and analogies of areas that have been regarded as somehow separated; and because metaphorical utterance sometimes embodies insight we can express no other way.[51]

Some philosophers have added that what matters is not the meaning of a metaphor, but the intention of the person expressing it. It can be compared with irony as a kind of constructive falsehood, an artifice. (Picasso once said, "Art is a lie that makes us realize truth.")[52] A metaphor tells us more about the user's frame of mind than about the world around us. It not only provides a perspective on the user's experience of the world, but creates implications and filters expectations. A metaphor offers a standpoint, opens some possibilities, and closes others. These philosophers have argued that metaphor is more a matter of pragmatics than semantics, of practice more than meaning.[53] A metaphor, particularly when unreflectively employed, offers insight into how someone using it perceives the world. Understanding metaphor enhances pattern recognition.

Understanding metaphor enhances pattern recognition.

It is not as if the driving metaphors through which we perceive the world around us are acquired as mature adults. Quite the contrary. Cognitive psychologists have begun investigating the attainment of skill in metaphor use. The basic dispute in past years has been between those who regard the often striking metaphors generated by children as a sign of genius later suppressed by schooling, and those who regard such childhood expressions as incidental, since an understanding of vocabulary and meanings is necessary to break the contextual conventions of speech intentionally. The consensus is that children of age 4 to 5 already have sufficient linguistic and perceptual skills to employ metaphors knowledgeably. The range and sophistication is limited by life experience and motivation (especially in formal schooling), not linguistic competence.[54] Although the talent to employ literary and rhetorical metaphors varies, every competent language speaker employs their cognitive features.

At least partially due to the impact of computers in our lives, cognitive scientists have been shifting from declarative to procedural models of knowledge representations. In studying children, many have come to the conclusion that use of metaphors is not just a primitive, prelogical stage through which a child must progress to gain adult language skills. Given the growing awareness that people learn within specific knowledge domains, it makes sense that children would begin knowledge acquisition in a small number of domains that can then be used to understand new phenomena. Our experiential base grows as we mature, but this procedure

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continues into adulthood in conjunction with other forms of reasoning. Metaphorical reasoning predates, but also continues to underlie and form various templates for the later ways we learn about the actual world, where literalness is often mistakenly regarded as more adult than figures of speech. The boundary between figurative and literal use of language is, as Richards suggested, not at all clearcut.[55]

Linguists have become perhaps even more concerned than policy analysts or psychologists about the power of metaphor to frame, and thus constrain, our thinking and communication. One of the now classic treatments of this issue was published in the mid-1970s. Michael Reddy examined the conduit metaphor of language (the one used by Locke) that is typical among speakers of English.[56] It is not the case that people go around saying to each other "language is a conduit." But we commonly use expressions that rely implicitly on this root metaphor, especially when we talk about how we perceive problems in communication and ways to address those problems. Reddy pointed out that the "problem" is frequently expressed in statements such as "try to get your thoughts across better" or "you still haven't given me any idea of what you mean."

The implicit, unspoken assumption is the "figurative assertion that language transfers human thoughts and feelings."[57] Therefore it is common to find fixes to the problem of faulty communication phrased in these ways: "Whenever you have a good idea practice capturing it in words" or "Don't force your meanings into the wrong words." (It is Reddy's technique to highlight the revealing phrases.) Reddy offered nearly 150 examples of common statements that exhibit the presence in our minds of the underlying "language is a conduit" metaphor. This is only one way to conceptualize human communication. Another is to follow the suggestion of Richards, perceive words as organic, and imagine they can have lives of their own. In some cultures communication is perceived as a form of dance. But the conduit metaphor is so prevalent in English-speaking societies that it seems "natural" and completely unproblematic.

In some cultures communication is perceived as a form of dance. But the conduit metaphor is so prevalent in English-speaking societies that it seems "natural" and completely unproblematic.

Any time a social practice is tacitly accepted as given or natural, it is useful to look for the metaphorical understanding beneath it. There are a number of implications of the conduit metaphor that we do not usually consider. Reddy pointed out that the conduit image encourages us to perceive thoughts as if they had the same kind of objectivity as physical objects. When this presumption proves false, we look for someone to blame for the breakdown (an associated metaphor) in communication. The conduit metaphor also lulls us into thinking that ideas reside in words, books or libraries rather than in our experiences with each other. Reddy offered a contrasting metaphor of toolmakers using signs to create little areas of order around them, so that ideas and words are more like shifting clouds (recalling Barfield's iridescent shapes) of negative entropy we pass through together. Reddy suggested that language is not a medium for transfer but a shared project of ordering. An organic thicket of meaning, a dance, a shared pocket of order--these are some alternatives to the dominant metaphor for language use. Any serious

investigation of metaphor quickly turns up assumptions and implicit commitments about the way we perceive the world and communicate our experiences to each other.

METAPHORS WE LIVE BY

An extremely influential approach to metaphor as a commitment to modes of experience has emerged since the beginning of the 1980s. Two of the leading researchers, linguist George Lakoff and philosopher Mark Johnson, collaborated in a widely-read little book that explores the cognitive role of metaphor in our everyday language. Metaphors We Live By is filled with examples of implicitly related statements such as those collected by Reddy, but on many aspects of our lives besides the nature of language. The influential work of Lakoff, Johnson and others allied with them has produced a good deal of discussion about the implications of the cognitive role of metaphors in our lives.

Lakoff and Johnson examined structural metaphors where one notion or concept is understood in relation to another, but did not stop there. Orientational metaphors operate at an even deeper level to organize entire systems of metaphors. They found, for example, that UP and DOWN are linked in systematic ways with emotions, health, virtue, foreseeable events, rationality, energy, and other commonplace human concerns.[58] Keeping with Reddy's italicizing of the words betraying the metaphor, and adding capitalization to the underlying metaphor itself, they produced and analyzed relations such as these for English:

> *Orientational metaphors operate at an even deeper level to organize entire systems of metaphors.*

> HAPPY IS UP: My spirits rose. That always gives me a lift. Now I'm depressed. I'm feeling down today.
> GOOD HEALTH IS UP: She's at the peak of health, in top shape. He fell ill. I came down with a cold.
> HAVING CONTROL IS UP: We're on top of the situation. You can get control over it. He dropped the ball on this one. She has a superior (from the Latin for "above") grasp of the situation.
> VIRTUE IS UP: He is high-minded. We have high standards. They are upright, upstanding citizens. That's a low, underhanded trick. I wouldn't stoop to that.

Furthermore, abstract concepts in a scientific area can be linked to these. The high in high-energy particles is related to a generic MORE IS UP metaphor, while the higher level cognitive functions in psychology are related to the RATIONAL IS UP metaphor that prevails in western culture. Due to the shared orientation, all the metaphors mentioned are linked. Their entailments (associated implications) reinforce each other, recalling what Richards termed interanimation. Most of us do not even realize these related expressions have anything to do with one another.

Through a combination of such simple examples and some sophisticated linguistic and philosophical argumentation, Lakoff and Johnson persuaded many readers that metaphors form patterns that can be identified, examined and classified effectively. One of their salient contributions was to look at a single activity such as an intellectual argument, or a conception such as how we perceive time, through the lens of many different metaphors. This allowed them to create a context for analyzing the layers of relationships that usually pass unnoticed. AN ARGUMENT IS A JOURNEY and AN ARGUMENT IS A CONTAINER are coherent when you claim that so far all the facts fit into your argument.

They could then identify coherent or mixed metaphors in ways quite foreign to literary or even rhetorical analysis. At the same time, they also indicate the limits of coherence. You cannot try to follow the path of the core or heart of an argument. It would not be coherent to say that the direction of an argument is hollow. Since there are a number of other metaphors for argument (they also examine AN ARGUMENT IS WAR, AN ARGUMENT IS A BUILDING and AN ARGUMENT IS A CONVERSATION) there are many interactions that generate incapacitating ambiguity or outright incoherence for the listener or reader.

> Since there are a number of metaphors for argument, there are many interactions that generate incapacitating ambiguity or outright incoherence for the listener or reader.

In more recent publications Lakoff, Johnson and others have emphasized the experiential character of the cognitive metaphors they have explored. These experiences may be physiological or social, or both. Their claim is that metaphors offer one of the most important ways we perceive order in the actual world around us, and understanding that order involves our whole being, including the body. All our vaunted intellectual, conceptual schemes are actually traceable to bodily perceptions and experiences. Johnson has termed this "the body in the mind."[59]

> Metaphors offer one of the most important ways we perceive order in the actual world around us, and understanding that order involves our whole being, including the body.

There has been an enormous number of responses to and consequences of the newly accepted cognitive dimensions of metaphor, but here we will mention briefly only three.[60] The first is the critique by a number of anthropologists that there has been an overemphasis on metaphor as a universal cognitive instrument and focus of research. Underlying the use of metaphor itself is what Lakoff and Johnson admit is a "folk theory" concerning which metaphors make sense to use. Some anthropologists believe this is just another name for culture, and that metaphors deserve less credit for structuring our understanding of the world around us. They are selected by users because they "provide satisfactory mappings onto already existing cultural understandings."[61] Other anthropologists stress the dynamic interplay among various tropes and are not prepared to grant metaphor complete domination of all language that involves understanding one thing as another.[62] It is important, therefore, not to divorce metaphor from its cultural and semantic context.

> It is important not to divorce metaphor from its cultural context.

Second, other researchers, especially a number of philosophers, have expressed interest in the broadly humanizing implications of the cognitive function of metaphor. Investigators from Richards to Lakoff and Johnson have stressed that metaphor is not a linguistic extra device available only to artistically elite poets divorced from the rest of us. It is an important glue holding together communities not just of academic discourse, but of every social kind. Metaphor is personal and a sign of the vitality of human connectedness.[63] Common usage of metaphor involves extension and amplification of meanings. These generate both discipline and a certain amount of disorder that is not only a wellspring of creativity, but keeps us evolving under changing conditions in our surroundings.[64] Adaptiveness comes from the ability of a disciplined organization or community, such as the Marine Corps, to incorporate sufficient disorder and novelty to respond to its environment. Segregation from that environment is more likely to produce brittleness than suppleness. Attention to metaphor inside and outside the Corps can both enhance cohesion and maintain the permeability necessary for constructive change.

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A third important area is beginning to coalesce mostly among computer scientists, advocates of the Internet and others concerned with the interaction of humans and machines. If metaphors form one of the most important cognitive "as" gates in our human cognitive apparatus, one set of questions is about what we understand computers and computer-aided communication "as." One professor of architecture at M.I.T. has written a book entitled City of Bits, based on the metaphor of the information superhighway connecting information-driven cities. His chapter titles indicate something of the way we could perceive oncoming changes: Electronic Agoras, Cyborg Citizens, Recombinant Architecture, Soft Cities, and Building the Bitsphere.[65]

As software comes to dominate materialized form in many areas of our lives, the perception that such change is no longer of our making becomes palpable.[66] We have built into our information processing machines sets of programs that treat the mind of the computer as thoroughly logical. It reasons by using logic to infer the consequences of its built-in assumptions (definitions, axioms, postulates, algorithms). This makes sense so long as computer architecture contains only its current set of processing gates ("and," "not," "or").

Although we have not built an "as" gate, computer pioneer Stanislaw Ulam allegedly once remarked that when computers develop their own ability to understand one thing "as" another, they will become truly interesting and intelligent. The structure of their understanding will then be more like our everyday reasoning: using metaphors to explore the entailments of experiences (perceptions, perspectives, associations). Once the machines are no longer information processors, and become meaning generators--as they invigorate one another--a very

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important question will involve the metaphors and other tropes they will use. What will constitute the experiential character of their metaphors? How will their "physiology" or "metabolism" affect their reasoning about what is actual? What will be their "body in the mind"? What will be their core values? What will they understand us "as"? The implications of such

questions for computers involved in various levels of warfare are beginning to move out of the realm of science fiction and into the realm of Department of Defense planners. Future military leaders need to be thinking about them now.

CHAPTER THREE

Metaphors for Marines

We have long understood metaphor as a literary and rhetorical device of uncertain cognitive properties. Researchers now believe it is actually a crucial cognitive process, with very important literary and rhetorical uses. This change has far-reaching implications. Those of particular interest to Marines lie in the realms of doctrine, innovation, cross-cultural communications and leadership.

DOCTRINE: METAPHOR AND MEANING IN TEACHINGS

Marine Corps doctrine is about not only basic principles, but the exercise of judgment in applying them. It is also about sharing goals and experiences. According to MCDP 1, Warfighting, doctrine "is a teaching of fundamental beliefs" that establishes a "particular way of thinking about war and a way of fighting," while providing "the basis for harmonious actions and mutual understanding." Although "authoritative," it is "not prescriptive."[67] Doctrine both creates cohesion and is dependent upon it. It establishes a common language, but could not do so without common experiences in recruitment, training, deployment and commitment.

In contrast to other services, which place a much greater emphasis on technology, the Marine Corps stresses primarily the human factors in warfare. It makes a virtue of its smaller size by encouraging a self-selected Few and Proud to become Marines. To any outsider, it is apparent that those who cannot handle the face-to-face encounters and physical contact in training are less likely to make it through the transformation process. If they do, they are less likely to do well and make a career in the Corps than those who thrive in such an environment. The in-the-mud, in-your-face training reinforces certain personality traits that must be present in any infantry unit. And Marines, particularly Marine officers, pride themselves on being infantry at the core. Furthermore, Quantico is truly a "crossroads," reinforcing personal acquaintanceships as Marines who completed OCS and TBS return there for schooling and other assignments. At sea and on land, Marines learn to know and trust each other personally, making it possible for them to visualize each other even at a distance.

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>
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The degree of expected personal interaction is striking, especially in contrast to a service such as the U.S. Air Force. A Marine pilot may well be talking to an OCS or TBS classmate on the ground, not a fellow pilot temporarily assigned as liaison officer, but a classmate who is a professional infantryman or armor commander. And even if the officers on the ground are not specific classmates, they and their situations can be visualized to a degree extremely unusual in other services.

Both MCDP 1 Warfighting and MCDP 6 Command and Control can build upon the reservoir of shared experiences and interactions and place stress on implicit communication as superior to detailed instructions. To "communicate through mutual understanding, using a minimum of key, well-understood phrases or even anticipating each other's thoughts--is a faster, more effective way to communicate." For this to occur, there must be familiarity and trust "based on a shared philosophy and shared experience." Therefore, "key people--'actuals'--should talk directly to one another when possible, rather than through communicators or messengers."[68]

The Marine Corps must place a premium on good communication, since one of the basic tenets of Marine doctrine is the decentralization of command in order to deal with the uncertainty, disorder and fluidity of combat. The organizing metaphor for communication that runs through various publications is not structured on language in the narrow verbal sense, and certainly not the conduit image that dominates in American speech patterns. It is apparent to an outsider that a very important, though implicit, Marine Corps root metaphor is COMMUNICATION IS FACE-TO-FACE CONVERSATION.

This does not mean, of course, that most communication in battle or even in peacetime will actually be physically face-to-face. Quite the contrary. But this underlying metaphor for communication makes possible a degree of interaction and participation that is extraordinary. General A. M. Gray, in his 1989 preface to Warfighting, for example, urged every officer to "read and reread this text, to understand it, and to take its message to heart." In the new edition he indicates, however, what such a charge actually entailed: "We have succeeded. Warfighting has stimulated discussion and debate from classrooms to wardrooms, training areas to combat zones."[69] He expected communication of doctrine from above to produce face-to-face responses throughout the ranks. Marines are expected to be attentive participants, not passive receivers, even in matters of fundamental doctrine. Even a cursory look at publications such as the Marine Corps Gazette or Marines reveals the same expectation and tone of personal, reciprocal conversation.

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Marine command and control doctrine depends upon the meaning of this root metaphor. MCDP 6 on the subject specifies that command and control are about decentralized decision and continuous feedback loops, not one-way activities from the top down.[70] Communication is not just information transfer; its purpose is to improve understanding. Indeed, MCDP 6 states: "the act of communicating strengthens bonds within an organization and so is an important device in building trust, cooperation, cohesion, and mutual understanding."[71] Both MCDP 6 and MCDP 1

contain strikingly unusual passages about the importance of the nonverbal elements of face-to-face communication. MCDP 6:

> Human beings communicate not only in the words they use, but also by tone of voice, inflection, facial expression, body language, and gestures. In fact, evidence suggests that in face-to-face communication humans actually communicate most by visual means (such as gestures, body language, or facial expressions), second by vocal nonverbal means (such as tone or inflection), and least by the actual words they use.[72]

MCDP 1 emphasizes that Marines should communicate orally and in person when possible, because how something is said is an important aspect of the implicit communication upon which decentralization of command in a fluid situation depends.[73]

Metaphors whose entailments resonate with the root metaphor COMMUNICATION IS FACE-TO-FACE CONVERSATION produce a coherent message. Those that presume a distance or a filter between persons or even levels of command become dissonant. The "teacher-scholar" metaphor of General Lejeune, for example, might work well for Marines who attended small colleges, but not as well for those from state colleges where there are many large, impersonal classes. To be coherent in the Marine context, the metaphor must mean face-to-face, mentor-pupil or tutor-pupil relationships. A communication metaphor based on quiet speaking or sharp teeth might also make sense, while one of a roaring vehicle or of shouting from mountain tops might not. On the other hand, the strong emphasis on trust and familiarity among Marines implies that an opponent who could manage to incite mistrust might sever the roots of effective Marine communication, command and control.

Another way to think about metaphor and doctrine is to explore its application within the Marine Corps thinking about war. The basic teaching of the Corps is that the wars it faces are predominately quick, focused applications of force in an expeditionary mode. This requires excellent training, discipline, initiative, strength of character and force of will. Technology is subordinated to the human element. One reason Clausewitz plays an important role in the Marine Corps doctrine is that he understood war as a profoundly human contest of wills. As indicated in Chapter One, his fundamental metaphorical image was wrestlers closing with one another. This was not an accidental choice of words. His other famous definition, that war is the continuation of policy/politics by other means, should be understood in ways compatible with the central image: politics/policy and war also interact with one another in quick interchanges of holds and contorted positions neither would assume alone. The variable size of Marine units and their versatility allow them to be committed rapidly to produce a resolution of events, but then withdrawn as quickly as necessary. There is also a fundamentally tactile, visceral dimension to the Marine spirit. This is perhaps why there is such resonance with General Ray Smith's two-word metaphor for the doctrine of warfighting: "Sic 'em!"

> *To be coherent in the Marine context, the "teacher-scholar" metaphor must mean face-to-face relationships.*

An important amplifier of combat power is surprise, and here metaphor has a greater potential role than most people might imagine. According to MCDP 1, two of the means for generating surprise (along with stealth) are deception and ambiguity.[74] Both implicitly depend on making use of the enemy's actual world, the one perceived and experienced rather than the later reconstructed "objective" set of conditions. Deception depends not on mere deceit, but on anticipating the enemy's expectations and playing on them.

> *Deception depends not on mere deceit, but on anticipating the enemy's expectations and playing on them. One way to obtain access to those expectations is to analyze enemy doctrine and its root metaphors.*

One way to obtain access to those expectations may be to analyze enemy doctrine and operations for their root metaphors. We know how revealing our own metaphors can be (think of the simple boxing "left hook" and football "Hail Mary" metaphors in the Gulf War). Can we obtain access to the enemy's thinking to gain practical insight or understanding that we can use against him?

Although analysis of enemy root metaphors is not routinely performed, if it could be done it would be of great utility. The small size of the Corps and the demands on personnel normally require Marine intelligence analysts to be generalists rather than specialists. Yet MCDP 1 states:

> We should try to 'get inside' the enemy's thought processes and see the enemy as he sees himself so that we can set him up for defeat. It is essential that we understand the enemy on his own terms. We should not assume that every enemy thinks as we do, fights as we do, or has the same values or objectives.[75]

Pursuant to this goal, it could pay large benefits to be on the alert for indicators of underlying metaphors, because they can reveal implicit, often unexamined assumptions of an enemy's thoughts. They provide frameworks for problem-setting, and within those, problem-solving. In particular, how does a specific enemy's doctrine address troublesome issues? What are the cognitive metaphors for identifying weaknesses, fixing breakdowns, handling unfavorable situations? If it is possible to offer intimations of a problem that "fits" within the enemy's metaphorical framework, you have a greater chance that the enemy's responses will be susceptible to deception.

Surprise can also be generated by ambiguity. This may mean presenting the enemy with a large enough number of possibilities that he cannot judge which ones require a response. But ambiguity may also be generated on the basis of creating frame conflicts among the enemy's organizing metaphors. A metaphor always means more than it states. Ambiguity can arise not just from a multiplicity of possible actions on our part, but differing interpretations by the enemy of even a few possibilities. When the entailments of root metaphors clash, the result is often temporarily incapacitating cognitive dissonance, both in individuals and organizations. This course of action also requires some access to the way an enemy thinks, perhaps as indicated in cultural norms or doctrine or intelligence on unit and commander tendencies.

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One of the most striking metaphors in Marine Corps doctrine is the amplifying role of time. There are actually two complementary variations of the same concept, which could be phrased: TIME IS A LIMITED RESOURCE and SPEED IS AN ASSET. Aside from the obvious uses of the word time such as "maneuver in time" and "faster operating tempo," these implicit metaphors appear throughout MCDP 1. A few selections of their entailments:

> Speed over time is tempo . . . experience shows that we cannot <u>sustain</u> a high <u>rate</u> of speed <u>indefinitely;</u> public support for military action may be tepid and <u>short-lived;</u> The enemy must be made to see the situation not only as deteriorating, but deteriorating at an <u>ever-increasing rate;</u> A key part of effective decision-making is realizing how much decision time is <u>available</u> and making the <u>most</u> of that time; . . . we should also recognize those situations in which time is not a <u>limiting</u> factor.[76]

It is clear that a basic tenet of Marine Corps doctrine is that Marines should expect to operate in a time-competitive environment. MCDP 1 specifies in an explicit metaphor: "<u>speed is a weapon</u>."[77] This is a powerful image, and one that fits well with American culture. What may be less obvious are some of the constraints imposed by perceiving time as a limited quantity and speed as an efficient expenditure of that quantity.

Important constraints derive from a particular implication of such metaphors: quantities are assumed to be measured the same by anyone. But Marine doctrine also involves asking how an enemy's perceptions are similar or different from our own. Is time seen as a natural resource to be consumed, or is it seen as a gift of the gods to be treasured? That is, what are the qualitative rather than quantitative attributes of time for the enemy? What metaphors in doctrine or elsewhere might offer a clue? It is possible for the thinking of an opponent to be framed by TIME IS AN ALLY. The entailments of an ally are human qualities--supportive attributes such as patience, loyalty, strength, support, or companionship. Those of a resource or weapon are inanimate. To change the perception of time in the mind of an opponent is often a political or strategic goal. There may be ways to achieve analogous changes at the operational or tactical level. If so, an important part of the battle or campaign will be fought through metaphors in the minds of combatants and civilians alike.

It is also important to ask how Marine Corps doctrine looks from an enemy's perspective, that is, from the vantage point of a potentially different metaphor. The emphasis on quick reaction and shorter decision cycles than an opponent creates its own sense of urgency. Could this become a fixed habit to be exploited by an enemy? Good negotiators know how to slow down time-steps to unnerve someone in a hurry. In certain Asian cultures, time is viewed on a much longer scale. In the course of the war in Vietnam, the enemy perceived time as an unlimited resource--or even as a metaphorical jungle or morass--and used this perception to great advantage against the dominant American short-time, quick-results metaphors on the ground and on the home front.

Does the Marine emphasis on tempo create a predictable pattern of behavior rooted not only in doctrine, but unconscious metaphors endemic to American culture? A team in football has options such as screen plays to use against an aggressive, quick opponent. If Marines are metaphorically playing fast-break basketball, what happens when the opponent is playing Go (Chinese game of strategy, similar to chess, where moves are methodical)? MCDP 1 mentions the importance of a kind of boldness constituted by a "nervy, calculating patience."[78] But an opponent may be more temperamentally or culturally suited to exhibit this characteristic than Marines. It may not be enough to mention the possibility of such patience; it may be necessary to equip Marines with metaphors of this type of boldness if you expect them to display the trait.

INNOVATION: CONCEPTUAL AND ORGANIZATIONAL CHANGE

Innovation requires a kind of boldness, and metaphors of innovation abound, but we will limit this discussion to ways in which innovation is a form of evolution. One important area is the evolution of concepts, especially in relation to scientific discoveries, new technical artifacts and their associated technologies. Related to this, in terms of adapting to both developing technologies and evolving concepts, is organizational dynamics.

I. A. Richards observed that all thinking is sorting; so is all evolution--whether of concepts, machines or organizations. Linguistic evolution is the sorting process over time of the words and expressions and the ways they prompt life or vigor among one another. Conceptual, technological and organizational developments display many of the same characteristics. Here, too, metaphor is an important ordering process by which we initially understand the new through the old, the unfamiliar through the familiar.

Concepts evolve in a complex process of displacement. This is not quite the notion of a "paradigm shift" within a scientific discipline. One researcher has argued that metaphors play both a radical and a conservative role in the evolution of concepts and theories. A successful new idea is not substituted for an older one directly. Neither is an old concept applied to a new situation directly and literally. Instead, an older notion is taken as a metaphor for the new context. This produces ambiguity and opens possibilities: "The new concept grows out of the making, elaboration and correction of the metaphor. There is no one point at which it emerges since the process is continuous, like the emergence of a biological species."[79]

As Galileo clearly understood, for many people, once you shift the basic metaphors within the sciences, you have shifted not just our perceptions, but the grounds for claims about what is "really" there. Once you replace the metaphors, you change our lives and our actual world in profound fashion. Metaphors have the power to constrain or liberate our imaginations.

Sometimes the liberty is as exhilarating as the constraint is comfortable, and different cultures and individuals tend to accommodate the tension between the two in distinctive ways.

Historical cases where an older artifact or process framed the understanding of a new one are legion. The locomotive was originally understood as an iron draft animal, a beast belching fire and smoke and roaring as it rumbled through the valleys of Europe and the Americas. A few persons such as Helmuth von Moltke soon perceived its implications for delivering troops to the battlefield. It took decades before most people understood the locomotive and its rails not as a wagon or carriage, but as an entirely new concept--the railroad as a system.[80] Soon thereafter the expression "to railroad" someone came to acquire metaphorical meaning. Another example comes from air travel. Aircraft propellers were initially engineered at the stern not because they had to be for aerodynamic reasons, but because they propelled a craft through the air. No boat had a propeller in the bow. "Tractor" propellers were not developed until shortly before World War I, when engine designs required them up front for cooling purposes. The horseless carriage, wireless telegraphy and electronic valves (vacuum tubes) are phrases that betray the metaphors through which the car and the radio gradually emerged.[81]

> The expression "to railroad" someone came to acquire metaphorical meaning.

Once new concepts or technologies emerge, they animate new metaphors applied elsewhere. This is not a linear process, since there is feedback at every moment among all participating technologies and concepts, with cascades throughout. The situation is much like the multiple rippling through an ecosystem when conditions are unusually dynamic. For example, the dry photocopying process was first understood as a form of mimeographing, and the leading duplication firms turned down the opportunity to develop the patents that eventually formed the basis for Xerox Corporation.[82] To "xerox" or make precise copies of something can now be applied to processes having nothing to do with paper, such as cloning. Linking the copy process to computers and fax machines produces yet other metaphors. One fact that applies equally to business life and military affairs is that if you are still using metaphors of an older outlook to contain the new, while a rival or opponent has already made the transition to new metaphors in order to open unsuspected possibilities, you fall behind as surely as you would in the realm of military decision time-cycles.

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One of the newest technologies undergoing the process of making, elaboration and correction of an initial metaphor is web site production. First generation sites are text, with top-to-bottom, left-to-right sequences of text and images, on the metaphor of the teletype for laying out pages. Second generation sites use icons to replace words, more metaphorical bulletin board than anything else, driven by technical possibilities. Today's third generation websites are entirely metaphorical and driven by design considerations, creating experiences of a door, entry tunnels or hallways, shopping aisles, browsing alcoves or check-out stations. One of the best recent books on web site construction devotes an important section to metaphor as a vehicle of exploration.[83] "Camp Marine," a CD-ROM program used in recruiting, is a Marine Corps step in

this direction. We are just beginning to explore the entailments of the Internet and web as metaphors themselves.

Organizations, too, participate in an evolutionary process and find metaphors an important means to open possibilities or constrain imagination. In 1986 Gareth Morgan, citing much of the research of the previous 35 years on metaphor discussed in Chapter Two above, published a book that has dramatically affected the field of organizational dynamics. Images of Organization established eight metaphors that dominate thinking within and about organizations, emphasizing how organizations respond to change. When many people in an organization perceive it "as" one thing, and new top management sees it "as" another, serious problems are bound to ensue if the metaphors or their entailments are incoherent. Much better communication and more effective action emerge when everyone concerned has coherent metaphors and metaphorical entailments. This is something perceptive leaders can facilitate if they are alert to the power of metaphor as a cognitive process.[84] According to his scheme, the Marine Corps would be a combination of the metaphors of culture and adaptive organism, which are quite coherent. There are certainly other metaphors at work in the Corps. Some of the entailments are at cross-purposes, but the overall coherence of the identity of the Corps is remarkable in comparison to other organizations.

> Organizations, too, participate in an evolutionary process and find metaphors an important means to open possibilities or constrain imagination.

There are still things that go wrong, however, and when they do, one approach is to actively manage the metaphors of whatever is in need of attention. One consultant to businesses has boiled the insights of Morgan and others down to four ways to manage change by listening to the stories people tell as their organizations face and deal with major transitions.[85] Another author has applied cultural metaphors to government in Sweden, showing how the workings of screenplays reveal the dynamics of a budget dispute.[86] A retired Shell Oil executive has argued that "living companies" value people more than any other asset, operating as careful gardeners committed to the survival of the organization as it evolves in a changing environment. When shareholders want profits above all else, "corporate money machines risk becoming an endangered species capable of living only in protected national parks."[87] In an era when business and market metaphors dominate much of our discourse, how is the Marine Corps perceived by its "shareholders," the American people and the Congress? What can the Corps do to affect its image in a changing environment? Can the Corps remain apart from corporate and market imagery? Should it?

> There are still things that go wrong, however, and when they do, one approach is to actively manage the metaphors of whatever is in need of attention.

Exploring the emerging literature on metaphors of organizations could have significant payoff for the way Marines view their units and the Corps as a whole.[88] Since the dominant organization metaphor for the Corps is a living culture, the ways it reacts to pressures for change might be better understood and more effectively employed. This would require not consultants, but

> Exploring literature on metaphors of organizations could have a significant payoff for the way Marines view their units and the Corps as a whole.

communication among Marines about use of metaphors and the assumptions, entailments and cognitive clashes associated with them. You would have to take the message about the importance of metaphors to heart.

Such an exploration might make it easier to spot anomalies. For example, the combat development process is currently understood at Quantico and Headquarters Marine Corps under the DOTES image. Five pillars of an ancient Greco-Roman temple represent Doctrine, Organization, Training/Education, Equipment, and Support/Facilities as integrated activities that support the combat-ready MAGTF. But pillars are a curious metaphor for a dynamic process. Pillars imply strength, hold up the roof of a structure, suggest authority and stability (especially when depicted in the style of an ancient Greco-Roman temple), and point to the importance of a sturdy foundation. But the reason we admire such structures is precisely because they are stable, lasting for centuries.

This visual metaphor is thoroughly static. It is not quite suited to a interactive process in a living organism or a dynamic culture. A metaphor that suggested viable interconnections would be more appropriate and coherent. Perhaps an image from chemistry or biology rather than one from architecture would convey the point. The DOTES elements of the combat development process are, after all, more like the distinct, yet interdependent elements of a living cell than venerable pillars. They are more like the five digits of one hand grasping each change than they are columns of marble resisting the ravages of time.

CULTURE: CROSS-CULTURAL COMMUNICATIONS

Both doctrine and innovation invoke a sense of tradition, the one to articulate it and the other to challenge it. As cogently stated in MCDP 1, doctrine teaches fundamental beliefs that establish "the basis for harmonious actions and mutual understanding." On the other hand, innovation displaces fundamental beliefs, biases and ignorance, while generating dynamic stages of new understanding. These often disrupt harmony and mutuality. Over the past few centuries a somewhat contradictory "doctrine" of innovation has become a significant element of the culture of a number of countries commonly referred to as the "West," the United States foremost among them. The tensions within and between the West and other cultures has increased as Western influence has expanded over the globe.

To speak of culture is to speak of community. Members of a community share many assumptions, attitudes, expectations and a sense of how things are, based on tradition and heritage. We can talk of high culture, popular culture or corporate culture, but generally we still mean a sense of community prevails. Culture in the broadest sense is often used interchangeably with civilization, involving the "values, norms, institutions, and modes of thinking to which successive generations in a given society have attached primary importance."[89] Religion is frequently at

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the heart of culture. Mutual comprehension across cultural boundaries has never been easy, largely due to differences in such important categories. Today, simultaneous "globalization" and increasing ethnic fragmentation have increased its difficulties. The world into which Marines must venture is complex and dense with cultural conflict, placing a premium on cross-cultural communications with both friend and foe. Such communication is always laden with metaphors that carry cognitive and experiential baggage with them.

With the end of the Cold War, attention to cultural tensions has increased greatly. The policy of "containment" dominated American thinking for the duration of the Soviet-American rivalry, and the metaphor embedded in the term was easy to understand. Allies were generated on the basis of shared experiences and common values, as expressed, for example, in Article 3 of the North Atlantic Treaty. Since the fall of the Berlin Wall, which had itself been a synecdochal metaphor for the division of the world, the search has been on for a new framework or lens with which to comprehend relationships and possible futures. Root metaphors such as "containment" and a "monolithic" opponent do not correspond well to the multitude of possible opponents we face today.

> **Root metaphors such as "containment" and a "monolithic" opponent do not correspond well to the multitude and variety of possible opponents we face today.**

Perhaps the most dramatic image has been the "clash of civilizations." Samuel Huntington's article in 1993 and book in 1996 of this title argue that peoples and countries with different cultures are and will be coming apart. Ethnicity, religion and tradition define geographical fault lines (based on the root metaphor of earthquakes) along which the world is dividing.[90]

The clash does not have to be geographical, however. Benjamin Barber contrasts not geography, but varieties of religious fundamentalism and global capitalism. Retribalization clashes with corporate fast cars, fast computers and fast food. The driving metaphors of our world today, his 1992 article and 1995 book proclaim, are "Jihad vs. McWorld."[91] Alvin and Heidi Toffler suggest that the clash is among the areas of the world operating under differential agrarian, industrial and information "waves" of technological innovation. The industrial wars of the era of Clausewitz are giving way to niche wars in the age of mass communications media.[92]

Visual and cultural metaphors dominate the news media today. Dependence on the dramatic photograph and the "sound bite" have been the clichés, but increasingly what matters could be termed the eye-catching "video blink." Terrorists and irregular forces at a firepower or manpower disadvantage have long understood this dependence, and some groups have been skilled in generating images to manage the meaning of their actions. A "Somalia" now connotes to Americans the desecration of the bodies of slain GIs. It has a visceral meaning. On the other hand, the Gulf War was dominated by video imagery of smart bombs seen daily on television. For many Americans, it became a bloodless "video war." The importance of the media and their impact on the political context of war has brought us to the point

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> **To win the media means to frame the metaphors they present.**

where U.S. military exercises now often include interacting with the media as an integral part of training for commanders.   It is becoming increasingly clear that to out-maneuver savvy opponents, it is necessary to win the battle of the communications media.

To put it plainly, to win the media means to frame the metaphors they present. Television tends to make of every event a spectacle, with a strong tendency to create stark dichotomies. Marines, with their instinctive belief that communications is face-to-face conversation, have the advantage that television picks up on nonverbal cues, body language and other personal attributes familiar in face-to-face encounters.   It showcases emotions such as sincerity and commitment. It amplifies the metaphor that the individual Marine IS the Corps. Not all Marines will have an encounter with the media, but some will.   Therefore, every officer should gain familiarity at various levels comparable to that needed to understand logistical realities. Metaphors presented to the media have disproportionate impact that must be taken into account. The media culture of the West has become a world-wide phenomenon.

Paralleling the practice of the media, the broad search for new conceptional metaphors since the end of the Cold War reveals the Western tendency to gravitate toward dichotomies. This characteristic is not limited to the West, of course, nor is it endemic only to the Jewish, Christian or even Islamic cultures. But it does contrast markedly with a number of cultures, most notably that of the Chinese.

In his introduction to Sun-Tzu's Art of War, Roger Ames contrasts the classical dichotomies in the West with Chinese thinking.   He suggests that pairs such as reality/appearance, soul/body, reason/experience, agent/action, logical/rhetorical, masculine/feminine are consistent in some important ways that are at odds with Chinese cultural norms. The first member in each pair is "thought to stand independent of, and be superior to, the second."   This leads us to construe the first as the originator and cause of the second.[93] In contrast, the classical Chinese belief has been that order comes not from outside this world, but inheres in the world itself.   Values and concepts are not predetermined, but are historically emergent, cultural products. Ames suggests:

> Whatever can be predicated of one thing or one person is a function of a network of relationships, all of which conspire to give it its role and to constitute its place and definition.[94]

This principle holds for families, notions of space and time, things and events.   All is flux and interaction. Familiar oriental metaphors such as "saving face" must be placed in this seascape of relationships.

This means that works such as The Art of War are constructed on the basis of the interanimation or mutual invigoration of words and meanings, which I. A. Richards argued is particularly vibrant in poetry.   This is hardly limited to Chinese military studies, but it clearly applies to them.[95] The revered twentieth century historian Qian Mu held that the pattern of China's development:

differs from the West's as a poem differs from a drama. The one develops in a meter from rhyme to rhyme, always by the same rules; the other develops in stages, from act to act, always with a different plot. The one expands to fill a space when it is ordered and disintegrates when it is not. The other progresses from conflict to conflict toward some inevitable tragic conclusion.[96]

Communication with anyone trained in this Eastern tradition is greatly enhanced if you have attended to the ideas of Richards and others on meaning and metaphor. Not every member of Chinese or a Chinese-influenced culture fits into this cultural pattern, of course. Nor would every American fit into the pattern of a rugged frontier individualist. But basic cultural world views have surprisingly lasting legacies, even in people who do not regard themselves as devout or representative. Language, especially in terms of the root metaphors we learn as children, has a tendency to color our perspectives on the world.

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Since our perceptions of the world are in part driven by our metaphors, some researchers have been searching (in a typically Western manner) for those that cut across language. Lakoff and Johnson believe they have found some that do, namely metaphors related to how human bodies interact with their natural environment. Their arguments are complex and interweave metaphor with other tropes, and their suggestions are controversial especially among anthropologists who are skeptical of the quest for universal cognitive processes in cultural expression.[97] Yet aspects of their approach depend reasonably upon general human physiology or interaction with the environment, such as walking upright (in a root UP IS GOOD metaphor).

One suggestion by Lakoff is that the physiological effects of an emotion form a collection of images which offer systems of metaphors for that emotion. Anger, for example can produce increased body heat, blood pressure, agitation, muscle tension, and so forth, which interfere with perception. In the simplest expressions, these attributes and parts can stand for the whole (metonymy and synecdoche): shaking with anger, blind with rage, almost busting a gut. When these combine with the notion that the human body is a container, you get the root metaphor of statements that cannot be literally true, but fit our cognitive sense of anger. ANGER IS HEAT IN A CONTAINER drives such expressions as:

> I had reached the boiling point; anger welled up inside him; simmer down!; they're just blowing off steam; then she got hopping mad, exploded and hit the ceiling; at first he kept it wound up inside him, but then blew his top and went ballistic.[98]

This is, of course, one small facet of expressing anger, but it is hard to imagine there are not analogues in most languages for this and other metaphors for anger that Lakoff explores.

Understanding widely shared implicit, root metaphors would be of great benefit for cross-cultural communications (as well as for intelligence analysis). Johnson argues that there are fundamental metaphor schemata, emerging from specific bodily experiences, that underlie human reasoning in general.[99] The gradients of cultural understanding often rise steeply to mountain tops of mutual incomprehension. But root metaphors based on bodily experience of our actual world may offer passes over the cultural ridge lines that separate peoples from one another. They may also make us more conscious of the enormous power of nonverbal communication in all our contacts with others. The insights of MCDP 1 and MCDP 6 on nonverbal communication apply to many more situations than implicit communication among Marines.

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At some levels, problems in cross-cultural communication affect our relations with friends more often than with foes, simply because we deal with them more frequently. Attention to the explicit and implicit metaphors embedded in the expression of Allies would enhance liaison and the workings of coalitions. It can be useful to ask someone who has just used a significant metaphor how he or she would express that notion in their native tongue, and then ask them to interpret the metaphor and some of its entailments. The workings of interservice relationships are much the same as those of coalitions. Cooperation is enhanced when the metaphors are coherent, and disrupted when they are not. Good communicators sense this naturally. The rest of us have to work at it. Metaphors offer a pattern recognition tool that can make our efforts more effective.

LEADERSHIP: METAPHOR, GOALS AND VALUES

The major point in this section is straightforward: attention to metaphors can enhance your effectiveness in leading Marines. Leading by example is its own message. But communication of intent, goals and values requires clarity on your part and receptiveness on the part of others. Making metaphors work together is not just a matter of literary style; it is a matter of cognitive coherence that directly affects how well you are understood. Coherent metaphors and their entailments generate coherent messages. Incoherent metaphors or incompatible entailments generate cognitive dissonance. Coherence can be an important leadership tool. Incoherence can undermine effectiveness.

The ability of leaders to motivate people is often directly related to their ability to tell a coherent story. FMFM 1-0, Leading Marines, in this sense is profoundly about storytelling, full of anecdotes and vignettes meant to inspire and guide the reader. It sets an example of simple and powerful narrative, filled with pride and energy. Its opening metaphors are vivid: "the eagle, globe and anchor that is tattooed on the soul of every one of

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us who wears the Marine Corps uniform," a "searing mark in our innermost being" that does not fade, but only becomes "more defined--and more intense--the longer you are a MARINE."[100] This carefully constructed handbook is right on target. Leadership is about telling stories that make sense and move people. This is the case not only leading Marines, but also leading a nation, opening new pathways in science or leading people to purchase goods and images.

Harvard child psychologist Howard Gardner makes the same point. Gardner is well known for his theory of multiple intelligence, which maintains that in addition to linguistic-verbal and logic-mathematical intelligence we conventionally test in schools, we must recognize the value of musical, spatial, bodily kinesthetic intelligence and the personal intelligence of self and of other.[101] Successful leaders in various walks of life rate high in the latter two, certain of their own character and able to discern the character of others. Part of that intelligence comes from realizing instinctively the need people have for a meaningful story, which they often perceive as an indicator of the vision of the leader. Most people are also listening for stories that resolve contradictory explanations or encompass apparently conflicted stories of why things are the way they are. Gardner also argues that powerful stories often tap the unschooled mind we acquired as children, at about the time we became linguistically competent around age five.[102] Such stories rely heavily on root metaphors we all implicitly understand, but which are seldom made explicit in our thinking.

Stories that work do not have to be long. In a sense, General Ray Smith's definition of warfighting ("<u>Sic 'em</u>!") conveys a compact story to any listener who has ever heard that phrase applied to a fierce dog or pack of dogs. The metaphor is indelible and conjures images compatible with everything from the notion of aggressive pursuit and the phrase "Send in the Marines!" to the nickname Devil Dogs that the Marines earned in World War I. Of course, the aural and visual dimensions of nonverbal communication play a role in the delivery of any story--and the reverberations of the moment he said this to the class at the Command and Staff College in February 1997 long outlasted his presence there.

Coherent metaphors are important to the power of any story. The communication of any message, from national goals to the statement of the commander's intent to a platoon leader's explanation of the next few moments, are improved if they avoid the cognitive dissonance of conflicted metaphors or their entailments. Analysis of the confused execution of an order or plan can often profitably start here. Since most plans are put together by a team, it takes a special effort to attend to coherence throughout. It is difficult to make the time for something that seems a mere stylistic issue. But the effort is important, for metaphors frame issues and understandings in cognitive as well as rhetorical ways.

Attention to the kinds of metaphors people use allows us to infer how they think about problem-setting and problem-solving.

By looking at how people use metaphors, a number of researchers have raised questions about the ways metaphors both constrain and liberate our perceptions by framing issues. Various authors employ differing terminology in pursuit of their goals, but the consensus is that attention to the kinds of metaphors people use allows us to infer how they think about problem-setting and

problem-solving. The metaphors in their stories about troublesome situations reveal their frameworks for what constitutes problems that need to be addressed. Attempts to solve a problem usually occur within that framework.

Often, however, it is difficult to achieve a consensus on how to solve a problem, because people start with mutually incompatible frameworks. According to one consultant in urban planning, who was writing about debates over urban renewal: "When we examine the problem-setting stories told by the analysts and practitioners of social policy, it becomes apparent that the framing of problems often depends on the metaphors underlying the stories."[103] Alleviating these problems comes not by more facts. Frame conflicts are frequently immune to challenge by facts: "when one is committed to a problem frame, it is almost always possible to reject facts, to question data (usually fuzzy, in any case), or to patch up one's story so as to take account of new data without fundamental alteration of the story."[104] Instead, peaceful change occurs by redefining, renaming, regrouping or reordering what is a problem. This is seldom attained by compromise or fusion. It is usually necessary for someone to change fundamental metaphors in order to achieve "frame restructuring."[105] Marines face similar process issues in many situations, such as efforts to resolve differing staff interpretations of intelligence and events during an unfolding operation.

The metaphors Marines use when they talk about problem areas in a unit can also help a leader diagnose those problems. Since the Marine Corps is a tightly-knit community, with many shared experiences creating a common vocabulary, small deviations from expected expression can be more meaningful than in more heterogeneous military units. How people train and how they fight are basically descriptive. But why they do so is based on beliefs. Beliefs, as in most religious expression, are usually revealed in metaphorical language. This is also an important element of ethnic or gender conflict.[106] If you listen and observe carefully, and take note of the root metaphors and their entailments, you may gain insight into frame conflicts responsible for key difficulties.

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Complementary to problem solving is the evaluation process. Cogent fitness reports are a responsibility of leaders that constitute critical elements in the life not only of individual Marines, but in that of the Corps. Anyone who has been on a review board knows how easy it is for the evaluations to blur into sameness, since a high percentage of career Marines perform their assignments so well. But it is important for each story--and a fitness report is a concise story--to make an impression. Metaphors can be an important leadership tool here, too. If they are not overworked, vivid images make an outstanding Marine truly stand out. One fitness report claimed that the officer "manages our leadership junkyard at TBS" and went on to describe in some detail how he expertly tears down and reassembles problem lieutenants. The story was memorable. The man was promoted.

Memorable stories have always been the best way to inculcate values. It is no accident that discussion of case studies is the primary mode of teaching in business schools, seminaries

and law schools. Values, after all, are idealized designs for behavior. They are seldom implemented perfectly and are often in competition with other values, but they offer some sense of the problems posed and the solutions others have tried. The important, implicit Marine metaphor that COMMUNICATION IS FACE-TO-FACE CONVERSATION has its origin in the explanation of concrete examples and discussion of their meaning. This takes place not just in the Marine Core Values and Leadership periods, but throughout the ongoing training and daily life of a Marine. The abiding elements of the stories of individual heroism or of Corps accomplishment become metaphors available for sustaining a community of shared experience and heritage.

As designs for behavior, values also impose some important constraints on action, which is necessary for any community and culture to persist. Values foster self and unit discipline, and maintain healthy boundaries between Marines and all others. To perceive values as designs or boundaries is to employ metaphorical structuring. As FMFM 1-0 and every other expression of what leading Marines is about makes abundantly clear, that structure is consciously and vocally value-laden. The Corps is indeed a body, whose lifeblood is its Marines. Values do not apply to machinery, but to morally responsible human beings.

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The Marine Corps story is understood in many ways. It is understood "as" an epic saga, with an honor roll of heroes and their deeds. It is also a morality play, with Marines as participants rather than as spectators throughout. The Marine Corps story is also an enduring passage, a passing of the baton from veteran to recruit, teacher to scholar, one generation to the next. The essential features of Marine leadership lie not in a social, scientific, logical structure that draws out the inferences of assumptions. Leadership is personal, a mutual invigoration with feedback from all sides. This reciprocal flow of actions and meanings enhances adaptability and successful evolution under changing conditions.

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It all starts with getting the right people and transforming them. It begins with the frame restructuring and the invigoration of new metaphors in the recruit through the storytelling of advertisements and training. Marines still mean it when they call something "sacred." As FMFM 1-0 puts it, a distinctive heritage, a difference, produces "mystical cords of the mind that binds all Marines."[107] The Corps relies on the trope of metaphor rather than on the reductionist tropes of science or the hyperbole (the hype) so common in our society today. Self-consciousness is an advantage. You should be aware of this fundamental dependence and seek to understand its implications--as leaders and Marines.

NOTES

1.   *The 31st Commandant's Planning Guidance: A Marine Corps for the 21st Century*.
Separate publication by the Marine Corps Gazette (August 1995).

2.   Video "The Making of Transformation," August 1995. This award-winning commercial
also contains several fleeting images that linger in the mind's eye, such as the stone United States
eagle over the entrance to the maze and the eagle, globe and anchor pattern on the floor of the
chamber where the sword fight takes place.

3.   Plato, *Phaedo*, 66a.

4.   Aristotle, *Poetics*, para 4, 1448b and para 22, 1459a, *The Complete Works of Aristotle*,
Revised Oxford Translation, ed. by Jonathan Barnes, Vol. 2 (Princeton, NJ: Princeton
University Press, 1984). The Ross edition carries an additional line in this passage: "Through
resemblance, metaphor makes things clearer." Aristotle, *Poetics*, para 22, 1459a, *The Works of
Aristotle*, W. D. Ross (ed.) (Oxford: Clarendon Press, 1924),
p. 7.

5. Aristotle, *Rhetoric*, Book III, para 2, 1404b, in *The Complete Works*. He goes on to say
(1405a) that "metaphor is of great value both in poetry and prose. Prose-writers must, however,
pay specially careful attention to metaphor, because their other resources are scantier than those
of poets. Metaphor, moreover, gives style, clearness, charm and distinction as nothing else can;
and it is not a thing whose use can be taught by one man to another. Metaphors, like epithets,
must be fitting, which means that they must fairly correspond to the thing signified: failing this,
their inappropriateness will be conspicuous."

6.   Gemma Corradi Fiumara, *The Metaphoric Process: Connections between Life and
Language* (London and New York: Routledge, 1995), pp. 1-2.

7.   *Poetics*, para 21, 1457b.

8.   *Poetics*, para 21, 1457b.

9.   Gen. Charles C. Krulak, "On Course, On Speed," *Marine Corps Gazette* (September
1996), p. 25. This is a common image in the Corps. Major Daniel E. Liddell in the same issue
discusses experience, motivation and leadership in the development of values in Marines. He
refers the reader to a labeled drawing of a temple-like structure with the statement: "These three
pillars must support and reinforce the training design." (p. 56.)

10.   Sophocles, *Antigone*, line 163.

11.   William Shakespeare, *Romeo and Juliet* [1595-96], II, ii and III, ii.

12. The classic presentations of this system of thought are E. M. W. Tillyard, The Elizabethan World Picture (New York: Macmillan, 1936); and Arthur O. Lovejoy, The Great Chain of Being (Cambridge: Harvard University Press, 1936). Both are still in print.

13. The Assayer [1623] in Discoveries and Opinions of Galileo, trans. by Stillman Drake (New York, etc.: Anchor Doubleday, 1957), pp. 238-39.

14. Ibid., p. 271.

15. Thomas Hobbes, Leviathan [1651], ed. by C. B. Macpherson (Harmondsworth: Penguin, 1968), pp. 116-17. Some of the duality regarding language in Hobbes's writing is explored by George MacDonald Ross, "Hobbes's two theories of meaning," in The figural and the literal: Problems of language in the history of science and philosophy, 1630-1800, ed. by Andrew E. Benjamin, Geoffrey N. Cantor and John R. R. Christie (Manchester: Manchester University Press, 1987), pp. 31-57.

16. Thomas Hobbes, Leviathan, ed. by J. C. A. Gaskin, (Oxford, etc.: Oxford University Press, 1996), p. 7.

17. John Locke, An Essay Concerning Human Understanding [1689], unabridged, Book III, Chapter X (New York: Dover Publications, 1959), p. 146.

18. Ibid., p. 149.

19. Carl von Clausewitz, On War, ed. and trans. by Michael Howard and Peter Paret (Princeton: Princeton University Press, 1976), p. 168.

20. Carl von Clausewitz, On War, ed. and trans. by Michael Howard and Peter Paret (Princeton, NJ: Princeton University Press, 1976), p. 75.

21. Victor Davis Hanson, introduction to The Landmark Thucydides: A Comprehensive Guide to the Peloponnesian War, trans. by Richard Crawley, ed. by Robert B. Strassler (New York: Free Press/Simon & Schuster, 1996), p. xi.

22. Sun-Tzu, The Art of Warfare, trans. by Roger T. Ames (New York: Ballantine Books, 1993), p. 52.

23. Ibid., p. 41.

24. The Art of Warfare, Chapter 7, p. 131.

25. See Andrew Ortony, "The role of similarity in similes and metaphors," and George A. Miller, "Images and models, similes and metaphors," both in Metaphor and Thought, second edition, ed. by Andrew Ortony (Cambridge: Cambridge University Press, 1993), pp. 342-356 and 357-400 respectively.

26.   See George A. Kennedy, <u>Classical Rhetoric and Its Christian and Secular Tradition from Ancient to Modern Times</u> (Chapel Hill: University of North Carolina Press, 1980). In addition to the tropes of metaphor, irony, synecdoche and metonymy, today the most commonly listed figures of speech are: allegory (a story that is a prolonged metaphor, with symbolic actions and a meaning implied but not explicitly stated), hyperbole (exaggeration), onomatopoeia (using words to imitate the sound they denote), oxymoron (combining opposites for a seeming contradiction), personification (giving human traits to non human things), simile (a comparison of one thing with another, using "as" or "like" to connect them), and understatement. See E. Sapir, <u>Language: An Introduction to the Study of Speech</u> (New York: Harcourt, Brace and World, 1921); and Lynn Quitman Troyka, <u>Simon & Schuster Handbook for Writers</u> (Englewood Cliffs, NJ: Prentice-Hall, 1987), p. 378.

27.   This is a case when Aristotle's use of metaphor subsumed categories regarded by later authors as distinct. His first two instances of metaphor have often been classified as synecdoche. For a sense of the difficulties involved in disentangling the relationships among these categories, see Umberto Eco, <u>Semiotics and the Philosophy of Language</u> (Bloomington: Indiana University Press, 1984), pp. 87-129.

28.   CPG, para 12.b.

29.   Wayne C. Booth, "Metaphor as Rhetoric," in <u>On Metaphor,</u> ed. by Sheldon Sacks (Chicago and London: University of Chicago Press, 1979), p. 50.

30.   The CPG states, para 12c.(3)(d): "Non-EAS attrition is a sea anchor on a Marine Corps moving at battle speed. Every year we lose one-third of our first term force before they complete their first enlistment. The drag this has on our recruiters, our entry level training pipeline, and our entire manpower management process has gone on too long. It is a drain on our personnel and fiscal resources that we will no longer accept." A sea anchor indeed drags. The pipeline metaphor justifies the word drain in the last sentence, which otherwise would clash with the anchor metaphor. The image of a drag on a pipeline remains problematic.

31.   H. W. Fowler, <u>A dictionary of Modern English Usage,</u> second edition, revised and edited by Sir Ernest Gowers (Oxford: Oxford University Press, 1965), p. 361.

32.   I. A. Richards, <u>the Philosophy of Rhetoric</u> (London, etc: Oxford University Press, 1936), p. 1.

33.   Ibid., p. 11.

34.   Ibid., p. 71.

35.   Ibid., pp. 12-13.

36.   Ibid., pp. 32-35.

37. Ibid., p. 30.

38. Ibid., p. 70.

39. Ibid., p. 71.

40. Ibid., pp. 47-70.

41. Ibid., p. 48.

42. Ibid., pp. 39-40.

43. Ibid., p. 94.

44. Ibid., pp. 107-08, 118.

45. Ibid., pp. 116-17.

46. Owen Barfield, <u>Poetic Diction: A Study in Meaning</u> [1928] (Wesleyan University Press, 1973), p. 75.

47. The insights of Barfield for an age when information is often mistaken for communication, and electronic representations are mistaken for reality, form the basis for Stephen L. Talbott's intriguing book <u>The Future Does Not Compute: Transcending the Machines in Our Midst</u> (Sebastopol, CA: O'Reilly & Associates, 1995).

48. Max Black, "More about metaphor," in <u>Metaphor and Thought</u>, pp. 25-30. This article is an updated elaboration and reworking of a number of ideas contained in Black, <u>Models and Metaphors: Studies in Language and Philosophy</u> (Ithaca: Cornell University Press, 1962).

49. Ibid., p. 38.

50. See Fiumara, <u>The Metaphoric Process</u>, pp. 104-24.

51. Black, "More about metaphor," p. 33.

52. As quoted by Dore Ashton in <u>Picasso on Art</u> (1972) according to <u>The Oxford Dictionary of Modern Quotations</u>, ed. by Tony Augarde ((Oxford: Oxford University Press, 1991), p. 171.

53. John R. Searle, "Metaphor," in <u>Metaphor and Thought</u>, pp. 83-111, especially pp. 90-91.

54. Ellen Winner, Margaret McCarthy and Howard Gardner, "The Ontogenesis of Metaphor," in <u>Cognition and Figurative Language</u> ed. by Richard P. Honeck and Robert R. Hoffman (Hillsdale, NJ: Lawrence Erlbaum Associates, 1980), pp. 341-61. Also Stella Vosniadou,

"Children and Metaphors," Technical Report No. 370 of the Center for the Study of Reading, University of Illinois at Urbana-Champaign, January 1986, which includes an extensive bibliography on metaphor and cognitive development in children.

55. David E. Rumelhart, "Problems with literal meanings," in Metaphor and Thought, p. 73.

56. Michael J. Reddy, "The conduit metaphor," in Metaphor and Thought, pp. 164-201.

57. Ibid., p. 167.

58. What follows is paraphrased from Lakoff and Johnson, Metaphors We Live By (Chicago: University of Chicago Press, 1980), pp. 16-21.

59. Mark Johnson, The Body in the Mind: The Bodily Basis of Meaning, Imagination, and Reason (Chicago: University of Chicago Press, 1987), pp. 100-02; George Lakoff, "The Contemporary Theory of Metaphor," in Metaphor and Thought, pp. 244-49.

60. Twenty five years ago, a 400-page compendium of works dealing with metaphors was published. In 1985, a new bibliography of items published between 1970 and 1984 was 500 pages thick. The update of references for just 1985-90 contained approximately 3,500 new items. Warren A. Shibles, Metaphor: An Annotated Bibliography and History (Whitewater, WI: Language Press, 1971); J. P. van Noppen, Metaphor: A Bibliography of Post-1970 Publications (Philadelphia: J. Benjamins, 1985); J. P. van Noppen and Edith Holz, Metaphor II: A Classified Bibliography of Publications from 1985-1990 (Amsterdam and Philadelphia: J. Benjamins, 1990).

61. Naomi Quinn, "The Cultural Basis for Metaphor," in Beyond Metaphor: The Theory of Tropes in Anthropology, ed. by James W. Fernandez (Stanford: Stanford University Press, 1991), p. 65.

62. Paul Friedrich, "Polytropy," and Terence Turner, "'We Are Parrots,' 'Twins Are Birds'," in ibid., pp. 17-55 and 121-158 respectively.

63. D. E. Cooper, Metaphor (Oxford: Blackwell, 1986), pp. 157-58; Fiumara, Metaphoric Process, pp. 139-42.

64. Eva Feder Kittay, Metaphor: Its Cognitive Force and Linguistic Structure (Oxford: Oxford University Press, 1987), p. 327.

65. William J. Mitchell, City of Bits: Space, Place, and the Infobahn (Cambridge: MIT Press, 1995).

66. Many authors make this point; see, for example, Gene I. Rochlin, Trapped in the Net: The Unanticipated Consequences of Computerization (Princeton: Princeton University Press, 1997).

67. U.S. Marine Corps, MCDP 1, Warfighting ((1997), pp.55-56.

68. MCDP 1, p. 79.

69. MCDP 1, preface.

70. MCDP 6, Command and Control (1996), pp. 39-41, 94-97.

71. Ibid., p. 94.

72. MCDP 6, p. 95.

73. MCDP 1, p. 79.

74. MCDP 1, pp. 42-44.

75. MCDP 1, p. 77.

76. MCDP 1, pp. 72, 74, 79, 85.

77. MCDP 1, p. 40.

78. MCDP 1, p. 44.

79. Donald Schon, Displacement of Concepts (London: Tavistock, 1963), p. 53. (Reprinted in 1967 with the more revealing title: Invention and the Evolution of Concepts.)

80. Wolfgang Schivelbusch, The Railway Journey (Berkeley: University of California Press, 1985).

81. There are many histories of technology that tell these entertaining stories, but more interesting are some works that attempt to sort out the meaning of technological change. See Carl Mitcham, Thinking Through Technology: The Path between Engineering and Philosophy (Chicago: University of Chicago Press, 1994); and Merritt Roe Smith and Leo Marx, eds., Does Technology Drive History? The Dilemma of Technological Determinism (Cambridge, MA: MIT Press, 1994).

82. John H. Dessauer, My Years With Xerox: The Billions Nobody Wanted (Garden City, NY: Doubleday, 1971).

83. David Siegel, Creating Killer Websites: The Art of Third-Generation Site Design (Indianapolis: Hayden Books, 1996), pp. 35-39.

84. Gareth Morgan, Images of Organization (Newbury Park, CA: Sage Publications, 1986; Second edition, 1997). The eight metaphors are organizations as machines, organisms, brains,

cultures, political systems, psychic prisons, flux and transformation, or instruments of domination.

85. Robert J. Marshak, "Managing the Metaphors of Change," Organizational Dynamics 22, No. 1 (Summer 1993): 44-56. The four story patterns are fix and maintain, build and develop, move and relocate, liberate and recreate.

86. Barbara Czarniawska, Narrating the Organization: Dramas of Institutional Identity (Chicago: University of Chicago Press, 1997).

87. Arie de Geus, "The Living Company," Harvard Business Review (March-April 1997): 59.

88. One of the better overviews is Metaphor and Organization, ed. by David Grant and Cliff Oswick (London, etc.: SAGE Publications, 1996).

89. Emile Durkheim and Marcel Mauss, "Note on the Notion of Civilization," Social Research 38 (1971): 811. See also Geert Hofstede, Cultures and Organizations: Software of the Mind (London: McGraw-Hill, 1997).

90. Samuel P. Huntington, The Clash of Civilizations and the Remaking of World Order (New York: Simon and Schuster, 1996), which is an expansion of his article in the summer 1993 issue of Foreign Affairs.

91. Benjamin R. Barber, "Jihad vs. McWorld," Atlantic Monthly 269 (March 1992), 53-63; Jihad vs. McWorld (New York: Times Books, 1995).

92. Alvin and Heidi Toffler, War and Anti-War: Survival at the Dawn of the 21st Century (Little, Brown and Co., 1993).

93. Sun-Tzu, The Art of Warfare, pp. 47-48.

94. Ibid., p. 51.

95. See the discussion of ch'i/cheng (orthodox/unorthodox) and shih/hsing (form/power) in Ralph Sawyer's notes to The Art of War in his translation of The Seven Military Classics of Ancient China (Boulder, CO: Westview Press, 1993), pp. 428-33.

96. Jerry Dennerline, Qian Mu and the World of Seven Mansions (New Haven and London: Yale University Press, 1988), p. 66.

97. This is the point of many of the interesting essays in Fernandez, Beyond Metaphor, cited above.

98. George Lakoff, Women, Fire and Dangerous Things (Chicago and London: University of

Chicago Press, 1987), pp. 380-89.

99.   Johnson argues for general theory of reasoning based on embodiment of metaphor (as in experiences of balance or cycles) that serve as preconditions, filters and restraints upon rationality. Johnson, The Body in the Mind, cited above.

100. FMFM 1-0, Leading Marines (1995), p. 7.

101. Howard Gardner, Frames of Mind: The Theory of Multiple Intelligences (New York: Basic Books, 1983).

102. Gardner, with Emma Laskin, Leading Minds: An Anatomy of Leadership (New York: Basic Books, 1995), pp. 25-29.

103. Donald Schon, "Generative metaphor and social policy," in Metaphor and Thought, p. 138.

104. Ibid., pp. 150-51.

105. Ibid., pp. 153-61. See also Schon and Martin Rein, Frame Reflection: Toward the Resolution of Intractable Policy Controversies (New York: Basic Books, 1994). A sociologist concerned primarily with getting other sociologists to engage in restructuring their basic metaphors is Richard Harvey Brown, A Poetic for Sociology: Toward a Logic of Discovery for the Human Sciences (Chicago: University of Chicago Press, 1977).

106. For some useful insights into the role of metaphors in gendered conflict and conversation, see Deborah Tannen, You Just Don't Understand: Women and Men in Conversation (New York: William Morrow, 1990).

107. FMFM 1-0, p.8