The Bridge Project: Research on Metaphor. Culture and Cognition

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Abstract

This paper will explain "The Bridge Project," an ongoing multidisciplinary effort to examine the complex interaction between individual cognition, culture and the physical environment, specifically by analyzing bridge metaphors in various cultural and literary settings. After briefly commenting on previous research by other scholars, the author will assert that bridges have certain aesthetic, functional and schematic properties that make them an ideal topic for this type of broad examination. The methods of the project will then be explained, followed by a listing of the Bridge metaphor and metonymy categories. These categories will provide concrete criteria for comparative analysis and aid statistical compilation of research results. The project is expected to take many years to complete but the initial results of preliminary research have been promising.

1. Toward a Cognitive History of Metaphor

Over the centuries, humans have attempted to put together various types of histories. Perhaps one of the most ambitious projects has been the far-ranging study of those who compiled the historical information on etymological origins for the Oxford English Dictionary. (Winchester) Along similar lines, although not to the same extent, there have been numerous reference works on iconography and symbolism. On the other hand, to my knowledge there have only been a limited number of relatively narrow attempts to chronicle the use of metaphors. Concerning this dearth, Oxford University professor George Steiner remarks:

We have histories of massacre and deception, but none of metaphor. We cannot accurately conceive of what it must have been like to be the first to compare the color of

the sea with the dark of wine or to see autumn in a man's face. Such figures are new mappings of the world, they reorganize our habitation in reality. (Steiner 23)

Steiner implies that the farther back one goes in history, the more the origins of certain metaphors are obscured. This will be true generally, but is this the case in every instance? In fact, the origins of some metaphors may be more accessible than others.

When metaphors result from (or result in) scientific paradigm shifts, a researcher may be able to examine records from the time and location of the scientific breakthrough to pinpoint how the corresponding metaphor moved into the popular consciousness. For example, in the history of medicine, the view that human illnesses were caused by an imbalance of "humors" was eventually supplanted by more sophisticated and practically useful concepts of illness including our present-day understanding of the "virus." This change was spurred by technological improvements in equipment and greater knowledge of biological processes. It should go without saying that the idea of a "computer virus" would be completely unintelligible to someone who does not know what a computer is. Yet we may forget that it would be equally unintelligible to someone who understood a computer but didn't comprehend the term virus. Both concepts must be accessible to make sense of the new metaphorical expression. Ideas such as "e-mail" (electronic mail) or "intellectual copyrights" are similar in their metaphorical strategy. Each of these particular conceptualizations could, in principle, be traced to a more or less accurate time and place of origin.

Through these examples, it is clear that technological advance and novel types of conceptualization are often closely linked. As new technologies and scientific breakthroughs usher in new possibilities for metaphorical expression, the virtual frontiers of metaphor are expanded. For this reason, it will be valuable to cross-reference historical and archaeological records concerning technological development with literary records that might contain traces of conceptualization that would have been novel at that time. To the extent that humans are often intrigued by technological advance, it should not be surprising that such "novelties" might find their way into literature of the era. As such, literature and other texts serve as valuable records of a culture's conventional understanding of the world.

In that particular bridge metaphors are often closely linked to specific types of bridge construction technology, examining bridge metaphors in literature will allow for a crossreferencing of conceptualization and technology in a given culture. In cultures where certain types of bridge technology are unknown, their corresponding metaphorical expressions are also likely to be unknown. In the unlikely event that a metaphorical expression should actually precede the technological advance, such an occurrence would need to be explained. Conversely, cultures making use of diverse types of bridge technology are likely to have numerous bridge metaphors available in their metaphorical repertoires.

2. Previous Scholarship on Bridge "Symbolism"

Bridges are a relatively uncommon motif in aesthetic works. Nevertheless, due to the evocative image they present, they are often centers of interest within those few works. Philip Grundlehner, in his examination of the bridge motif in German poetry, notes that even in cases where the bridge is used only once in a poem, "its significance is such that it becomes the focal point and central symbol of [that] poem." (Grundlehner 15) This observation holds true for poetry (and literature generally) even outside of the German tradition. Demonstrating this in poetry are works from various cultural backgrounds including William Wordsworth's "Composed Upon Westminster Bridge, September 3, 1802" (1807) and Arthur Rimbaud's "Les ponts" (1886). In prose, authors as varied as Fyodor Dostoevsky (Crime and Punishment: 1866), Ernest Hemingway (For Whom the Bell Tolls: 1940) and Franz Kafka ("Die Brucke": 1946) have all used the bridge for thematic purposes in their writing.

John Sweetman, in his examination of bridges in landscape paintings since 1800, (Sweetman) partially attributes the sudden upsurge of interest in bridges in the 19th and 20th centuries to the new bridge-building technologies developed during that time period. Especially in industrialized nations, the bridge became a prominent subject for many artists of note. In the visual arts, some examples include J. M. W. Turner's "Rain, Steam and Speed" (1884), Vincent Van Gogh's "The Trinquetaille Bridge" (1888) and Claude Monet's "Japanese Bridge" series (1899-1900). Bridges have also been the object of intense speculation in fields as diverse as political science, anthropology, religious studies, psychoanalysis and folklore studies. Despite numerous attempts to probe the "symbolism" of the bridge, however, thematic examinations undertaken to date have all lacked analytical precision.

One reason that attempts to characterize bridge metaphor in context have met with such mixed results is that the varied speculation on metaphor in philosophy, literature, semiotics, linguistics and other disciplines has yielded so many conflicting theories of metaphor. For example, noted metaphor theorist and philosopher Max Black defends metaphor as a necessary

evil, remarking: "No doubt metaphors are dangerous-and perhaps especially so in philosophy. But a prohibition against their use would be a willful and harmful restriction upon our powers of inquiry." (Black 47) With respect to literature, Owen Barfield defined metaphor as "saying one thing and meaning another." (Barfield 111) According to this prevarication view, any insight gained by way of metaphor can only be a linguistic mirage. Northrop Frye saw the starting point of metaphor in "ecstatic metaphor" which identifies "an individual's consciousness with something in the natural world" as when Neptune is identified with the sea or Baal with the fertility of the land. (Frye 111). This characterization may appeal to those studying metaphor in myth or religion, but other metaphor theorists can hardly be impressed by such a numinous explanation of metaphor's origins.

In light of these dissimilar reflections, what are we to make of metaphor? Is it an occasionally valuable linguistic gimmick to be used in moderation or a form of deceit best left to intellectually questionable endeavors? In fact, the answer seems to be neither. Research in cognitive linguistics has shown that metaphor is not simply an optional type of rhetorical ornamentation but is part of a conceptual process that is crucial to everyday thought and language. For example, in mentioning various expressions (such as "The relationship isn't going anywhere.") that are conceptualized according to the metaphor LOVE IS A JOURNEY, noted cognitive linguist George Lakoff states "These are ordinary, everyday English expressions. They are not poetic, nor are they necessarily used for special rhetorical effect. [...] Examples like this show that what is involved is not just conventional language, but a conventional mode of thought." ("Invariance Hypothesis" 47)

Most of the previously mentioned scholarship on bridges tended to identify the bridge image as a powerful symbol and unusually fecund artistic affectation. Perhaps as a result, accompanying analysis tended to explicate bridge "symbolism" rather than metaphor. In that "symbolism" is a term which refers to broad and relatively indiscriminate imagistic allusion, the attempts at analysis were perhaps destined to remain inexact. By contrast, the Contemporary Theory of Metaphor ("Contemporary") offers more clear-cut methods for analyzing semantic aspects of the bridge image in artistic context. Utilizing these tools for more precise identification and analysis of metaphor will both bring new metaphorical aspects to light and simultaneously allow for the reformulation and incorporation of the solid work already done by previous scholars who examined bridges in various contexts.

3. Reasons that the Bridge as an Imagistic Motif Warrants Further Study

Having mentioned that noted scholars in a number of disciplines have identified the bridge as an unusually rich imagistic motif, one is forced to ask why this might be the case. What makes the bridge so special? The German sociologist Georg Simmel has remarked that "[t]he bridge becomes an aesthetic value insofar as it accomplishes the connection between what is separated not only in reality and in order to fulfill practical goals, but in making it directly visible." (Simmel 1997: 67). The fact that the practical function of a bridge is highlighted by its external appearance results in an extremely provocative aesthetic presence. Simmel's insightful observation hints at why bridges seem a special case, but I would like to explain in greater detail, drawing evidence from multiple disciplines.

The thematic study of bridges in literary and artistic contexts is valuable for three reasons. First, in contrast to some other rich images like the moon or the sea, bridges are artificial human constructs. There was a time in history when, in the strictest sense, bridges did not exist. For this reason, the development of bridge technology will necessarily vary from culture to culture. For example, since the first masonry arches were utilized in Mesopotamia in 7th century B.C. (Brown 2001: 18), some cultures have constructed stone bridges and some have not. Individual cultures, with varying geography, climatic conditions, local resources and engineering techniques, have created very different bridges. The available historical and archaeological details of bridge technology (or lack of bridge technology) in each culture can be productively cross-referenced with literature and art from that culture that includes the bridge as a motif. This cross-referencing will provide a way to confirm the correlation between technological advance and metaphorical understanding (if, in fact, such a correlation exists).

Secondly, as mentioned by Simmel in the quote above, bridges are characterized by a relatively intuitive relationship between their form and function. In terms of metaphor, this schematic pictorial representation may be expressed as AN INTERSECTION OF DISCRETE STATES IS A BRIDGE. Of course, this metaphorical formulation may be broken down into more basic component metaphors. STATES ARE LOCATIONS expresses the perceived difference between states (situations or conditions of existence). ABSTRACT STRUCTURE IS PHYSICAL STRUCTURE allows the bridge to serve as a concrete image to express association or bring about an abstract dialectic between the two differing states. This physical manifestation of some non-physical interrelationship may conjoin philosophies, nations, ideologies, cultures, or states of existence (such as life and death).

Thirdly, the crucial functional aspects of bridges insure that they will be attention-gathering objects in human consciousness. Being able to interpret the visual image of a bridge and thereby understand its spatial orientation is crucial for humans and animals as they navigate their way through a world filled with barriers. The image-schematic importance of the bridge in cognitive terms is implicitly demonstrated by psychologist and cognitive linguist Leonard Talmy's work on closed-class forms (schematic orientational configurations that organize very basic levels of human cognition). Talmy recognizes the preposition "across" as being typical of a very limited set of closed-class forms and characterizes it as representing a schema "of a point describing a path that goes perpendicularly from one to another of two parallel lines." (Talmy 2000: 26) In terms of Talmy's theory, a bridge would represent stationary circumstances in which the closed-class form "across" is perceived in terms of constructional fictive motion.

Mentioning these psychological aspects is not to minimize the importance of the appearance of specific bridges as we encounter them in daily life. Bridges of distinctive design are easily able to grab our attention and even come to symbolize cities in which they are located. The Golden Gate in San Francisco or the Roman aqueducts in Segovia are examples of bridges that seem to be more works of art than feats of engineering. The aqueducts in particular show how bridges may be seen as aesthetic works long after their practical function has ceased to be of any value.

4. Research Strategies for The Bridge Project

In that The Bridge Project will be extremely complex and require much time and effort to complete, a very clear strategy for research will be necessary to increase the chance of success. The project will need to produce quantifiable and reliable evidence that may be independently verified (or falsified, as the case may be). It also must be comprehensive enough to ensure that the results of research are not criticized as being taken from too small a sample or a sample that is unrepresentative. Furthermore, since there are few precedents for analysis involving so many languages and cultures, a clear rationale for dealing with translated materials will need to be established. Below I will attempt to give a concise overview of the procedures and concerns of the project.

In that metaphorical bridges do not appear to be limited to any single culture, the crosscultural comparison of bridge metaphor is likely to reveal both extremely recurrent metaphorical aspects and also metaphors that are more or less unique to their culture of origin. To this end, it will be necessary to compile an extensive bibliography of literary works that make noteworthy reference to bridges from world literature. Works included in the proposed database will include literature such as poetry, prose, drama and folklore from the earliest literary records to the present day. Due to the many languages in which metaphorical bridge literature is likely to be found, analysis of works in translation is unavoidable. Although examining each work in the original language must be the ideal and the original language will be analyzed whenever possible, the huge number of languages in the world practically precludes such an approach. Based on the analysis so far of a relatively limited cross-section of works, however, bridge metaphor seems relatively impervious to translation. Put differently, while some aspects of literature and poetry tend to be "lost in translation," metaphor having to do with bridges generally survives translation into the target language. Since this is the case, examining works in translation, while not ideal, will still allow for the type of analysis being proposed here. Indeed, in that the purpose of the research is to identify metaphorical aspects that are extremely recurrent across cultures and through time, such a compromise may be seen as a virtual prerequisite of the research itself.

To compile such a practically meaningful bibliography and information database, it will be necessary make maximum use of available resources. One method involves doing electronic searches of existing online literary databases like "The Gutenberg Project" for European literature, "Aozora Bunko" for Japanese literature, and other such online literature collections. Searching each text in a given database for the word "bridge" (in the case of the Gutenberg Project) or the Japanese word for bridge, "hashi" (in the case of Aozora Bunko), will lead to a great many literary works that use bridges metaphorically. Other types of electronic search strategies, using the Internet and other resources, will also be utilized. The sampling of literary works resulting from this stage of the search is bound to be somewhat arbitrary.

To compensate for the undiscriminating nature of such electronic searches, the bibliography will also be built up by specific questioning of individual scholars concerning their respective fields. For example, a scholar of French literature may easily be asked whether he or she recalls any works in French literature that include bridges. Such personal interviews will succeed in locating relatively unknown or idiosyncratic works that may not be found in electronic databases and also will serve to highlight texts that are of particular interest to experts in each respective field. By asking the same question to many scholars in a particular

field, a relatively representative selection of literary works that include bridges may be compiled.

One difficulty that must be surmounted is that doing statistical analysis of metaphors in literary texts is a practically difficult procedure. Such statistical analysis will be extremely complex but complexity is not a reason in and of itself to avoid the attempt. There are some very complex kinds of research that are nevertheless worth doing. Having said that, when studying a complex phenomenon, it is often useful to "divide and conquer." Conversely, the more metaphors that one attempts to quantify simultaneously, the more chance that something crucial will go wrong with the analysis. It is for precisely this reason that the scope of the Bridge Project will be strictly limited to bridge metaphor. By narrowing the area of study to this one relatively uncommon imagistic motif, a more or less comprehensive research effort becomes possible.

A narrow thematic focus will allow the investigator to identify what is worth quantifying before the quantification process actually begins. Once the researcher gains a clear understanding of how the metaphors in question are likely to present themselves, the tools of corpus linguistics and close textual analysis will allow for relatively straightforward identification of thematic elements. Furthermore, as the research advances and new aspects come to light, experience gained on previously examined works will allow for a clearer understanding in works that follow. The researcher's refined intuitions will help to keep the scope of metaphorical examination at a manageable level; with metaphor identification as with other types of detective work, it helps greatly if you know precisely what you're looking for. Experience must provide the basis for intuition.

In each case it will be necessary to break down some statistical aspects of the text to aid the understanding of how bridge metaphors are used in literature where bridges play a prominent role. Although finding quantifiable aspects of literature is not straightforward, once meaningful statistical trends are discovered, they can be added to the overall database for statistical comparison. At this stage, I will propose two types of statistical analysis that are likely to prove useful in the bridge project.

Using close reading and the tools of corpora linguistics, each work may be examined for words connoting bridges. In an English text, these might include the word "bridge" itself, synonyms for the word bridge like "arch," pronouns standing for a bridge like "it," or words denoting a part of the bridge like "pier." Careful record-keeping will allow a database to be

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assembled, firmly establishing the number of bridge-related words and images in a text. These can then be compared with other works. Admittedly, different languages with different grammatical characteristics will yield varied results, but offering the bridge token to total word ratio of a given text should be sufficient to establish whether or not the bridge is a central image in that work.

The quantification of metaphor analysis will be much more complicated. In that computer-based corpora software is in no way capable of identifying metaphor in any reliable way, the task must be carried out by individual scholars. While a given work may have a multiplicity of metaphorical interpretations, the number of interpretations with respect to bridge metaphor will be far fewer. In the preliminary research laying the groundwork for this project, the author has done in-depth analysis of more than 70 works that include extensive use of the bridge motif from a number of different cultural and language backgrounds. In the course of this study, 22 relatively common bridge metaphor and metonymy aspects were discovered. Some of these echo the work of previous scholars like Grundlehner and Sweetman, and some have been explicated in the academic context for the first time. All of the formulations, however, are original to the author of this paper. The simple list is as follows:

Bridge Metaphor/Metonymy Categories

- 1. OVERCOMING A DIFFICULTY IN LIFE IS BUILDING A BRIDGE
- 2. OVERCOMING A DIFFICULTY IN LIFE IS CROSSING A BRIDGE
- 3. DEVELOPING A RELATIONSHIP IS BUILDING A BRIDGE
- 4. AVOIDING A RELATIONSHIP IS NOT BUILDING A BRIDGE
- 5. ENDING A RELATIONSHIP IS DESTROYING A BRIDGE
- 6. DEVELOPING A RELATIONSHIP IS CROSSING A BRIDGE
- 7. AVOIDING A RELATIONSHIP IS NOT CROSSING A BRIDGE
- 8. ENDING A RELATIONSHIP IS CROSSING A BRIDGE
- 9. AN INTERSECTION OF DISCRETE STATES IS A BRIDGE
- 10. ACTING DECISIVELY IS CROSSING A BRIDGE
- 11. SEEING FROM A TRANSCENDENT VIEWPOINT IS SEEING FROM A BRIDGE
- 12. SEEING FROM A TRANSCENDENT VIEWPOINT IS SEEING A BRIDGE
- 13. A PERSON DYING IS A PERSON CROSSING A BRIDGE
- 14. ENCOUNTERING A TWIST OF FATE IS CROSSING A BRIDGE

- 15. A BRIDGE-BUILDER FOR A BRIDGE (metonymy)
- 16. CULTURAL SOPHISTICATION IS BRIDGE TECHNOLOGY
- 17. HIDDEN SOCIETAL TENSION IS A BRIDGE
- 18. PREPARATION FOR MILITARY INCURSION IS BUILDING A BRIDGE
- 19. MILITARY INCURSION IS CROSSING A BRIDGE
- 20. A PLACE OF SACRIFICE IS A BRIDGE
- 21. LIVING AS AN OUTCAST IS LIVING UNDER A BRIDGE
- 22. A NATURAL SPAN IS A BRIDGE

(A more complete theoretical explanation for each of these metaphors will be made available in section 5 of this paper.)

As the researcher performs a close reading with the above categories in mind, exactly which metaphorical aspects are being activated in the text will become apparent. As a way to double-check, the researcher will also write up an after-reading report, going over the entire list of categories with each metaphor in mind. When specific bridge metaphor aspects are identified in the text, a note will be made to that effect accompanied by the specific passages in which the metaphor seems to be active. Once the close reading and after-reading analysis are complete, the absence or presence of the metaphors mentioned may be included in the database by simply indicating a 'yes' or 'no' judgment for each of the 22 categories above. While these judgments may not be infallible, they are potentially falsifiable and open to challenge. In this fashion, a reasonable consensus as to the overall reliability of the research may be reached.

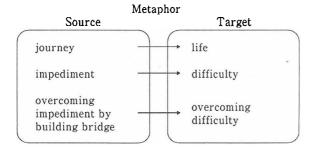
Of course, carefully carried out statistical analysis alone will not be sufficient to make a case; statistical evidence must always be backed up with specific examples from literature which will serve as corroborating evidence. For this reason, whenever possible, the author will attempt to write specific academic articles dealing in-depth with works of particular interest. Indeed, this process has already begun. To date, the author has published or will soon publish highly detailed accounts of works that include bridges by authors including Kawabata Yasunari, Mishima Yukio, Ernest Hemingway, Rudyard Kipling and shorter accounts of works by many other authors.

5. Bridge Metaphor/Metonymy Categories Overview

In this section, the author will give theoretical rationale for the 22 Bridge Metaphor/Metonymy

Categories that have been located in the preliminary research to date. While it would be possible to give numerous examples from literature where the category in question is prevalent, I will not do so since there is not sufficient space to explain how a given category relates to a specific work in detail. Suffice to say that each of the 22 categories has at minimum two works in which the category is clearly activated. This list of 22 is by no means definitive. As research proceeds, new aspects of metaphor may come to light that are not covered in the following list. Furthermore, some aspects may need to be reformulated in light of new findings. Nevertheless, I present the following bridge metaphor and metonymy categories as relatively secure and tested results of my research to this point. As they have already undergone significant modification in light of ongoing research, I do not anticipate any great changes to the list.

Bridge Metaphor/Metonymy Category Analysis Overview 1. OVERCOMING A DIFFICULTY IN LIFE IS BUILDING A BRIDGE

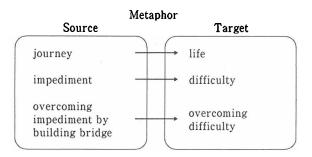


Related Metaphors: STATES ARE LOCATIONS, CHANGE OF STATE IS CHANGE OF LOCATION, PURPOSES ARE DESTINATIONS, LIFE IS A JOURNEY (A PURPOSEFUL LIFE IS A JOURNEY), DIFFICULTIES IN LIFE ARE IMPEDIMENTS TO TRAVEL, IDEAS ARE OBJECTS, PROBLEMS ARE OBJECTS, ABSTRACT STRUCTURE IS PHYSICAL STRUCTURE

Analysis: Just as a person faces obstacles (including rivers, canyons, etc.) during a journey, difficulties encountered during the "path of life" are impediments to achieving one's goals. Building a bridge is a process that requires planning and physical exertion and it is often a cooperative effort. The bridge, once built, allows for "moving past" a difficulty in life either simply by "getting beyond" the unresolved problem temporally and "leaving" it in the past or by solving the problem and thereafter perceiving a state of life

that is not problematic. Once a bridge has been built others can follow.

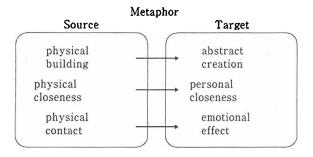
2. OVERCOMING A DIFFICULTY IN LIFE IS CROSSING A BRIDGE



Related Metaphors: LIFE IS A JOURNEY, DIFFICULTIES IN LIFE ARE IMPEDIMENTS TO TRAVEL

Analysis: Just as a person faces obstacles (including rivers, canyons, etc.) during a journey, difficulties encountered during the "path of life" are impediments to achieving one's goals. Crossing a bridge is usually an individual action and as that person "gets over" problems they encounter in life they may be "following in the footsteps" of others.

3. DEVELOPING A RELATIONSHIP IS BUILDING A BRIDGE

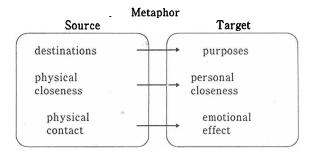


Related Metaphors: ABSTRACT CREATION IS PHYSICAL BUILDING, PERSONAL CLOSENESS IS PHYSICAL CLOSENESS, CLOSENESS IS STRENGTH OF EFFECT, EMOTIONAL EFFECT IS PHYSICAL CONTACT

Analysis: "Building a relationship" with someone is linked to decreasing distance of physical separation and making physical contact. The bridge implies a constant

connection and ongoing relationship both individually in the sense of a friendship or romantic relationship or politically to express the relations between groups. By extension, not building a bridge is to avoid creating a relationship and destroying a bridge is an effort to end an already existing relationship. Note that this metaphor is not an entailment of either LIFE IS A JOURNEY or LOVE IS A JOURNEY.

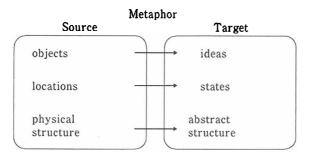
- 4. AVOIDING A RELATIONSHIP IS NOT BUILDING A BRIDGE (extension of 3)
- 5. ENDING A RELATIONSHIP IS DESTROYING A BRIDGE (extension of 3)
- 6. DEVELOPING A RELATIONSHIP IS CROSSING A BRIDGE



Related Metaphors: PURPOSES ARE DESTINATIONS, PERSONAL CLOSENESS IS PHYSICAL CLOSENESS, EMOTIONAL EFFECT IS PHYSICAL CONTACT

Analysis: Crossing a bridge is an individual action and a result of a conscious decision. By crossing, the two people can decrease the distance of physical separation and make contact physically.

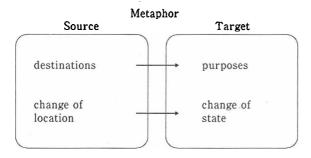
- 7. AVOIDING A RELATIONSHIP IS NOT CROSSING A BRIDGE (extension of 6)
- 8. ENDING A RELATIONSHIP IS CROSSING A BRIDGE (extension of 6)
- 9. AN INTERSECTION OF DISCRETE STATES IS A BRIDGE



Related Metaphors: STATES ARE LOCATIONS, ABSTRACT STRUCTURE IS PHYSICAL STRUCTURE, IDEAS ARE OBJECTS

Analysis: Whenever there is a perceived abstract difference between states or ideas, the bridge can serve as a physical image for an abstract connection. The connection may connect philosophies, nations/ideologies, cultures, states (life-death, etc.) or even people with ideas. As an intersection between discrete states, the bridge serves both as a dialectic catalyst and an apposition accentuator.

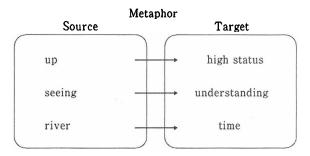
10. ACTING DECISIVELY IS CROSSING A BRIDGE (extension of 2, 9)



Related Metaphors: PURPOSES ARE DESTINATIONS, CHANGE OF STATE IS CHANGE OF LOCATION

Analysis: In a way similar to crossroads or a fork in the road, a bridge demands a choice from those about to cross. The crossing from one side to another is a more dramatic act than simply moving along a path and requires a stronger psychological assurance. For this reason, when a person "burns her bridges behind her," that person is seen to be making an irrevocable decision.

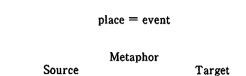
11. SEEING FROM A TRANSCENDENT VIEWPOINT IS SEEING FROM A BRIDGE



Related Metaphors: CONSCIOUS IS UP, HIGH STATUS IS UP, IDEAS ARE OBJECTS, LIFE IS A FLUID, UNDERSTANDING IS SEEING, TIME IS SOMETHING MOVING, TIME IS A RIVER

Analysis: One physical characteristic often associated with bridges is elevation. For this reason, whether crossing a gorge or body of water, standing on a bridge will often afford a view of the gap being spanned and the land at either end of the bridge. (Covered bridges, to give one example, are exceptions to this rule and thereby represent secrets or actions hidden from view.) This correspondence of bridges with an elevated view entails an understanding of the bridge in terms similar to a mountain or tower, a "bird's-eye view" being considered superior and more all-encompassing than a normal terrestrial viewpoint, extending metaphorically to the idea of superior understanding. When combined with the metaphor TIME IS A RIVER this superior understanding afforded by a good view becomes a superior understanding of life itself or the events of history seen in context of the passage of time. Leaning over the rail of a bridge, one becomes witness to the "flow of events" as they pass by to become "water under the bridge." A bridge also becomes a place to contemplate the flow of one's own life, from the source of the river upstream (one's birth) to the ocean downstream (one's death).

12. SEEING FROM A TRANSCENDENT VIEWPOINT IS SEEING A BRIDGE (extension of 11)



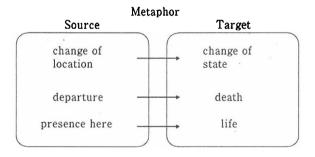


Metonymy Single domain

Related Metaphors: UNDERSTANDING IS SEEING, THE PLACE FOR THE EVENT

Analysis: Because bridges tend to afford a good view, the bridge itself becomes associated with transcendent viewpoint, metonymically displacing the event (a good view) with the place affording it (a bridge). To be sure, it is not simply an extension of 11, however. As a (typically) elevated structure the bridge is a natural stage. Historically, in terms of transportation, bridges constituted a bottleneck that traffic could not avoid. For this reason, bridges were (and to some extent still are) natural gathering places where people meet and exchange information. The very ubiquity of bridges in cities tends to diminish this aspect in present-day life.

13. PERSON DYING IS PERSON CROSSING A BRIDGE (extension of 8, 9, 11)

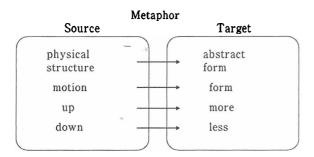


Related Metaphors: CHANGE OF STATE IS CHANGE OF LOCATION, DEATH IS THE END OF LIFE'S JOURNEY, DEATH IS DEPARTURE, LIFE IS PRESENCE HERE, INTERSECTION OF DISCRETE STATES IS A BRIDGE

Corollary a (non-ironic) ANIMAL DYING IS ANIMAL CROSSING A BRIDGE (extension of 13)

Analysis: When someone dies they are no longer with us and so are thought of as "departed." If death is life's final destination, then the "road from life to death" must lead over a bridge that connects "the land of the living" with "the land of the dead." This view of life and death as being separate land masses joined by a bridge is an extremely recurrent permutation of the previous metaphor INTERSECTION OF DISCRETE STATES IS A BRIDGE. (An alternative metaphor is suggested by the Buddhist conception of crossing to the afterlife by boat, although some Japanese forms of Buddhism use the bridge metaphor, as well.)

14. ENCOUNTERING A TWIST OF FATE IS CROSSING A BRIDGE



Related Metaphors: ABSTRACT ORGANIZATION IS PHYSICAL STRUCTURE, FORM IS MOTION, LESS IS DOWN, MORE IS UP, SICKNESS AND DEATH ARE DOWN, HEALTH AND LIFE ARE UP

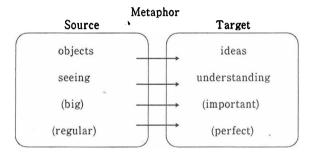
Analysis: Bridges rarely appear to be flat. Many types of bridge actually incorporate an arc into their form, either ascending then descending or vice versa (in the case of rope bridges). In this sense, the compact arc of a bridge's structure and the course one follows to cross it represents a sudden, unexpected turnabout of some kind. In crossing a bridge, life can turn to death, good luck to bad, safety to danger or love to hate. This metaphor generally works contrary to expectations. When changes work along with expectations they might be characterized more simply as INTERSECTION OF DISCRETE STATES IS A BRIDGE.

15. A BRIDGE-BUILDER FOR A BRIDGE (metonymy)

Related Metonymy: PRODUCER FOR PRODUCT

Analysis: Bridges, as artificial constructs, require a builder or builders. After perceiving who built the bridge at issue, the next question is inevitably "Why did they build it?" This question is one of intentionality and may be exceedingly difficult to answer. Often the perceived reason for a bridge's construction will vary with the interpreter's point of view. As a result, this metonymy allows the interpreter to say something about the builder of the bridge by commenting on the bridge itself (and viceversa). The Biblical expression "By their fruit you will know them" sums up quite well how this metonymy is often used. Interpreting the kind and quality of "fruit" then becomes key.

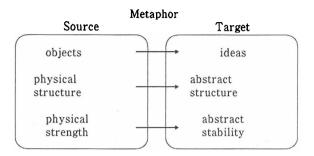
16. CULTURAL SOPHISTICATION IS BRIDGE TECHNOLOGY (extension of 15)



Related Metaphors: ABSTRACT STRUCTURE IS PHYSICAL STRUCTURE, IDEAS ARE OBJECTS, IMPORTANT IS BIG, LESS IS DOWN, UNDERSTANDING IS SEEING, LOW STATUS IS DOWN, HIGH STATUS IS UP, PERFECT IS REGULAR, SIGNIFICANT IS BIG, MORE IS UP

Analysis: Although the idea of measuring cultural sophistication is problematic and there is no guarantee that sophistication in one area represents sophistication in all areas, this metaphor is deeply ingrained into human folk theory. Advanced technology used in bridge construction is considered to be an index of a society's general technological sophistication, which in turn is supposed to be an index of a society's claims to more subtle kinds of sophistication (ethical, aesthetic, political, philosophical, economic, etc.). That there is no logical backing to support such a generalization is irrelevant: all metaphor lacks such logical force and must be judged apt or inapt according to the merits of the specific mapping.

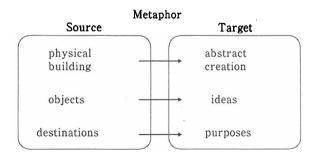
17. HIDDEN SOCIETAL TENSION IS A BRIDGE (ironic extension of 16)



Related Metaphors: ABSTRACT STRUCTURE IS PHYSICAL STRUCTURE, ABSTRACT STABILITY IS PHYSICAL STRENGTH, IDEAS ARE OBJECTS

Analysis: Once we make the metaphorical extension relating cultural sophistication to bridge technology, we recognize that high technology has a downside as well. The more complex the society, the more the tension between individuals is hidden beneath the surface, or so the argument goes. Accordingly, the less complex the societal organization, the less tension that ought to be pent up in it. This argument depends a great deal on background knowledge of the physical forces that battle for primacy within the structure of a bridge.

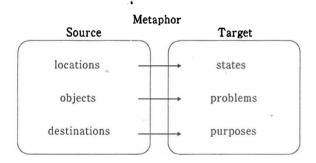
18. PREPARATION FOR MILITARY INCURSION IS BUILDING A BRIDGE (extension of 1, 3, 9)



Related Metaphors: ABSTRACT STRUCTURE IS PHYSICAL STRUCTURE, ABSTRACT CREATION IS PHYSICAL BUILDING, IDEAS ARE OBJECTS, PURPOSES ARE DESTINATIONS

Analysis: Because the boundaries of countries are sometimes determined by topographic barriers, rivers often function as borders between nations. Societies that do not want connections with other societies that border them will not build bridges as such bridges will increase inter-societal connection. Since military incursion compels the acceptance of an asymmetrical relationship through the projection of military power, building an unwanted bridge is both a prerequisite step for physical incursion of military forces and a metaphorical indication of plans to instantiate a coercive relationship. Furthermore, rapid military advance requires smooth transportation flow and so bridges become tactical targets in a war both to be captured during an advance and to be destroyed during a retreat or when taking a defensive posture.

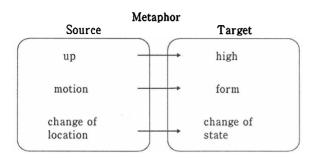
19. MILITARY INCURSION IS CROSSING A BRIDGE (extension of 2, 6, 9)



Related Metaphors: STATES ARE LOCATIONS, CHANGE OF STATE IS CHANGE OF LOCATION, PURPOSES ARE DESTINATIONS, PROBLEMS ARE OBJECTS

Analysis: In that rivers often serve as boundaries between nations, the crossing of bridges for a military purpose represents a very conspicuous type of border violation. Bridges often represent friendly inter-societal connection, but when military forces cross a bridge to project military power and compel an asymmetrical power relationship, this connection must be reinterpreted as facilitating relationship in the negative sense of facilitating aggression. For this reason, when an invading military force crosses a bridge that has been constructed in peacetime, it is a violation of the assumption that the bridge's utility will be mutually beneficial and a betrayal of trust as it has been metaphorically expressed in the physical structure of the bridge.

20. A PLACE OF SACRIFICE IS A BRIDGE



Related Metaphors: HIGH IS UP, FORM IS MOTION, CHANGE OF STATE IS CHANGE OF LOCATION, LIFE IS A JOURNEY, TIME IS A RIVER, DEATH IS A DEPARTURE

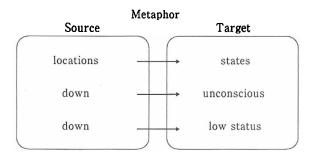
Analysis: Bridges have come to be seen as a place of sacrifice at least partly because they have been used by various cultures as a place of sacrifice (including the ancient Romans, medieval Eastern Europe and Edo Japan). Why did the bridge become a place of sacrifice to begin with? The bridge, usually being a raised structure over a river, provides an ideal temporary stage. Until the recent proliferation of bridges, the few bridges that existed were a bottleneck for travelers and natural gathering places. The bridge has also been considered a place of departure from life to death and therefore a connection with the realm of the gods. The combination of the bridge's supernatural associations with its incidental practical utility as stage and meeting place transform the mundane bridge into a sacred altar. The types of sacrifice associated with bridges vary greatly, from human sacrifice in explicit religious ritual to metaphorical substitutionary death for dramatic effect in an aesthetic work. These varying formulations (represented by Aspects a through d below) are complex extensions of differing permutations of bridge metaphors but their fundamental similarities are readily recognizable in the literary context.

Aspect a- place for human or animal sacrifice in religious ritual (2, 6, 8, 10, 12, 13) Aspect b- place for material votive offering to deity (2, 6, 10, 12)

Aspect c- place for individual to forego self-interest for some greater good (2, 6, 9, 10, 11, 12)

Aspect d- place for death of individual as dramatic representative of larger group (8, 9, 12, 13, 14)

21. LIVING AS AN OUTCAST IS LIVING UNDER A BRIDGE (extension of 2, 7, 11, 12)



Related Metaphors: UNCONSCIOUS IS DOWN, STATES ARE LOCATIONS, SICKNESS AND DEATH ARE DOWN, BEING SUBJECT TO CONTROL IS DOWN, BEING CONTROLLED IS BEING KEPT DOWN, LOW STATUS IS DOWN

Analysis: While bridges offer a distinctive and unblocked view of the river and the bridge's immediate surroundings, there is one implicit exception. Standing on a bridge, it is difficult to see what is underneath. Furthermore, the undersides of bridges are often dark and darkness is often associated with danger and negative mental states. This combination of features converges so that the underside of a bridge comes to represent low social status, the hidden aspects of society, dangers overlooked by society, irrationality and helplessness.

22. A NATURAL SPAN IS A BRIDGE

Metonymy single domain

place = event

bridge = crossing

Related Metaphors: THE PLACE FOR THE EVENT (metonymy), ABSTRACT ORGANIZATION IS PHYSICAL STRUCTURE, PERFECT IS REGULAR

Analysis: Naturally occurring stone arches and other bridge-like phenomena are seen

throughout the world. The fact that a person or an animal might cross one of these arches as if it were a bridge leads naturally to an iconic association with artificially produced bridges. Other naturally occurring phenomena, including rainbows and the Milky Way, are also iconically associated with bridges due to their shape and illusory yet apparent connective capacity. Even when there is no bridge-builder, strictly speaking, people who encounter such natural bridges attempt to explain the bridge's presence by positing a "bridge-builder." Indeed, wherever one finds such stone arches, local people will inevitably have attributed its construction to one deity or another in the local pantheon.

Corollary a (non-ironic) A RAINBOW IS A BRIDGE
Corollary b (non-ironic) THE MILKY WAY IS A BRIDGE
Corollary c (non-ironic) AN ISTHMUS IS A BRIDGE

7. Practical Examples of Bridge Metaphor/Metonymy Analysis

To demonstrate just how these categories will be used, I will give a brief explanation of a few particularly relevant metaphors and metonymies that relate to "bridge-building." Because literary and other extended texts are far too complex to mention briefly, examples will be taken from the following list of online news headlines:

A Muslim scholar builds bridges to the West
Counseling builds bridges to intimacy
Schroeder builds bridges to U.S. after Iraq row
Torres builds bridges to success
World Youth Day: Taiwan Builds Bridges to China

These headlines were taken from the results of an Internet search for the phrase "builds bridges to" using the search engine Google on July 4, 2003.

The headline "Torres builds bridges to success" is an example of the metaphor OVERCOMING A DIFFICULTY IN LIFE IS BUILDING A BRIDGE. According to the accompanying article, Torres is an educational administrator responsible for minority enrollment in a university's engineering program. Because LIFE IS A JOURNEY and DIFFICULTIES IN LIFE ARE IMPEDIMENTS TO TRAVEL, the difficulties encountered by minority students along the "path of

life" are impediments to achieving their career goals. "Success" expresses academic achievement and the attainment of career goals and, as such, is the destination of each student's journey. Because Torres counsels students and helps them overcome difficulties on their paths to success, his efforts are characterized as bridge-building.

"Schroeder," in the news headline "Schroeder builds bridge to U.S. after Iraq row" refers to Germany's prime minister. By way of PART FOR WHOLE metonymy we are to understand that Schroeder, as a representative of the German government, which in turn stands for the people of Germany, is attempting to improve bilateral ties between the two countries after a deterioration of the relationship. To say that Schroeder himself is hoping for better relations with U.S. government officials may be true as well, but the metonymic association brings the bridge-building metaphor to the international level and makes the headline more newsworthy.

Stemming from a different set of primary metaphors, we recognize the relatively intuitive formulation, DEVELOPING A'RELATIONSHIP IS BUILDING A BRIDGE. Another example of this is the headline "A Muslim scholar builds bridges to the West." This metaphor is an entailment of the metaphors ABSTRACT CREATION IS PHYSICAL BUILDING and PERSONAL CLOSENESS IS PHYSICAL CLOSENESS. "Building a relationship" with someone involves decreasing "psychological distance" between the two people. Structurally, a bridge links two otherwise separated areas and so by metaphorical extension into the realm of human relationships, building a bridge implies creating an ongoing association characterized by friendship.

Note that the metaphors OVERCOMING A DIFFICULTY IN LIFE IS BUILDING A BRIDGE and DEVELOPING A RELATIONSHIP IS BUILDING A BRIDGE have dissimilar metaphorical motivation. In the first metaphor, a lone traveler crosses a bridge on the way towards her goal, while in the second, two divided land areas are artificially conjoined. Nevertheless, despite these differences in metaphorical motivation, the two metaphors are often used in combination within a narrative. This sort of combined use is seen in the headline "Counseling builds bridges to intimacy" in which counseling represents mediation in a relationship. The two people are conjoined to achieve a state of intimacy while at the same time journeying together towards intimacy. Is the couple building a bridge together to cross into a state of intimacy or are they separated and approaching each other from opposite sides of the bridge? This highly ambiguous example shows how two different metaphorical aspects can function simultaneously in a single short statement.

Metonymy is at work in the example, "World Youth Day: Taiwan Builds Bridges to

China." As the idea of actually constructing a bridge between the island of Taiwan and the Chinese mainland is unrealistic considering the present relationship between China and Taiwan, we understand that the statement must be metaphorical. Once the metaphorical nature of the statement has been intuited, we quickly understand that *some* of the people of Taiwan hope to promote a better relationship with the people of the China, and we understand this by way of PART FOR WHOLE metonymy.

6. The Ongoing Project

The Bridge Project began a few years ago with some papers exploring the metaphorical aspects of bridges in the fiction of Japanese author Miyamoto Teru. (Strack 1997, Strack 1998) Reflecting on the variety and richness of the various bridge metaphor aspects analyzed for these papers, I realized that I had only scratched the surface. Since then I have written a few more papers on the subject and the research has led to various unexpected insights into literature, culture and cognition. From this point on I intend to proceed with this project until it is "finished," that is, until I have added enough works to the bibliography and database, written enough papers on specific works, and come to enough general conclusions to warrant writing a summary of the Project's results. This may take years or decades but I feel that the results achieved so far amply warrant an attempt despite the extended timeframe that may be necessary for the project's completion. This paper is mainly written to publicly mark the starting point for the Bridge Project, as well as to act as a sounding board for the research strategies spelled out herein. For those with general or specific comments, suggestions or critiques in regard to this project, please feel free to contact me to express them at the following e-mail address: destrack @gmail.com.

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