

Abstract

The statement below by Skinner is enough to demonstrate that changes in language can result in changes in meaning. This chapter considers the various ways this is true, especially when considering how language is used in a qualitative assessment. This is illustrated by analyzing the language basis of various definitions of quality-of-life or health-related quality-of-life (HRQL).

Once you have formed the noun 'ability' from the adjective 'able' you are in trouble.

BF Skinner (1987)

Abbreviations

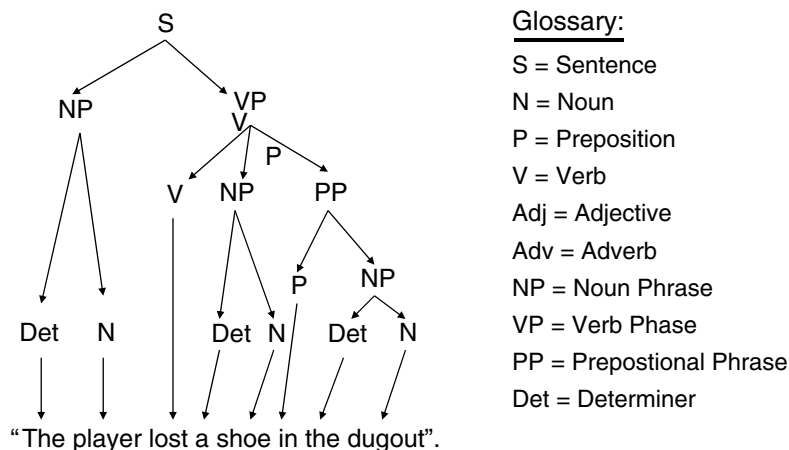
AIDS	Acquired immune deficiency syndrome
HRQOL	Health-related quality-of-life
QWB	Quality of Well-being Scale (Kaplan and Bush 1982)
SME	Structure-mapping engine
WHO	World Health Organization

1 Introduction

A defining characteristic of a quality assessment, such as a quality-of-life or HRQOL assessment, is that it is based on the ordinary language that people use to express themselves. As a consequence, it is subject to a full range of uses, from the precision of a logical expression to the confusion of contextual misappropriation. Yet, explicating the role of language in a quality-of-life or HRQOL assessment seems almost mandatory, although it is seldom reported. One approach involves examining a quality assessment in terms of its syntax, semantics and pragmatics, and this should provide insight into how language can be used to express quality. Thus, when a quality assessment is “adjusted” (e.g., made more concrete, uses simpler language, etc.) to facilitate responding by a person who is

compromised, then it is appropriate to ask what these changes in linguistic expression do to the meaning being expressed by the different assessments. At the same time, monitoring changes in language expression can also be used to characterize the impact of disease progression, treatment, and aging. This can be done by assessing for semantic errors, changes in speed of responding, impaired facility with abstract concepts (Chap. 10), and any number of additional language-based indicators. Thus, quality researchers can take advantage of an established literature designed to monitor or analyze language changes, and use these tools to gain insight into the nature of a qualitative assessment. To help orient to these tasks, I will first provide a brief, but hopefully useful, review of the grammatical and semantic nature of language, with emphasis on the difference between literal and figurative expression, and between linguistic and conceptual metaphors, but also the role of speech acts. Most qualitative researchers will probably not be familiar with the various concepts and distinctions commonly used in the study of language expression. I will, however, demonstrate the usefulness of this approach in Sect. 3 of this chapter, when I apply a metaphoric analysis to a representative set of quality-of-life or HRQOL definitions.¹ A critical element in this analysis will involve the deconstruction of the available definitions using a method akin to creating a diagram of sentences (e.g., O’Grady et al. 1989).

Fig. 2.1 The tree diagram for the sentence, “The player lost a shoe in the dugout” (O’Grady et al. 1989; p. 135).



In addition, I will keep Wittgenstein’s admonishments concerning the limits of language in focus, particularly his notion that it should be expected that the meaning of words or phrases should be derived from how they are used, not defined. His view, that the pragmatics of language usage should determine the role of language in communication, will be reflected in my discussion of both speech acts and the context or surroundings of a qualitative assessment. I will differ from Wittgenstein by regularly including definitions and synonyms of words to serve as fixed points to begin these studies. What will become obvious is that the word “quality” and the phrase “quality-of-life” are subjective terms that can be used metaphorically, and in this way provide different meanings, but they do so by using common cognitive mechanisms (e.g., the mapping of meanings between terms).

2 Language Usage Principles

2.1 The Elements of Language

The study of language (O’Grady et al. 1989; Pinker 1994) reveals how a person uses words and sounds to communicate information. Each verbal or written statement, in effect, is a creative effort that appears to occur in the context of specific rules and constraints, but also in a social and cultural setting. These rules and constraints make up a *grammar* that orders the way I say things and shapes the phrases or sentences I speak or write. This grammar also helps me reliably interpret what I read or hear. All languages have a grammar of varying complexity, and our capacity to use a grammar appears to be biologically determined (Chomsky 1965).

It is literally possible to “see” the grammatical structure of a phrase or sentence by deconstructing it into its component parts, and identifying the rules that are operating when a sentence is formed. For example, the deconstructed form of the sentence, “The player lost a shoe in the dugout” (O’Grady

et al. 1989; p. 135) is displayed as a syntactic tree in Fig. 2.1. It can also be written in a linear fashion by combining expressions such as; $S \rightarrow NP VP$; $NP \rightarrow (Det) (AdjP) N (PP)$; $VP \rightarrow V (NP) (PP)$; $PP \rightarrow P NP$ (see Fig. 2.1). In either case, the resultant display reveals that for an English declarative sentence the subject or a noun phrase (NP) will always precede the predicate or verb phrase (VP), while a noun phrase will always include a noun (N) but could also include a prepositional phrase (PP), a determinant (Det), or an adjectival phrase (Adj). A similar deconstruction can occur for the verb phrase (VP), and other parts of language. As can be imagined, these trees become more complex as the sentence becomes more complex.

Now what is interesting about this method of illustrating the grammatical structure of a sentence or phrase is that it may also be what I ordinarily do when I read or hear a sentence. Thus, my nervous system may be organized to perceive each part of a sentence and then determine how the parts are related to each other and the sentence as a whole.

This process is referred to as a combinational strategy (e.g., Fodor 1975), and I will refer to it again as I proceed through this and subsequent chapters.

Although a language is governed by a grammar (a syntax), words also have the capacity to change their meaning over time by shifting how they are used, whether it be as a word, or part of a phrase or sentence. Thus, usage-based changes can occur by semantic broadening (or narrowing), or semantic shift (O’Grady et al. 1989). An example of semantic broadening is the use of the word “dog,” whose old meaning was limited to a “hunting breed” but now also means “any canine.” An example of semantic narrowing is the word “disease,” that at one point in linguistic history referred to being in “any unfavorable state” (O’Grady et al. 1989), but now most often refers to “having an illness.” Semantic shifting for words can be illustrated with the changes in the meaning of the word “immoral,” which originally meant “not customary” but now means “unethical.” The word “grasp,” as an example of a metaphor, involves

shifting the meaning from its original usage of “to hold,” to now also mean “to understand.” The word “high” that originally meant being “in a position in space” now also refers to “being on drugs.”

While the meaning of individual words can narrow, broaden or shift, it is also possible for new meanings to evolve independent of the semantics of the individual words in a sentence or phrase. For example, it would not be possible to know that the phrase “kicked the bucket” meant that a person died, or that “sitting pretty” meant that someone was fortunate, if you just examined the semantics of the individual words in the phrases. These examples are idioms, and they illustrate the fact that language can be figurative, meaning that language can acquire and communicate meaning without the words used being literally true. Idioms, in fact, are a subset of a group of fixed expressions that compose a significant portion of our verbal and written vocabulary. Jackendoff (1995) estimates that nearly half of the estimated 160,000 items that a person remembers are not fixed expressions.

Now while I have emphasized the benefits of deconstructing sentences and phrases to identify their component parts, it is also possible to approach language from a more holistic perspective. Thus, if what is important about some expression of language is to intentionally communicate, then it may be important to establish the role that speech acts play in this process. Speech acts include making statements, asking questions, giving commands, making promises, and similar activities. Searle (1969; p. 17) nicely distinguishes the relationship between rule-governed grammar and speech acts when he states, “It would be as if baseball were studied only as a formal system of rules and not as a game.” He also points out that the meaning conveyed by language is not only expressed by the semantics of a phrase or sentence, but also by studying the performance of speech acts. Searle (1969) follows this thought with the insightful comment that Wittgenstein, especially in his early writings, may have been viewing language from the perspective of speech acts – its pragmatics – and on the basis of this finding, the meaning attached to sentences or words may be quite different than their formal literal definitions.

He also distinguishes between what is intentional and what is conventional about a communicative statement, including a speech act (see also Grice 1957). Thus, when information is exchanged between people or when a person fills out a written test, there are certain expectations that exist concerning the content and format of the communication. However, sometimes the communication can violate these conventions and instead communicate another objective or goal. It should be easy to see how an intentional communication could set the stage for figurative expression.

While most assessments of quality-of-life involve written material, the phrasing of the items as questions overlaps with

what would be expected if the material were verbally presented. Of course, some assessments require interviews (e.g., the original version of the QWB), and asking questions in this context overlaps with what would occur as a speech act (i.e., a response is expected to the question). Other settings where a person is expected to respond include when they have been asked to, during cognitive interviewing, during doctor–patient discussions, focus group participation, and so on. In each case, assessing the response to the implicit call for performance can be informative. This would be especially true for monitoring the status of the compromised person.

The next question I need to be concerned with is the best way to express what I mean by the terms quality or quality-of-life. Part of my answer will involve inspecting definitions of quality or quality-of-life to determine if they rely on literal or figurative language. I will return to the importance of speech acts in Chap. 11, where their existence is helpful when distinguishing statements of well-being from quality, particularly quality-of-life.

2.2 The Optimal Expression of Quality-of-Life or HRQOL

Mehl and Pennebaker (2004) asked a group of college students to write an essay in response to the question, “How would you describe your quality-of-life?” Following are some of their responses:

Webster defines quality-of-life as your personal satisfaction (or dissatisfaction) with the cultural or intellectual conditions under which you live (as distinct from material comfort). I define it as living in the moment, having hope for the future, and loving my past. It is being healthy, being loved, and being engrossed in a safe atmosphere.

The thing that I value most in life is that I’m living. I was diagnosed with lupus when I was 13 years old, and I had to go to the doctor every week. Now it’s under control, but I’m the youngest to have this disease.

Quality-of-life is the hope one has

The things that matter most to me seem to drift in and out of my priority range dynamically. A few years ago, my focus was my ambitions and investments. Then, it became God, and my relationship was centered around Him. While I would love to say that is where it remained, I would be dishonest in doing so. My newest focus has to be either school or my girlfriend.

These students capture the diversity of issues, unique to the individual yet common to them all, that they considered when reflecting on the quality of their existence. For this reason, some would argue that poetry and prose are the best vehicles for expressing this reality, more so than an academic-sounding definition or some attempt at assessment. Still others may wonder if the meaning attached to a person’s existence is so complex that it is highly unlikely that it could ever adequately describe it with words, no less assess it. Frank (2001) directly addressed these issues in an

interesting article entitled “Can we research suffering?” To quote Frank (2001):

Suffering involves experiencing yourself on the other side of life as it should be, and nothing, no material resource, can bridge that separation. Suffering lies beyond such help. Suffering is what is unspeakable, as opposed to what can be spoken; it is what remains concealed, impossible to reveal; it remains in darkness, eluding illumination; and it is dread, beyond what is tangible even if hurtful. Suffering is loss.... Suffering resists definition because it is the reality of what is not. Anyone who suffers knows the reality of suffering, but this reality is what you cannot ‘come to grips with’.... Suffering is expressed in myth as the wound that does not kill but cannot be healed. (p. 355).

While claiming what can’t be done, Frank, of course, is using language to elegantly describe and define suffering. All I need to do is accept his discourse as the content to be assessed and this will contradict his proposition. When he says people can’t assess such a complex human experience as suffering, he more than likely means that a questionnaire will not adequately capture this information. This may or may not be true, but methods are available that permit quantification of his essay (e.g., discourse analysis or text analysis), quantification that may yet be shown to adequately characterize what he describes as suffering. Schott (2004) has raised these same definitional and assessment issues about another major subjective indicator, pain. The individual experience of pain, he claims, may be indefinable but he acknowledges that analogies and other forms of figurative language can be used to characterize pain. This is in contrast with Frank’s (2001) assertion.

The notion that profound subjective experiences are not easily subject to public examination is not unique to Frank. However, there are a variety of forms of literary expression, especially poetry, which provide appropriate venues for this type of expression.

“The resident doctor said,
‘We are not deep in ideas, imagination or enthusiasm-how can we help?’
I asked.
‘These days of only poems and depression-
what can I do with them?
Will they help me to notice
what I cannot bear to look at?’”

Robert Lowell (1977)¹

For example, Harold Schwizer (1995) in an article entitled “To give suffering a language,” introduces his article by quoting a poem by Robert Lowell (see below), in which the poet describes his encounter with a psychiatrist asking the psychiatrist how he or she was to free him of his depression. Of course, at the time of this encounter (the 1970s) the treatment options were limited. Schwizer goes on to describe the experience of the medical anthropologist Arthur Kleinman, with a young girl patient who suffered extensive burns. At first, Kleinman did not know what to do to comfort the silent child,

except to hold her hand. Soon he felt the child holding his hand, and she started to speak. By extending himself, Kleinman literally gave the child a way to speak of her suffering, and by so doing he also helped the child transform an otherwise abstract indefinable state or concept into a concrete and understandable action. This process of making the abstract concrete will become a central theme in what I will discuss in subsequent chapters. It illustrates Bridgman’s (1959) call for understanding how a person understands, and it accounts for why Frank (2001) believes that suffering can’t be researched. He is correct if suffering is viewed as only an abstract entity, but it can be studied if it is made concrete, as when concrete language is used to express it. But this paradox is also true for many other abstract concepts, and in each case only by making the abstract concept concrete does it become possible to assess it. This should become clear as I consider other examples of this principle in subsequent chapters.

Clearly, poetry, prose or conversation can, if well crafted, effectively describe what one means by quality or life quality, just as words can be used to describe the beauty of a statue or painting, but these forms of expression are limited in their ability to validate what has been described or predict what may happen in the future. That can only happen if a formal analytic process is applied, such as the scientific method, which would first define what is to be assessed and then attempt to confirm this definition using appropriate assessment procedures. Confirmation (defined probabilistically) of these descriptions would be estimated by determining if the assessment process was reliable and valid, and confidence in the predictability of the assessment process would depend on estimating the responsiveness of the assessment methods that were used. If successful, assessment of this sort should be able to characterize the qualitative nature of our existence.

If diverse types of discourse provided data for some qualitative analysis, then how the language that makes up this discourse was used, becomes a legitimate subject for study. For the same reason, the language used in the assessment process should be examined to determine how it contributes to the objectives of the scientific process. My first challenge, then, is to consider how I would determine the meaning of a word, phrase or sentence, but my ultimate goal is to relate this to what I mean by the words or sentences I use to describe the process of assessment, and the process of assessing quality, in particular.

2.3 Literal Expression

Frege (1892/1966) has argued that someone can understand a sentence no matter who said it, or for whatever reason. This, he suggests, proves that a sentence has a literal mean-

ing, a meaning that is totally independent of the context of its use, and totally dependent on the meaning of the individual words that make up the sentence and the syntactical rules that order these words. The fact that a sentence can be expressed in a variety of settings and yet provide the same meaning suggests that such a sentence, if literally true, represents an invariant statement (Chap. 4, p. 112). Certain sentences, however, may have more than one literal meaning, such as an ambiguous sentence. It may also be true that the literal meaning of a sentence may be defective, as in a non-sense sentence. Also, the literal meaning of a sentence should be distinguished from how a person uses a sentence, as when a sentence is used as if it contained an idiom, metaphor, and so on.

An extension of Frege's (1892/1966) original proposal, the literal meaning hypothesis, suggests that a person will always examine the literal meaning of a sentence first, and only later consider alternative interpretations. Is this so? In addition, is it true that the meaning of literal and figurative sentences differs, and finally, is there a difference between a linguistic interpretation of what a statement may mean and what readers or speakers say these statements mean? Let me examine each of these questions, that were originally asked by Gibbs (1984).

First is the hypothesis that a person will also examine the literal meaning of a sentence before considering other interpretations of the sentence. This implies that all sentences have a literal meaning. Consider these sentences, suggested by Gibbs (1984):

- (1) "How about the salt?"
- (2) "Take a leak."
- (3) "Trip the light fantastic."

Gibbs claims that these sentences do not have a literal meaning, yet they are understandable. This suggests to him that literal meaning is not necessary for comprehension. In addition, Gibbs reports a series of experiments in which he found that people took as long to respond to indirect requests (e.g., "Can you pass me the salt?") as they did to direct requests ("Do not open the window.") when these sentences were asked in an appropriate context. However, when these sentences were taken out of context, then the indirect statements took longer to read and respond to than the direct request questions. Glucksberg (2001) provides additional support for the similarity in the processing time of literal and figurative sentences (see below).

Another question worth asking is if the meaning communicated by literal and figurative sentences is different? Consider the sentence, "A man is not an island unto himself." The literal and figurative meanings of this sentence differ, but both are meaningful. This suggests that the same words or phrases can be interpreted differently, making it unlikely that words alone determine the meaning of a sentence. Gibbs

(1984) suggests that one way to resolve the difference between literal and figurative sentences is to assume that they differ in terms of how well they are placed in a context. Thus, a literal sentence would be more isomorphic with its context, while a figurative sentence would be less so. This, according to Gibbs, would make the two classes of sentences equally as understandable, so they would differ more in degree than in kind.

The final question that Gibbs raised was whether a linguistic statement differs from how a reader or speaker would state or use the same sentence. This he describes as the difference between *semantics* and *pragmatics*, a distinction he does not consider important if the primary purpose of the study is to understand how a person understands or uses language.

Gibbs also points out that for *indicative sentences*, the literal meaning of the sentence determines a set of conditions which, if satisfied, makes the sentence a *true* statement. Thus, if a cat is actually on a mat, then the sentence "The cat is on the mat." would be considered true. Some philosophers, therefore, argue that to know the literal meaning of a sentence is to know its truth value (e.g., Carnap 1956), and that this remains so, independent of its context. This issue is an important one for me and I will return to it shortly.

Glucksberg (2001) offers another approach to defining what is meant by literal. He suggests that it is necessary to separate and examine two processes: *linguistic decoding* and *linguistic interpretation*. Linguistic decoding, he states, involves examining an expression in terms of its phonological, lexical, and syntactic characteristics. He also states that the linguistic meaning is very much attached to the results of this decoding process, and as such, is very much dependent on the linguistic theory underlying the postulated decoding process. Thus, he quotes Stern (2000) that the "literal meaning of a simple expression is whatever our best linguistic theory tells us is its semantic interpretation" (p. 23). From this, Glucksberg goes on to say, "Linguistic-literal meanings are thus the product of a particular....theory of semantics and syntax, a theory that does not pretend to describe or explain what people actually do when talking and listening." (p. 11).² This view is consistent with Gibbs' (1984) response to the literal meaning hypothesis. An alternative, he suggests, is to rely on the common pattern of usage, or folk theory of language. The folk language would limit the definition of literal to the primary meaning of a word, phrase, or sentence. Thus, the primary dictionary definition of "literal" is, "using or interpreting words in their usual or most basic sense without metaphor or allegory" (Oxford University Press 1996).

Glucksberg (2001) also takes issue with the literal meaning hypothesis view that literal meaning is context independent.

He provides a series of examples to demonstrate that this view is hard to defend. Yet he also points out that while various literal expressions may not be context independent, people treat them as if they are, and this, he says, is what you might expect in a folk theory of language. Glucksberg (2001) summarizes his view in the following quote:

Perhaps the most useful position is that the concept of *literal* cannot be explicitly defined except in formal linguistic-theory terms. Within our folk theory of language we make a sharp distinction between the literal and nonliteral. However, when we make judgments about specific examples the distinction becomes graded, rather than discrete. People can make reliable judgments about degrees of metaphoricality, for example, suggesting that there is a continuum from the literal to the nonliteral... (p. 14).

If the term literal is best defined as reflecting the ordinary use of language (i.e., a folk theory of language), then it is probably best to assume the same for the language used to express quality or a quality-of-life assessment.

2.4 Figurative Expression and Its Complexities

First, figurative expression can take many forms: as an idiom, hyperbole, indirect request, irony, understatement, metaphor, simile, or rhetorical question. What is common to all these forms of expression is that they can convey meaning in a more efficient manner than an equivalent literal statement, and for this reason are a regular part of discourse. I will follow Glucksberg (2001), Bowdle and Gentner (2005) and others, and focus on the study of the metaphor as a prototypical figurative form, since an extensive literature exists on how meaning is being communicated by some expressive form (e.g., such as the definitions listed in Table 2.1). Glucksberg (2001) states that:

Theories of metaphor in philosophy, linguistics, and psychology... address one or more aspects of...two senses of metaphor: metaphor as a form of linguistic expression and communication and metaphor as a form of conceptual representation and symbolization. (p. 4).

Table 2.1 List of quality-of-life or HRQOL definitions^a

Campbell et al. (1976)	Quality-of-life is defined in terms of satisfaction of needs, and “level of satisfaction” can be precisely defined as the perceived <i>discrepancy</i> between aspiration and achievement, ranging from the perception of fulfillment to that of deprivation
Calman (1987)	Quality-of-life therefore measures the difference, at a particular period of time, between the hopes and expectations of the individual and the individual’s present experience. It is concerned with the <i>difference</i> between perceived goals and actual goals
Ferrans (1990)	Quality-of-life is defined as a person’s <i>sense of well-being</i> that stems from satisfaction or dissatisfaction with the areas of life that are important to him/her
Gotay et al. (1992)	Quality-of-life is <i>a state of well-being</i> that is a composite of two components: (1) the ability to perform every day activities that reflect physical, psychological and social well-being and (2) patient satisfaction with levels of functioning and the control of disease and/or treatment-related symptoms
Frisch (1993)	Life satisfaction is equated with quality-of-life and refers to a person’s subjective evaluation of the degree to which his or her most important needs, goals and wishes have been <i>fulfilled</i>
Patrick and Erickson (1993)	Health-related quality-of-life is <i>the value assigned to duration of life</i> as modified by the impairments, functional states, perceptions, and social opportunities that are influenced by disease, injury, treatment, or policy
Osoba (1994)	HRQOL is a multidimensional construct encompassing perceptions of both positive and negative aspects of dimensions, such as physical, emotional, social and cognitive functions, as well as the negative aspects of somatic discomfort and other symptoms <i>produced by</i> a disease and its treatment
Cella (1995)	HRQOL refers to the extent to which one’s usual or expected physical, emotional, and social <i>well-being</i> are affected by a medical condition or its treatment
Ebrahim (1995)	HRQOL may be thought of as those aspects of self-perceived <i>well-being</i> that are related to or affected by the presence of disease or treatment
World Health Organization (1995) (WHOQOL)	Quality-of-life was defined, therefore, as an individual’s perception of their <i>position in life</i> in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards, and concerns
Felice and Perry (1996)	Quality-of-life is defined as an overall <i>general well-being</i> that is comprised of objective and subjective evaluations of physical, material, social, and emotional well-being, together with the extent of personal development and purposeful activity, all weighted by a personal set of values
Padilla et al. (1996)	HRQOL is defined as a personal evaluative statement summarizing the positivity and negativity of attributes that characterize one’s psychological, physical, social and spiritual <i>well-being</i> at a point in time when health, illness and treatment conditions are relevant
Shipper et al. (1996)	Quality-of-life in clinical medicine represents the functional <i>effect of</i> an illness and its consequent therapy upon a patient, as perceived by the patient
Revicki et al. (2000)	HRQOL is defined as the subjective assessment of the <i>impact of</i> disease and its treatment across the physical, psychological, social, and somatic domains of functioning and well-being

^a Based on definitions provided by Ferrans (2005). *Italics* added by author

I will consider both usages, but start with describing metaphors as a form of linguistic expression and communication. First, it is important to recognize how prevalent metaphor usage is in our everyday language and especially in scientific discourse. Graesser (Personal Communication, October 1989), for example, claim that one out of every 25 words expressed on television programs is a metaphor. Metaphors are regularly used in the various sciences, where a constant interplay occurs between empirical evidence and the metaphor used as a model. Fiedler (2000) points out that:

It is not unusual for psychological theories to draw on common physical or statistical metaphors (Gigerenzer 1991; Roediger 1980), such as Lewin's (1951) field theory, Brunswik's (1956) lens model, Thurstone's (1927) law of comparative judgment and the related 'signal detection' approach (1966)...In all these cases, the theoretical innovation gained in the transfer domain does not depend on how novel and influential the imported metaphor is in its home domain. For instance, an optical lens or an arithmetic average do not entail exciting developments in physics or statistics, respectively. What leads to theoretical originality and fertility is often the simplicity of very common metaphors." (p. 659).

Fiedler's (2000) comments suggest that these particular metaphors are not advancing the fundamental basis for the physical or statistical sciences, but rather are efficient means of communicating some meaning that would otherwise be difficult to communicate or not be forthcoming at all. Thus, when Lewin (1951) uses *field theory* to characterize psychological events, he is giving his reader an abstract concept to use when thinking about and understanding a psychological phenomenon. The same process occurs in all the different sciences.

As will become clear, the available definitions of quality-of-life or HRQOL rely, to varying degrees, on various types of metaphors to communicate meaning. But this raises a fundamental question, and that is: if these definitions are not literally true, how can I rely on them when I have to make practical decisions (e.g., selecting a treatment based on quality-of-life or HRQOL data)? Literal language is considered to be real, true, and unambiguous. At least that is what most of us believe. We all assume that what is "out there" is what we all experience. If this is so, what do I believe about figurative expressions, such as metaphors. Are they also real, true, and unambiguous? This is a central issue not only for understanding metaphors, but also for a number of other topics I will discuss.³

The implicit question being asked here, however, is how I come to know what is true and real. Philosophically, the question is whether there is an objective reality which will permit me to make true statements. Much of twentieth-century Western Philosophy argued that there was such an objective reality, and this view reached its fullest expression in the doctrine of logical positivism. As Ortony (1993) states:

A basic notion of positivism was that reality could be precisely described through the medium of language in a manner that was clear, unambiguous, and, in principle, testable – reality could

and should be literally described... During the heyday of logical positivism, literal language reigned supreme. (1993, p. 1).

It is, of course, interesting to note how Ortony's comment connects literal language usage and the positivistic approach to reality.⁴ An alternative exists, however, that assumes that reality (particularly "scientific reality") is a product of combining immediate experiences with past and contextual knowledge. A cognitive entity is formed based on elements of perception, language, and past knowledge. This *constructionist* view claims that reality, particularly subjective reality, is not directly observable but is constructed and may include the nonliteral use of language, as in the case of a metaphor.

There are actually two major constructionist models (Zuriff 1998), and I will briefly review them so that my approach will be clear. At one extreme is the metaphysical constructionist's view (Gergen 1985; Searle 1995; Zuriff 1998), which, while acknowledging the constructed nature of reality, uses this observation as a stepping stone to engage in an antilogical positivism polemic, and ends up by proposing a dramatic reinterpretation of the nature of science. For example, the above authors claim that since what is known is socially constructed, I cannot transcend my constructs and contact reality directly. Instead, I am limited in my conceptualization of the world to using interpretative categories, concepts, and theories. Observation and theory become indistinguishable since both are constructs. Truth becomes relative since it is determined by the scheme, framework, or language used. The difference between value and fact collapses because the neutrality of fact is a myth. Objectivity is a myth and agreement has to come from social interactions.

Zuriff (1998) claims that metaphysical constructionism is a modern-day version of solipsism. This form of constructionism, he states, makes two errors. The first is the failure to acknowledge that it is possible to distinguish between the social world and the rest of the natural world, and the second is the failure to differentiate a fact from the social acceptance of a belief as a fact. He states that, "These errors gain their plausibility from a version of traditional skepticism which leads ultimately to solipsism and irrelevance." (1998; p. 18).

An alternative model of constructionism, *empirical constructionism*, also acknowledges that my conception of the natural world is constructed and that there may not be a unique description of reality (Zuriff 1998). It differs from metaphysical constructionism, however, by not claiming that my reality is the only form of reality. For example, the empirical constructionism view accepts that human perception of sound may not correspond to the physical sounds presented, and in this sense is a construction of reality, but it also does not deny that physical sound is real. Instead, empirical constructionism proposes that the two forms of reality exist and their relationship should be the subject of study. I alluded to this when I made the distinction between the wavelength (a

perception) that I perceive and the hue (a cognition) that I report. Thus, empirical constructionism emphasizes the study of the relationship between people's behavior, their psychological (subjective) world and external reality.

I will engage in just such a task when, to paraphrase Bridgman (1959), I try to understand how I, and others, understand. Thus, I will speak of assessment rather than measurement, and objectification rather than objective in order to emphasize that I am an inseparable part of the scientific process and I have to understand my role in establishing what I consider to be real, if I am going to believe what I have observed. The history of science tells me that my scientific reality has and will change and I think that it is essential that I incorporate this perspective in my approach to such a complex topic as "quality." Again this does not mean that the object I see is not objective, rather that I need to understand what has happened after I have cognitively processing it.

With this review I can now apply what I have learned about the difference between the nonconstructionist/constructionist views to my discussion of literal and figurative language. For example, the logical positivists (i.e., nonconstructionist) treat metaphors as an unimportant, almost deviant, form of expression. As stated above, they are primarily concerned with what is literally true. They would be quite suspicious if a metaphor was used as part of an argument or a definition, or was used to make a decision (e.g., a medical decision). In contrast, the constructionists argue that comprehension and meaning can evolve from both the literal and nonliteral (e.g., from metaphors) use of language. Thus, for a constructionist,⁵ truth and reality are acquired, and acquired as a product of the interaction of the person with their physical and social environment.⁶ Consistent with this is the demonstration by Asch (1958) and Gardiner and Winner (1978) that children learn the difference between figurative and literal expression over time, and that the dual usage of terms, such as metaphors, is common to different cultures.

As stated above, the concern that definitions that use figurative language may not be "true and real" may account for some of the ambivalence concerning the acceptance of quality or quality-of-life research findings as part of medical decision making or social policy formation. This concern, however, should not last any longer than the observer's willingness to recognize the ubiquitous usage of figurative language, a usage which presumably has not mislead or deceived in other forms of communication or types of decision making. In addition, Glucksberg (2003) and others have pointed out that a metaphor is a very efficient way to communicate a meaning which, if expressed literally, would involve a more extended explanation.

Still, the view that figurative language distorts truth and reality and is not a useful part of communication process persists, as is evident in Sontag's book, *Illness as Metaphor: AIDS and its Metaphors* (1991). Dealing with cancer, tuber-

culosis and AIDS, Sontag argues that the flagrant use of metaphors in medicine confounds effective treatment, and should be avoided by persons discussing their illness with physicians. She also claims that metaphors distort medicine's task, as when conceiving of a disease and its treatment as "a victory in a battle," a battle that she says sometimes can't be won. Of all of Sontag's admonitions, however, the notion that a person can effectively communicate without the use of figurative language seems hardest to accept. First, because metaphors have such a central role in how I express myself and think about things, and second because it is very hard to communicate meaning without the use of figurative language. A good example of this is Scheper-Hughes and Lock's (1986; in Gwyn [1999]) claim that, "Sickness is a form of communication...through which nature, society and culture speak simultaneously, and it is in that setting that metaphors thrive" (p. 220).

Miller (1993) offers another approach to the issue of the truthfulness of figurative language. To him a metaphor "is an abbreviated simile and that the thought provoked is the kind required to appreciate similarities and analogies. In the nineteenth century that kind of thought was called 'appreception'."⁷ (p. 357). Miller goes on to explain that appreception is a class of mental processes which brings "an attended experience...with an already acquired and familiar conceptual system" (1993; p. 357). Thus, a metaphor is compared to what I already know, and the truthfulness of the metaphor would be a product of this comparative process. He states:

In order to find a compromise between the requirements of the truth assumption and the need to relate the textual concept as closely as possible to general knowledge and belief, the reader must search for resemblances between the textual concept and general knowledge. These resemblances, which are the grounds for the metaphor, can be formulated as comparison statements. Once found and interpreted, the comparison is not added directly to the textual concept, but is used as a basis for imagining a minimally divergent state of affairs in which the metaphorical claim is true. (p. 373).

Thus, to Miller the truthfulness of a metaphor is based on a person's imagining whether what is being claimed in a metaphor matches their past experience. This view is consistent with a constructionist perspective.

2.4.1 Defining a Linguistic Metaphor

My next task is to determine how I can recognize when a word, phrase or sentence is being used metaphorically, and I will follow this with a discussion of how a linguistic metaphor is comprehended. This will involve a discussion of alternative models of metaphor comprehension, a discussion which will introduce a number of conceptual issues. I am doing this because metaphors are an important part of any quality assessment, and this will become evident after I examine the metaphoric basis of various definitions provided by Ferrans (2005).

Fig. 2.2 Figurative language mapping. Depicted is the figurative relationship between sentences that reflect an analog, a simile, and a metaphor. This figure is based on a paper by Bowdye and Gentner (2005).

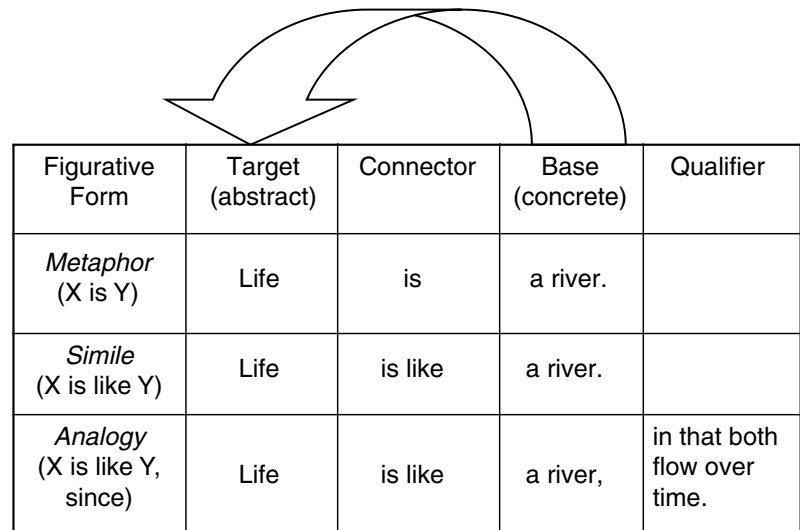


Table 2.2 Characteristics of a linguistic metaphor as defined by Glucksberg (2001)

Metaphoric statements come in the form of X is Y, where X and Y are not literally related. (For example, “alcohol is a crutch.”)
Elements of a metaphoric statement are not reversible. (For example, “a crutch is alcohol” is uninterpretable)
Statements vary in their degree of metaphoricity (from purely literal to purely metaphoric)
* The context of a statement (e.g., the use of qualifiers) will affect the degree of metaphoricity
* A prototype member of a metaphoric category is more likely to produce a good metaphoric fit than a nonprototype category member. (For example, “my life is as good as gold,” as opposed to, “my life is as good as brass.”)
Metaphors come in two forms: <i>nominal</i> (a noun is a noun) and <i>predictive</i> (e.g., a verb)
Literal statements can function as metaphors (e.g., “people are not sheep”)
Metaphors can be understood as readily as literal statements
Metaphors require no more time to process and interpret than a literal statement

Glucksberg (2001) suggests several characteristics which can be used to identify a linguistic metaphor (Table 2.2). Principal among these is that a metaphor takes the form “X is Y statement,” and that if reversed, the statement would lose its metaphorical properties. Take, for example, the metaphor, “my boss is a shark.” If reversed as “my shark is a boss,” it clearly does not evoke the same meaning. Glucksberg (2001) also suggests that metaphors come in two forms: nominal and predictive. The nominal form uses nouns to connect objects, situations, or events, while the predictive form uses verbs to connect certain categories of action. In both instances, a mapping occurs between a concrete (the base) and an abstract (the target) entity. Figure 2.2 illustrates this mapping, but now between

several figurative forms. Note that the different meanings associated with the different figurative expressions are due to the connectors and qualifying statements, not the target and base. Also note that the simile and analog, as opposed to the metaphor, would retain meaning if the base and target were reversed.

In addition, data exist which suggest that the ease of understanding and speed of processing metaphors are comparable to those found for literal statements (Glucksberg 2001). In general, the criteria listed in Table 2.2 suggest that functionally, a metaphor is as effective in communicating meaning as a literal statement, yet its truth value remains in dispute.

Aristotle (1996) claimed that metaphors (e.g., “man is a wolf”) are basically false, and warned against using them, particularly in definitions. This is an issue that will be relevant for my discussion of the metaphoric basis of quality-of-life or HRQOL definitions. Yet Aristotle was aware that metaphors are an efficient form of communication in ordinary discourse. To explain how metaphors were understood, he suggested that they involved an implicit comparison, with the reader determining what was similar and literally true when comparing the target (e.g., man) to its base (e.g., the wolf). Thus, the way I understand a metaphor is what is literally true about it (Aristotle 1996; p. 38).

Aristotle’s view has been reinforced by modern empirical support, starting with the studies of Tversky (1977) and his colleagues. The key element in this research was the demonstration that it was possible to identify specific features of the base which would be mapped to the more abstract target to give the target meaning. This feature-matching process can be visualized graphically by the overlapping area between two neighboring circles (i.e., a Venn diagram).

Evidence to support the model summarized in Table 2.2 includes the observation that the greater the similarity

between target and base the greater the aptness and interpretability of the metaphor (e.g., Marschark et al. 1983) and the faster the metaphor is understood (Gentner and Wolff 1997). Criticism of this model includes the fact that not every feature found common to the target and base actually contributes to the meaning of the metaphor (Lakoff and Johnson 1999). Second, because of these “missing” common features, it should be possible to reverse the meaning mapped between a target and base, but if this is done it would violate a defining characteristic of a metaphor (see Table 2.2). Ortony (1979) counters by saying, in effect, that not all features of the target and the base are created equal; some are more salient for the metaphor’s meaning than others, with this being more so for the base than the target. Thus, salient features of the base can transfer meaning to the target that would otherwise be ignored, resulting in a situation that would make the statement irreversible. Bowdle and Gentner (2005) also point out that targets and bases are typically from different semantic domains (e.g., what may be communicated in the metaphor “man is a wolf” is predation, but human and animal predation are quite different), and that these differences would ordinarily be sufficient to lead to a failure of information transfer based on a similarity comparison. However, this actually does not occur. Finally, the standard comparison model of metaphors does not explain how metaphors can lead to the creation of new similarities between the base and target.

The *comparison model* of metaphor comprehension is a static model dependent on features that are already present when the base and target are compared. As an alternative, Glucksberg (2001) suggests that metaphor comprehension is based on the creation of abstract classes (a categorization process) that results in the transfer of information from base to target. As Bowdle and Gentner (2005) describe it:

According to Glucksberg and Keysar (1990), the literal target and base concepts of a metaphor are never placed in direct comparison during metaphor comprehension. Rather, the base concept is used to access or derive an abstract metaphoric category of which it represents a prototypical member, and the concept is assigned to that category. On this view, metaphors differ from literal categorization statements in that metaphors involve *dual reference*: refers simultaneously to a specific literal concept and a general metaphoric category. (p. 195).

They go on to illustrate this model:

...consider the metaphor ‘*My job is a jail*’. The base term *jail* literally refers to a building that is used to detain criminals and therefore does not seem immediately applicable to the target term *my job* (assuming the speaker does not actually work inside a jail). On the categorization view, then, comprehension of the statement requires that one uses the base concept to elicit a metaphoric category that it typifies –namely, *any situation that is unpleasant and confining*. If this category is already associated with the base concept, then it is simply assessed during comprehension. If the category is not well established, then it must be abstracted online, much as people may create literal ad hoc

categories to achieve certain goals...In either case, once the metaphoric category has been elicited, the target can be understood as a member of the category. This sets up the kind of inheritance hierarchy that is implicit in all taxonomic relations. Consequently, all properties characterizing the metaphoric category named by *jail* are attributed to the subordinate concept *my job*. (p.195)

To paraphrase, a person reads a metaphor and notes the discordance between the base and the target (e.g., a job is not literally a jail), resulting in a cognitive search that leads to the generation of an abstract class that is true of the base that can now be applied to the target (e.g., a jail’s unpleasantness and confining nature might be duplicated in a job). If it is confirmed that the target has these characteristics (e.g., the unpleasantness and confining nature of a job), then it is possible to understand the metaphor. What would also be expected is that if confirmation was not possible, then the metaphor would not be understood, or a question raised about whether the expression was actually a metaphor. If it was understood, it would also demonstrate the more efficient means of the metaphor in communicating meaning, especially when compared to an equivalent literal expression.

There are several aspects of this model worth noting. First is the suggestion that a person abstracts a class or category from the base, or creates one *de novo*, and uses it to classify the target’s characteristics. This immediately places the relationship between the base and the target in an informationally hierarchical relationship, with the hierarchy gravitating from the concrete base to the more abstract target. Second, while both jail and job have many literal references, one uses only a particular set of characteristics found in the base (e.g., the unpleasant aspects of a jail) to classify the information found in the target.⁸ Glucksberg, however, recognized that this isn’t always the case, since sometimes the informational content of the target can affect the understanding of the metaphor. As Bowdle and Gentner (2005) state, “...metaphor targets provide information about what type of properties they can meaningfully inherit and therefore about what types of categories they can meaningfully belong to” (p. 195). As a result, Glucksberg et al. (1997) have proposed an interactive property attribution model that acknowledges that metaphor mapping is a flexible process, involving both the base and the target.

In contrast to Glucksberg’s notion that abstract metaphoric categories are used to map meaning between the metaphor base and target, Bowdle and Gentner (2005) return to feature-matching models and suggest a model that assumes that at least some features of the base are isomorphic to the target. The process they envision as operative involves applying Gentner’s (1983) structure-mapping theory to metaphor comprehension. To quote Bowdle and Gentner (2005):

Structure-mapping theory assumes that interpreting a metaphor involves two interrelated mechanisms: alignment and projection. The alignment process operates to create a maximal structurally consistent match between two representations that observes one-to-one mapping and parallel connectivity (Falkenhainer et al. 1989). That is, each element of one representation can be placed in correspondence with at most one element of the other representation, and arguments of aligned relations and other operators are themselves aligned. (p. 196).

Interpreting the metaphor “Socrates was a midwife” illustrates their approach to metaphoric comprehension. They state:

First, the identical predicates in the target and base concepts (i.e., the relations *help* and *produce*) are matched, and the arguments of these predicates are placed in correspondence by parallel connectivity: *midwife* → *Socrates*, *mother* → *student*, and *child* → *idea*. Next these local matches are coalesced into a global system of matches that is maximally consistent. Finally, predicates that are unique to the base but connected to the aligned structure (i.e., those predicates specifying the gradual development of the child within the mother) are carried over to the target. Thus, the metaphor could be interpreted as meaning something like, ‘Socrates did not simply teach his students new ideas but rather helped them realize ideas that have been developing within them all along. (p. 196).

Implicit in this model is the assumption that comprehension can be understood as a linear information-processing model. Consistent with this, Gentner and her colleagues (Falkenhainer et al. 1989; Forbus et al. 1995) have developed a general computer-based model (Structure-Mapping Engine: SME) that can be used to simulate metaphor comprehension. Their description of this computer program is worth reproducing here, since I will revisit elements of their description in different guises, at different times in this book. They state:

In the first stage, SME begins blind and local by matching all identical predicates in the representations being compared. In the second stage, these local matches are coalesced into structurally consistent connected clusters, called *kernels*, by enforcing one-to-one mapping and parallel connectivity. In the third stage, SME gathers these kernels into one or a few global interpretations. This is done using a *greedy merge* algorithm. It begins with the maximal kernel and then adds the largest kernel that is structurally consistent with the first one, continuing until no more kernels can be added without compromising consistency. It then carries out this process beginning with the second largest kernel to produce a second interpretation and so on. At this point, SME produces a structural evaluation of the interpretation of interpretations, using a kind of cascade like algorithm in which evidence is passed down from predicates to their arguments...Up to this point, the mapping process has been nondirectional. Now, however, a directional inferences process takes place. Predicates connected to the common structure in the base, but not initially present in the target, are projected as candidate inferences about the target.” (p. 196).

Their description of how kernels are aligned to form a global interpretation is an example of the more general problem of how parts are combined together to form a whole. But they also describe a top-down process, the greedy merge algorithm, which simulates the process whereby information is

cognitively organized and projected from one domain to another.

They are clearly dealing with a generic issue that will repeatedly come up in this book, but which is now presented in the context of the transmission of information, as in a metaphor.

The work of another investigator is worth mentioning, since it replaces the literal-metaphor dichotomy with a single central principle: a saliency continuum. Giora (2003) argues that the literal/metaphor dichotomy can’t account for the ease of processing, which is characteristic of some literal and metaphorical phrases. She points out, for example, that “conventional metaphors and conventional idioms used unconventionally both behave like highly literal language used innovatively: they all trigger a sequential process.” (Giora 1997; p. 26–27). Thus, the speed of information processing due to familiarity and or frequency of exposure may be as informative as dichotomizing expressions as literal or figurative (Giora 1997; 2003).

Many of these issues will be relevant when discussing the next topic, conceptual metaphors. What I will learn is that linguistic and conceptual metaphors raise similar issues, but at different levels of abstraction.

2.4.2 The Importance of Conceptual Metaphors

As Glucksberg (2001) stated, the term “metaphor” is currently used in two ways; as a form of linguistic expression, and as a form of “conceptual representation and symbolization.” Conceptual metaphors are important, because they are used to help organize how a person thinks; they are not just used to provide a nonliteral meaning for a word or phrase. Lakoff (1980) and his colleagues have most fully articulated this view. They suggest that a conceptual metaphor plays a central role in managing my “cognitive economy,” providing an in-place method whereby new information is efficiently processed. Thus, the presence of a conceptual metaphor helps avoid the time-and energy-consuming process of developing a new cognitive form each time a person is exposed to new information. Conceptual metaphors also facilitate the organization of information into a hierarchy, with the apex of the hierarchy representing the most abstract form of metaphoric expression. This metaphorical hierarchy, when applied in a “top-down manner,” provides meaning for abstract concepts and emotional expressions by reference to concrete experiences.

Lakoff (1993) describes how this can be done in the following quote, where he uses the LOVE IS A JOURNEY metaphor as a model *conceptual metaphor*. He says:

What constitutes the LOVE IS A JOURNEY metaphor is not any particular word or expression. It is the ontological mapping across conceptual domains, from source domain of journeys to the target domain of love. The metaphor is not just a matter of

language but of thought and reason. The language is secondary. The mapping is primary, in that it sanctions the use of source domain language and inference patterns for target domain concepts. The mapping is conventional; that is, it is a fixed part of our conceptual system, one of our conventional ways of conceptualizing love relationships. (p. 208).

Thus, the mapping of a particular source, or base term, to a particular target is the primary cognitive method whereby information is efficiently processed. McGlone (2001) expands these notions by stating:

....Lakoff characterizes the conceptual metaphor that links love and journeys as playing two distinct but related roles: a *representational role* and a *process role*. It plays a representational role in that it structures my knowledge of love. The reasoning behind this claim is that the mind represents abstract concepts (such as love) in an economical fashion, borrowing the semantic structure of more concrete concepts (such as journey) to organize aspects of the abstract concept. One reason for this is that it might be too computationally expensive to represent abstract concepts in a stand-alone fashion. Second, the love-journey metaphor plays a process role in that it mediates expressions pertaining to love...Again, the metaphor's hypothesized process role appears to be economical from a computational standpoint, in that (a) metaphoric meaning may be retrieved rather than constructed de novo and (b) the meaning of any number of metaphoric expressions...may be generated from a single semantic structure (the love-journey conceptual mapping. (p. 91).

Lakoff (1993; p. 220) also discusses the EVENT STRUCTURE METAPHOR. This broad-based metaphor includes such notions as “states, changes, actions, causes, purposes, and means” which are cognitively conceptualized in terms of *space, motion, and force*. This type of metaphor will be particularly relevant for my discussion of the applicability of a metaphoric analysis of definitions of quality-of-life or HRQOL. The mappings that occur within this metaphor include (Lakoff 1993; p. 220):

EVENT STRUCTURE METAPHOR

States are location (bounded regions in space).
Changes are movements (into or out of bounded regions).
Causes are forces.
Actions are self-propelled movements.
Purposes are destinations.
Means are paths (to destinations).
Difficulties are impediments to motion.
Expected progress is a travel schedule; a schedule is a virtual traveler, who reaches prearranged destinations at prearranged times.
External events are large, moving objects.
Long-term, purposeful activities are journeys.

According to Lakoff (1993) this metaphor contains a series of metaphors (including the LOVE IS A JOURNEY metaphor) that can be organized into a hierarchy. Thus,

Level 1: The EVENT STRUCTURE METAPHOR,
Level 2: A PURPOSEFUL LIFE IS A JOURNEY,
Level 3: LOVE IS A JOURNEY.

constitute a hierarchy. Lakoff (1993), describes the basis for the hierarchy in the following quote:

In our culture, life is assumed to be purposeful, that is, we are expected to have goals in life. In the *event structure metaphor*, purposes are destinations and purposeful action is self-propelled motion toward a destination. A purposeful life is a long-term, purposeful activity and hence a journey...Choosing a means to achieve a goal is choosing a path to a destination. Difficulties in life are impediments to motion...In short, the metaphor A PURPOSEFUL LIFE IS A JOURNEY makes use of all the structure of the event structure metaphor, since events in a life conceptualized as purposeful are subclasses of events in general.” (p. 223).

The same would be said about the relationship between A PURPOSEFUL LIFE IS A JOURNEY and the LOVE IS A JOURNEY metaphors; the events in a love relationship make use of the structures of a purposeful life as a journey metaphor and can be conceived of as a subclass of A PURPOSEFUL LIFE IS A JOURNEY metaphor.

A critical component of Lakoff's model is his assumption that a conceptual metaphor is not a linguistic phenomenon but instead is a cognitive entity (or type of *conceptual representation*).⁹ He also claims that this type of metaphor is the primary method by which the mind represents concepts which are not sensory or perceptual in nature. McGlone (2001) sees this type of metaphor as providing “a way to representationally piggy-back our understanding of abstract concepts on the structure of concrete concepts, which presumably are represented in their own terms, that is, in a standalone fashion.” (p. 93).

2.4.3 Embodiment and Metaphors

Lakoff and Johnson (1999) also state that metaphors and metaphorical thinking, like my conceptual system in general, is “embodied”; meaning that it arises from my body's experience with the physical world. Thus, my sense of what is real is embodied, and the metaphor is a central element which gives me this sense of reality. Gibbs (2006) has expanded on these ideas and has applied the notion of embodiment to the several cognitive domains (e.g., perception, concept formation, memory and reasoning, communication, and so on). I discuss Gibbs' (2006) notions in more detail in Chap. 10, where embodiment is presented as a model of the relationship between capacity and performance.

If what is real is embodied, does that mean that truth is “embodied”? Lakoff and Johnson (1999) would say yes. They specifically state:

What we understand the world to be like is determined by many things: our sensory organs, our ability to move and manipulate objects, the detailed structure of our brain, our culture, and our interactions in our environment, at the very least. *What we take to be true in a situation depends on our embodied understanding of the situation*, which is in turn shaped by all these factors. Truth for us, any truth we can have access to, depends on such embodied understanding. (p. 102).

Truth, they point out, is not the correspondence between words and the world, as would be true if you relied on truth

being literal. Rather, truth is a product of the convergence of three levels of activities (neural, phenomenological, and the cognitive unconscious), each of which contributes to what I understand to be true. The neural level helps me understand my experience in scientific terms, while the phenomenological level does so in terms of everyday experience. The cognitive unconscious refers to the vast number of mental processes that I am not aware of, but which govern my language, thoughts and actions. Lakoff and Johnson (1999) ask me to give up the illusion that a unique description exists for each situation. They argue that since multiple levels of embodiment exist there will be multiple forms of truth. And what will be real is what I need to think to be realistically, so that I “function successfully to survive, to achieve ends and to arrive at workable understandings of the situations we are in” (p. 109). Thus, when I say that a “verb,” or “energy” or “quality-of-life” are real, I do not expect these words to necessarily have a physical presence, but they are real because they can contribute to *explanation, prediction, and understanding*.

Lakoff and Johnson’s notions, particularly concerning conceptual metaphors, have not escaped criticism (e.g., McGlone 2001; Murphy 1997). McGlone (2001) points out that Lakoff and Johnson (1999) have limited empirical support for their argument, and their views have the potential for circular reasoning. McGlone’s paper (2001) provides a detailed critique, but the essence of it is that he feels that Lakoff and Johnson blur the distinction between literal and metaphorical language and end up with a theory that becomes incoherent. As a rejoinder, data from Meier and his colleagues (2004; 2004; 2005), and what Gibbs (2006) reviews provides empirical support for the Lakoff and Johnson idea that conceptual metaphors are built on a person’s experience with the physical world.

Meier and Robinson (2005) illustrate how the development of embodiment may occur, but now relative to the embodiment of affect. Embodiment can be said to start when cognitive development evolves from a child’s sensorimotor experiences. This suggests that a connection develops between a child’s perception and manipulation of their world (touching and playing with objects) and what the child feels about this world. Also of importance was that Meier and Robinson (2005) recognize that metaphors play a critical role in this linkage. First is the observation that early concrete (sensorimotor) experiences and latter abstract cognitions can be thought of as being linked by the mapping process that is characteristic of conceptual metaphor formation. Second, the physical world biases the relationship between perception and affect. Thus, social activities are more likely to occur during the day – when things are bright – facilitating the impression that positive affect is associated with brightness, while negative affect is associated with inactivity and darkness. Finally, the use of a metaphor when expressing affect is pervasive, which increases the chances

that it will be associated with a person’s physical environment. Thus, physical metaphors may play a critical linkage role in the formation of abstract concepts (e.g., happiness), and in this way demonstrate how embodiment of affect occurs (Meier et al. 2007).

To test this, Meier and Robinson (2005) proposed three types of experiments. First, they suggest testing the hypothesis that the encoding of affective stimuli will be biased by “metaphor-consistent physical aspects of stimuli (e.g., positive stimulus should be encoded faster if they are white rather than black)” (Meier and Robinson 2005; p. 241). Second was to demonstrate activation of a related perceptual process when an affective experience occurs. Thus, if a negative experience occurs, then the person’s visual attention should be downward. Third, if the perceptual-affect link is represented by a metaphor, then this should occur without conscious awareness and occur involuntarily, much as would be expected for automatic behavior (Chap. 6, p. 165).

Meier and Robinson (2005) identify three perceptual dimensions which are regularly associated with metaphors: brightness, vertical position, and distance. I will briefly review the data that Meier and his colleagues present regarding brightness. First, it is quite obvious from inspecting popular culture that brightness is associated with good and darkness with bad. This association of brightness, and good and bad has been found to be true for 20 different countries and cultures (Adams and Osgood 1973), but also is characteristic of children. These studies, and others that Meier and Robinson (2005) cite, support the first hypothesis that affect is structured by a physical metaphor.¹⁰ Meier and Robertson (2005) also found that “the explicit evaluation of positive and negative words led to a metaphor-consistent bias in brightness judgments” (Meier and Robinson 2005; p. 244). This they demonstrated by presenting positive and negative words on various shades of gray background. Respondents were then asked to select the background that the words were presented on, and they found that the respondents selected brighter backgrounds than what was originally presented for positive words, demonstrating the influence of the perceptual experience of brightness on a judgment. Meier et al. (2004b) also report a study which supports the hypothesis that the association between affect and brightness is an unconscious automatic process. They presented respondents with 50 positive words and 50 negative words typed on either a white or black background. They found that negative words were evaluated faster and more accurately when on a black background than on a white background, while positive words were evaluated faster and more accurately when presented on a white, rather than black background. Clearly, the background had an impact on the person’s judgment, yet in either case a person would not be expected to be aware of the influence of the background as they responded to their task. These studies support the notion that physical metaphors

(e.g., brightness) contribute to the embodiment of affect. They also suggest that these metaphors are part of how a person encodes information, and that they play a far greater role in cognition than just as a means of communication; rather they may actually structure a person's world. I will continue this discussion in Chaps. 10 and 11.

3 Application of Language Usage Principles

3.1 The Metaphoric Basis of Quality-of-Life or HRQOL Definitions

I am now going to apply this background about linguistic and conceptual metaphors to a representative list of quality-of-life or HRQOL definitions. In reviewing this list of definitions (Table 2.1), it is quickly clear that I am not dealing with the type of metaphoric material you might encounter in a poem or even in the example of discourse quoted above from Frank (2001). Rather, what I have here are expressions which vary in their use of figurative language, but regularly rely on conceptual metaphors to communicate meaning (Tables 2.4–2.6, 2.8). Of greatest importance is that by demonstrating the presence of metaphors in these definitions, I will be able to classify them into a limited number of categories.

The first step in this process is to *deconstruct* each definition listed in Table 2.1. As I described earlier (Chap. 2, p. 26), there are several ways to do this, including the use of “syntactic trees” illustrated in Fig. 2.1. These methods, however, would become cumbersome if applied to some of the definitions I have to deal with. So instead, I will use a linear display (Chap. 2, p. 38) that remains sensitive to the syntactic structure of the definition, but presents it in such a way as to make the presence of extensions of meaning from one part of the sentence to another more obvious. Linguists refer to

this type of analysis as *anaphoric* (i.e., Tirrell 1989). The components will then be examined to determine if they contain linguistic metaphors, dual usage terms and/or conceptual metaphors. Definitions with a similar figurative structure will then be grouped into categories.

Table 2.3 illustrates the deconstruction process for the Osoba (1994; Table 2.1) definition. Inspection reveals that HRQOL (A) is also described as “a multi-dimensional construct” ($\sum_{1-x} F$) which, if summed, would presumably approximate the global indicator, HRQOL. The definition goes on to state that HRQOL is *produced by* a disease or treatment (DT). Thus, the Osoba (1994) definition can be expressed in a general form as:

$$(I) A \text{ or } (\sum_{1-x} F) \text{ is caused by DT.}$$

where A=quality-of-life or HRQOL; ($\sum_{1-x} F$)=the sum of indicators provided; and DT=a disease or treatment. Inspection of Table 2.1 reveals two additional definitions (Revicki et al. 2000; and Shipper et al. 1996) which match this general format (Table 2.4). I have labeled these defini-

Table 2.3 Deconstruction of the Osoba (1994) HRQOL definition

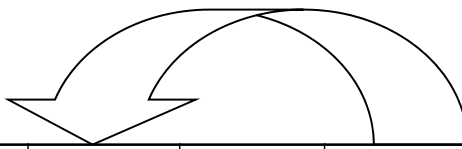
Definition: HRQOL is a multidimensional construct encompassing perceptions of both positive and negative aspects of dimensions, such as physical, emotional, social and cognitive functions, as well as the negative aspects of somatic discomfort and other symptoms *produced by* a disease and its treatment

Symbol	Components
A	HRQOL
($\sum_{1-x} F$)	A multidimensional construct encompassing perceptions of both positive and negative aspects of dimensions, such as physical, emotional, social and cognitive functions, as well as the negative aspects of somatic discomfort and other symptoms
\Leftrightarrow	<i>produced by</i>
DT	A disease and its treatment

Table 2.4 Deconstruction of various definitions of quality-of-life or HRQOL: *causal models*

Reference	A = ($\sum_{1-x} F$)		\Leftrightarrow	D
Osoba (1994)	HRQOL	is a multidimensional construct encompassing <i>perceptions</i> of both positive and negative aspects of dimensions, such as physical, emotional, social and cognitive <i>functions</i> , as well as the negative aspects of somatic discomfort and other <i>symptoms</i>	<i>produced by</i>	a disease and its treatment
	HRQOL		<i>produced by</i>	a disease and its treatment
Shipper et al. (1996)	Quality-of-life in clinical medicine	represents the functional	<i>effect of</i>	an illness and its consequences as perceived by the patient
	Quality-of-life		<i>effect of</i>	an illness and its consequences
Revicki et al. (2000)	HRQOL is defined as	the <i>subjective</i> assessment... across the physical, psychological, social, and somatic domains of functioning and well-being	<i>impact of</i>	of the disease and its treatment
	HRQOL		<i>impact of</i>	disease and its treatment

Fig. 2.3 Figurative language mapping for causal definitions of quality-of-life or HRQOL. Included are the definitions of Osoba (1994), Shipper et al. (1996), and Revicki et al. (2000).



Figurative Form (Author)	Target (abstract)	Connector	Base (concrete)	Qualifier
<i>Metaphor</i> (X is Y)	Life	is	a river.	
Osoba (1994)	HRQOL	produced by	disease or treatment	
Shipper et al, (1996)	Quality of life	effect of	illness or its consequences	
Revicki et al (2000)	HRQOL	impact of	disease and its treatment	

tions as reflecting a “causal” relationship, as between A and DT, and this is based on an analysis of the relationship of the deconstructed components, and the meaning of the phrases *produced by*, *effect of*, or *impact of* (see text below).

First, let me restate these definitions (Table 2.4; leaving out, for the moment, the $[\sum_{1-x} F]$ expression). Thus, the three definitions can be stated as:

- (A') “HRQOL ...*produced by* disease or treatment.” (Osoba 1994).
 (B') “Quality-of-life...*effect of* an illness and its consequences.” (Shipper et al. 1996).
 (C') “HRQOL ...*impact of* disease and treatment.” (Revicki et al. 2000).

My next task is to apply the rule that Glucksberg (2001) suggested to determine if I am dealing with a linguistic metaphor, which involves determining if the statement retained meaning if it were reversed. Reversing these definitions would read as:

- (A'-revised) “Disease or treatment...produced by HRQOL.”
 (B'-revised) “Illness or its consequences...effect of quality-of-life.”
 (C'-revised) “Disease and its treatment...impact of HRQOL.”
 Clearly, these statements have experienced a decrement in meaning, suggesting that I am dealing with linguistic metaphors.

But am I also dealing with conceptual metaphors? Figure 2.3 illustrates these scaled-down definitions, now presented in the format of a conceptual metaphor. Inspection of the figure illustrates that just as the term “river” tells me something about life, so does the phrase “disease or treatment” inform me about the life a person is leading when they are sick and receiving treatment. Thus, meaning is being transported from

concrete terms (D) to abstract terms ($A = [\sum_{1-x} F]$), which is characteristic of a conceptual metaphor.

As was illustrated in Fig. 2.3, the *connector* phrases make a unique contribution to the meaning of a phrase. It is also interesting to examine the figurative character of these phrases. For example, *produce* is a verb whose primary definition is “to make, manufacture, or create,” and secondary usage is to “cause to happen or exist” (Oxford University Press 1996). The first definition suggests the creation of physical objects, while the second usage suggests the establishment of a nonphysical association between events. Thus, the phrase is a dual usage term, but it is its second usage involving nonliteral (nonprimary) form which appears to be playing a linguistic metaphoric role. This provides further support for the presence of metaphoric properties in the Osoba (1994) definition.

The word *effect*, which has several meanings when used as a noun, is used in the Shipper et al. (1996) definition as a verb which has the dictionary definition of, “cause to happen or bring about” (Oxford University Press 1996). The phrase “*effect of*” can easily be seen as having dual usage; alluding to both physical and psychological consequences. However, the phrase in the Shipper et al. (1996) definition appears to be serving a more literal role, since the definition limits what is meant by quality-of-life to the “*functional effect of* an illness and its consequent therapy” (Table 2.4).

Consider the phrase “*impact of*”. The word “*impact*” comes from the Latin *impingere* meaning, “drive something in or at.” When used as a verb, the primary literal usage of the word means, “come into forcible contact with another object,” but its secondary nonliteral usage is defined as “to have a strong effect on.” *Impact of*, therefore, is at a mini-

Table 2.5 Deconstruction of various definitions of quality-of-life or HRQOL: *matching models*

Reference	A	\approx	B
Campbell et al. (1976)	Quality-of-life is defined in terms of satisfaction of needs	“level of satisfaction” (<i>of needs</i>) can be precisely defined as the perceived <i>discrepancy</i> between	aspiration and achievement, ranging from the perception of fulfillment to that of deprivation
	Quality-of-life = satisfaction of needs	<i>discrepancy</i> between	aspiration and achievement
Calman (1987)	Quality-of-life therefore measures the	<i>difference</i> , at a particular period of time	between the hopes and expectations of the individual and the individual’s present experience
	It is concerned with the	<i>difference</i> between	perceived goals and actual goals
	Quality-of-life, is concerned with	<i>difference</i> between	perceived goals and actual goals
Frisch (1993)	Life satisfaction is equated with <i>quality-of-life</i> and refers a person’s subjective evaluation	have been <i>fulfilled</i>	the degree to which his or her most important needs, goals and wishes
	Quality-of-life = Life satisfaction	have been <i>fulfilled</i>	needs, goals and wishes
World Health Organization (1995) (WHOQOL)	Quality-of-life was defined, therefore, as individual’s perception of their	<i>position in life</i>	in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards, and concerns
	Quality-of-life	<i>position in life</i>	their goals, expectations, standards, and concerns

imum a dual usage phrase with an action orientation, and appears to be used in this definition in a nonliteral manner.

Each of the phrases (e.g., “produced by”, “effect of”, or “impact of”; Table 2.4) is functioning as a verb and communicating actions and consequences. This is also consistent with the phrase’s role in describing a causal relationship, as well as in being a predictive metaphor (especially if you accept that the phrase had metaphoric qualities in a particular definition).

Causal definitions of this sort also suggest the presence of a conceptual metaphor independent of the extent linguistic metaphors are present in the definitions. As discussed earlier, Lakoff (1993) discussed THE LOCATION EVENT-STRUCTURE METAPHOR, which included as sub-metaphors Causes Are Forces or Causes Are Movement. They describe a source domain as the domain of forces or motion-in-space (as is in the phrase, “produced by a disease or treatment”) and a target as the domain of events (as amongst the components of HRQOL). Including causal metaphors in these definitions (e.g., “produced by,” “effect of”, or “impact of”; Table 2.4) helps me understand the author’s definitions by reference to my personal experiences with the physical consequences of forces or motion in space. Thus, what gives meaning to these definitions is the embodied nature of such phrases as “produced by,” “effect of”, or “impact of.”

Now a concern may be expressed about the value of an analysis of this sort. Thus, it was useful to find that Fernandez-Duque and Johnson (2002)¹¹ applied this type of analysis in their effort to bring some order to the various models or definitions of attention. Their paper confirmed the presence of conceptual metaphors in both cognitive, psychological and neuroscience models of attention, and illustrated

how this type of analysis can bring some conceptual clarity to a relatively diverse and complex subject matter area.

Linguistics use the term *anaphora* (Tirrell 1989) to refer to the extension of meaning from a metaphor to other parts of a sentence or text. Thus, if the phrases “produced by,” “effect of”, or “impact of” are functioning as linguistic metaphors, then their reference to “disease and treatment” or “physical, psychological, social, and somatic domains of functioning and well-being,” as in the Revicki et al. (2000) definition, represents the target of the extension of meaning of the metaphor. This suggests that the structure of a sentence, its syntax, plays an important role in communicating the meaning within a definition or an item of a qualitative assessment (see Chap. 10).

The definitions in Table 2.4 were described as “causal models” since the definitions described forces being applied over space and time. In contrast, the definitions listed in Table 2.5 suggest that people have some sense of the needs or goals that they want to achieve and the extent that they have been achieved, and this determines how satisfied they are with their with their quality-of-life or HRQOL. Each of these definitions capture the cognitive process of a person *matching* what the person ideally *hoped for*, *expected*, *aspired to*, or *set as goals* and with what has been *achieved*. The definitions take the general form of:

$$(II) A \text{ is } \approx B,$$

where A refers to the person’s aspirations and B refers to a person’s various achievements.

The notion that I may have some sense of what I want my quality-of-life or HRQOL to be raises the interesting

Table 2.6 Deconstruction of the Campbell et al. (1976) definition

Definition: Quality-of-life is defined in terms of satisfaction of needs, and “level of satisfaction” can be precisely defined as the perceived *discrepancy* between aspiration and achievement, ranging from the perception of fulfillment to that of deprivation

Symbol	Components
A	Quality-of-life
≈	“Level of satisfaction” can be precisely defined as the perceived <i>discrepancy</i> between aspiration and achievement, ranging from the perception of fulfillment to that of deprivation
B	Satisfaction of needs

question of where this sense comes from. Is it something I was born with? Something that evolved as I experienced life? Or is it something I can be taught to expect? These questions will ultimately have to be answered if Type II (matching) definitions are to play a significant role in quality-of-life or HRQOL research.

Table 2.6 disaggregates and simplifies the Campbell et al. (1976) definition. If I do this for each of the definitions in Table 2.5, then I have the following list:

- (IIa) “Quality-of-life...discrepancy between...aspirations and achievements” (Campbell et al. 1976)
- (IIb) “Quality-of-life...difference between...perceived goals and actual goals” (Calman 1987)
- (IIc) “Life satisfaction is equated with quality-of-life...fulfilled needs goals and wishes” (Frisch 1993)
- (IId) “Quality-of-life...position in life...their goals, expectations, standards and concerns” (WHO 1995)

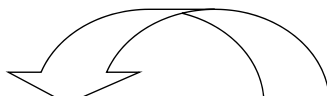
My next task is to determine if these phrases contain *linguistic metaphoric properties*. To do this I will need to reverse the content of each definition and determine if the resultant phrases remain interpretable.

- (IIa-revised) “Aspirations and achievements...discrepancy between...quality-of-life.”
- (IIb-revised) “Perceived goals and actual goals...difference between...quality-of-life.”
- (IIc-revised) “Needs goals and wishes...fulfilled...life satisfaction is equated with quality-of-life.”
- (IId-revised) “Their goals, expectations, standards and concerns...position in life...quality-of-life.”

Inspecting these phrases suggests that they, as opposed to similes and analogies, do not retain their meanings, suggesting the presence of linguistic metaphoric properties.

Figure 2.4 illustrates the conceptual metaphor mapping that is occurring for each of the definitions. Note that in each case, the base provides concrete information that helps define what is meant by quality-of-life. This is consistent with what would be expected if these definitions have conceptual metaphor properties.

The connector relating the base to the target also plays an important role in these definitions. For example, the literal



Figurative Form (Author)	Target (abstract)	Connector	Base (concrete)	Qualifier
<i>Metaphor</i>	Life	is	a river.	
(Campbell et al, 1976)	Quality of life	discrepancy between	aspiration and achievements	
(Calman, 1987)	Quality of life	difference between	perceived goals and actual goals	
(Frisch, 1993)	Quality of life = life satisfaction	have been fulfilled	needs, goals and wishes	
(WHO, 1995)	Quality of life	position in life	goals, expectations and concerns	

Fig. 2.4 Figurative language (conceptual metaphor) mapping for matching models. Included are the definitions by Campbell et al. (1976), Calman (1987), Frisch (1993), and the WHO (1995) definition of quality-of-life or HRQOL.

meaning of the word “discrepancy” (Campbell et al. 1976; Table 2.6) is that “an illogical or surprising lack of compatibility between facts” exists (Oxford Dictionary 1996). In the Campbell et al. (1976) definition, however, the word appears to be being used to describe the extent of fulfillment or level of deprivation (i.e., more like reaching a point as opposed to describing a gap). If so, then the term discrepancy is not being used in its primary literal sense.

A similar analysis can be done of the phrases “difference between hopes and expectations” or “difference between perceived goals and actual goals” (Calman 1987; Table 2.5). A dictionary definition of the word “difference” refers to the “way in which people or things are dissimilar; the state or condition of being dissimilar; a disagreement, quarrel, or dispute; or the remainder left after subtraction of one value from another” (Oxford University Press 1996). Yet the term is being used in the Calman (1987) definition to refer to what is left over from the subtraction of one’s “hopes and present experience,” or “perceived goals and actual goals.” Clearly, a difference can be based on the gap between physical values or subjective experiences. However, the meaning I derive from the second usage comes from my familiarity with the first usage, and this, of course, is characteristic of the role that physical metaphors play in the embodiment of affect (e.g., hope, perceived goals, or desires).

Both phrases (“discrepancy between” or “difference between”) function in their respective definitions to relate antecedent and consequential conditions that could not otherwise be reversed (Table 2.5) and remain interpretable. As illustrated above (Sentences IIb and IIb-revised), one can’t easily reverse the elements in the Calman (1987) definition and expect to generate a statement that has comparable meaning. Thus, to state that, “hopes and expectations can be measured by differences in quality-of-life,” is much less

meaningful than saying that “quality-of-life can be measured by differences in hope and expectations.”

The Frisch (1993) definition has a form very similar to the Campbell et al. (1976) definition. In both, “quality-of-life” is defined in terms of “satisfaction of needs, goals, and wishes.” Frisch is using the word “fulfilled” in much the same manner as the position in life is used in the WHO definition of quality-of-life (Table 2.5); both refer to reaching some condition or state. Both terms also rely on reference to physical as well as psychological applications to provide their meaning.

Lakoff (1993) describes achieving a state of fulfillment or position in life as indicative of the A PURPOSEFUL LIFE IS A JOURNEY METAPHOR. Reference to aspirations, needs, and goals suggests that implicit in these definitions of quality-of-life or HRQOL is a motivational construct that is dependent on the A PURPOSEFUL LIFE conceptual metaphor. Inspection of Maslow’s (1968) hierarchy of needs theory will make this association clearer.

Maslow (1968) claims that five basic sets of needs exist, and that satisfaction with life progresses from resolving physiological needs (e.g., adequate food, comfort) to maximizing self-actualization, with the achievement of safety, love and self-esteem as intermediate levels.¹² Presumably, maximizing self-actualization would also include maximizing one’s quality-of-life or HRQOL. There is also the assumption that at each level, lower level needs have been satisfied and are included at the next higher level of need. The assumption of a hierarchy implies that past achievement of certain needs or goals are required before self-actualization occurs. This directionality, which is characteristic of the LIFE IS A JOURNEY and EVENT STRUCTURE conceptual metaphor, is present in Maslow’s hierarchical motivational model.

Lakoff and Johnson (1999) illustrate how the selective or directional quality of a metaphor can affect the meaning communicated by the metaphor. For example, the statement, “He is a *cold* and unfeeling person” contains a linguistic metaphor, *cold*, which differentiates this person from others and encourages avoidance of the person. Contrast this with the statement, “He is a wide and unfeeling person,” which is less likely to evoke an avoidance response. Thus, the presence of the metaphor “*cold*” adds a directional quality to the statement that would not otherwise be present. The same is true for Maslow’s model; consider his model as if it were presented without the hierarchy metaphor. The model would then consist of five categories that by themselves would not suggest that a journey is being undertaken. Thus, the meaning Maslow wishes to communicate in his model requires the presence of the conceptual metaphor, as is apparently true for theories of motivation and attribution, in general (Weiner 1991). The same can also be said for the quality-of-life or HRQOL definitions listed in Table 2.5.

The definitions listed in Table 2.7 refer to a person being in a particular *state of well-being*. The term *well-being* is

used in several different ways, and I will have an extensive discussion of these usages in Chap. 11. Three of the definitions listed in Table 2.7 (Cella 1995; Ebrahim 1995; Padilla et al. 1996) allude to disease or treatment affecting a person’s *well-being*, that is then used as an indicator of HRQOL. These definitions are similar to the *causal* definitions listed in Table 2.4, except that *well-being* has been substituted for an indicator of quality-of-life or HRQOL. The definitions would be formally described as:

$$(III) A = C$$

where $C = (\sum_{1-x} G)$; and C = is caused by DT

In this definition A = quality-of-life or HRQOL; C = well-being; $(\sum_{1-x} G)$ = the sum of well-being indicators; and DT = disease or treatment. The Padilla et al. (1996) definition (Table 2.1) states,

“HRQOL is defined as a personal, evaluative statement summarizing the positivity and negativity of attributes that characterize one’s psychological, physical, social and spiritual *well-being* at a point in time when health, illness and treatment conditions are relevant.”

The same basic form would characterize the Cella (1995) and Ebrahim (1995) definitions. The remaining three definitions are *descriptive* definitions specifying, in more detail, what is meant by *well-being*. They can formally be described as,

$$(IV) A = C;$$

where $C = (\sum_{1-x} G)$

The Gotay et al. (1992) definition (Table 2.1) illustrates this type of definition. The deconstructed definition states that,

(IIIb) “Quality-of-life is a *state of well-being* which is a composite of two components...”

and the definition goes on to describe the elements of these components.

The definitions listed in Table 2.7 function as *metonyms*, where a *metonym* (Chap. 11, p. 400.) is a figurative word or expression that is used to substitute for another well-known word or expression. In these definitions the term well-being plays this role relative to the phrase *quality-of-life*. Whether this is an appropriate substitution is discussed in Chap. 11. Three of the definitions also include examples of the metaphoric content of causal definitions, and since this has already been discussed (see above) I will not discuss it here. Do these definitions contain other examples of metaphoric content?

Linguistically, well-being can be defined as “good existence.” Lakoff and Johnson (1999; p. 290–334) point out, however, that the phrase “good existence” is intimately involved in what is meant by “moral.” They state that well-being, as a conceptual metaphor, refers to what is physically best for me and how I ought to live. This sets my moral ideals,

Table 2.7 Definitions of quality-of-life: *Well-being models*

Reference	A = C	$C = (\sum_{i=1}^n G_i)$	DT
Ferrans (1990)	Quality-of-life is defined as a person's <i>sense of well-being</i> which stems from satisfaction or dissatisfaction <i>Sense of well-being</i>	With the areas of life that are important to him/her Areas of life	
Gotay et al. (1992)	Quality-of-life is <i>a state of well-being</i> which is a composite of two components <i>A state of well-being</i>	The ability to perform everyday activities which reflect physical, psychological and social well-being, and Patient satisfaction with levels of functioning and the control of disease and/or treatment-related symptoms The ability to perform everyday activities which reflect physical, psychological and social well-being, and satisfaction	
Cella (1995)	HRQOL refers to the extent to which one's usual or expected physical, emotional and social <i>well-being</i> <i>Well-being</i>		Affected by a medical condition or its treatment Medical condition or its treatment
Ebrahim (1995)	HRQOL may be thought of as those aspects of self-perceived <i>well-being</i> <i>Well-being</i>		That are related to or affected by the presence of disease or treatment Presence of disease or treatment
Felce and Perry (1996)	Quality-of-life is defined as an overall <i>general well-being</i> <i>General well-being</i>	That is comprised of objective and subjective evaluations of physical, material, social, and emotional <i>well-being</i> , together with the extent of <i>personal development and purposeful activity</i> , all weighted by a personal set of values Objective and subjective evaluations of physical, material, social, and emotional <i>well-being</i> <i>Personal development and purposeful activity</i> All weighted by a personal set of values	
Padilla et al. (1996)	HRQOL is defined	As a personal <i>evaluative</i> statement summarizing the positivity and negativity of attributes that characterize one's psychological, physical, social and spiritual <i>well-being</i> Well-being	At a point in time when health illness and treatment conditions are relevant Health, illness and treatment conditions

as when I define justice, fairness, virtue, freedom, rights, and so on. Thus, I prefer to be healthy rather than sick, wealthy than poor, free than enslaved, having rights than being denied rights, nurtured than isolated – all of which contributes to my sense of well-being. An increase in well-being is a gain, and a decrease is a loss. If I am sick, as Sontag (1991) indicated, I may be judged to be immoral, since the onset of a disease may be associated with a person's behavior.

A variety of conceptual metaphors can be used to define moral concepts. Lakoff and Johnson (1999; p. 293) discusses moral accounting as an example of a metaphor that can also be applied to characterize the dynamics of well-being. Thus, when Cella (1995) defines HRQOL as referring to the extent “one's usual or expected physical, emotional and social well-

being” (Table 2.1) are affected by a medical condition or treatment, he is alluding to an implicit accounting exercise in which a decrease in well-being would imply a less than moral outcome, a less than optimal well-being. The phrase “usual or expected...well being” also implies that some baseline assessment of well-being is possible, which may change in response to a medical condition or treatment. Accounting seems to be an implicit element of each of the definitions in Table 2.7, and in this sense each uses a conceptual metaphor to convey a moral intent.

Diener (2006) describes the term well-being as an umbrella term that can assume a variety of meanings [including those suggested by Lakoff and Johnson (1999)], depending on how it is being used. As I explain in Chap. 11,

this conceptualization of the term makes the term more of a state indicator than an evaluative term, as is characteristic of the term quality or the phrase quality-of-life. What appears to be true, however, is that the term is used in common discourse as a quality indicator, and one of the questions I address in Chap. 11 is whether this is appropriate.

The Ferrans (1990) and Felce and Perry (1996) definitions (Table 2.7) also include reference to what a person considers important and what they value. Both definitions acknowledge that more is needed in a definition of quality-of-life or HRQOL than description or even implicit moral accounting. Rather, what is needed is an explicit estimate of the importance or value a person attaches to the various states (e.g., health states) they are in. The Patrick and Erickson (1993) definition of HRQOL, as stated in Table 2.8¹³ provides the clearest example of this by making the value statement the central focus of their definition, while the descriptive portion of the definition modifies the value statement. In contrast, the Ferrans (1990) and Felce and Perry (1996) definitions (Table 2.7) focus primarily on the relationship between quality-of-life or HRQOL and well-being.

Inspecting the Patrick and Erickson (1993) definition reveals that it consists of several elements which can be formally defined as follows:

$$(V) A = (\sum_{1-x} F) \text{ caused by } DT,$$

where $H = V \times A$

In this definition, V refers to the value assigned; \times refers to an operator (e.g., addition, multiplication, and so on); $(\sum_{1-x} F)$ refers to sum of the descriptors (e.g., impairments, social opportunities, and so on) which modify a value statement; and DT refers to disease, injury, treatment and policy. What is interesting about this definition is that it contains both a value statement and a causal definition; two independently derived indicators. To demonstrate this I will deconstruct the definition in stages (Table 2.8).

The key phrase in this definition, from a linguistic perspective, is of course, “the value assigned.” Value is another dual usage term, meaning that it has both physical and psychological referents, as well as literal and nonliteral referents. Value assigned suggests that some quantity is being attached to an entity, as may occur when a source or base is mapped to a target or a number is assigned to a length of life. The first mapping is characteristic of a metaphor, while the second requires the application of a “known production rule” or an operator (e.g., addition, multiplication) in order to occur. The two differ in that the quantity being assigned to a length of life can’t be confirmed by a method that is independent of the person. For example, length of life can be assessed by asking the person how old they are, but also by examining their birth certificate and the current date. In contrast, a person’s valuation of their life has no independent basis for con-

Table 2.8 Definitions of quality-of-life: value statements

Reference	$A = (\sum_{1-x} F) \Leftrightarrow DT$		
Patrick and Erickson (1993)	Influenced by		
	Influenced by		
	$V \times A = (\sum_{1-x} F) \Leftrightarrow DT$		
HRQOL is	The value assigned to duration of life	As modified by	<i>Impairments, functional states, perceptions, and social opportunities influenced by disease, injury, treatment or policy</i>
HRQOL is	The value assigned	As modified by	<i>impairments, functional states, perceptions, and social opportunities influenced by disease, injury, treatment or policy</i>

firmation. Thus, Equation (V) consists of two quite disparate assessments, which makes this definition an example of a hybrid construct (Chaps. 3, 4, 6 and 8). What is of interest now is to ask the linguistic question of what it means to have a number which is based on such disparate sources.

A number is another example of a word whose meaning I have come to understand because of its association with physical objects. Thus, it has an embodied nature which I started acquiring when I was child. Then I learned that three objects can be represented by the number “3,” and I also learned to use numbers to represent the consequences of collecting or splitting groups of objects (addition and subtraction), or to simplify my collecting and splitting (multiplication and division).

When someone is asked to value their life, they may be given a piece of paper with a 100-cm line, and be asked to place a mark on it, or they may be given a set of anchors (“perfect quality-of-life” and “death”) and asked to imagine a line that they are to select a position on. In both cases what is being asked of the person is to rely on their experience with a line segment to participate in this task. I am familiar with line segments, since I have used parts of body (my arm, as in arms’ length; fingers, as in width between fingers; foot length, as three feet placed in succession to assess a yard, and so on) to provide a unidimensional and continuous assessment. Lakoff and Nunuz (2000; p. 68–71) suggest that these experiences with physical line segments form the basis of THE MEASURING STICK METAPHOR. In its abstract form, they state that this metaphor has been essential to my understanding of Euclidean geometry and irrational numbers. In the current context, it illustrates that my ability to generate a number to represent a value is based on my physical experiences with line segments.

The formal form of the Patrick and Erickson (1993) definition comes closest to demonstrating that it is possible to

have a unique definition for quality-of-life or HRQOL. It does this by combining description with individual explicit valuation. In contrast, if you were to substitute the phrase, “psychosocial variables” for quality-of-life or HRQOL in the definitions listed in Tables 2.4 and 2.5, they would still make sense.¹⁴ This would also be true for the three “causal” well-being definitions in Table 2.7, and the remaining three definitions satisfy the requirement for description but they do not include a valuation component.

I took a somewhat different approach to the definitional task (Barofsky 1990). I suggested that since a quality or quality-of-life assessment is a process that a person can perform, it should be studied in its own right, and that any definition should be based on what is learned about how a person performs this task. This experiential-based approach is in contrast with virtually all of the definitions I have considered so far that have been either experimentally (e.g., based on factor analysis of questionnaire results) or arbitrarily defined by investigators. Thus, to define quality-of-life or HRQOL involves, “the process whereby values are quantified, associated with descriptors and consequences and incorporated into critical human decisions” (Barofsky 1990).¹⁵ Besides identifying who defines a quality or quality-of-life assessment, this definition also raises the question of how “operational” the proposed definition should be. Most of the definitions I have considered describe what is essentially a descriptive task: collecting specific types of content such as listing various types of functions, assessments of well-being, and so on. In contrast, the Barofsky definition is content independent, suggesting instead that a unique yet universal cognitive process can be identified (Barofsky 2003; Chap. 12).

Some investigators argue that while they do not directly assess a person’s values or preferences, they have done so indirectly by selecting items which implicitly address these issues. Thus, if a questionnaire is developed that addresses “the impact of cancer,” this questionnaire is assumed to reflect the person’s values or preferences, since “impact” implies a negative valuation or preference. This, of course, is not necessarily true, since the impact of cancer is not uniformly bad, but gives the person the opportunity to adjust to their disease and its consequences can, on occasion, facilitates personal growth and development.

4 Summary of Chapter

To appreciate the role that language plays in a qualitative assessment, all an investigator need do is inspect the language used in the items that make up the questionnaires and surveys that they administer. Gannon and Ostrom (1996) present such a study entitled, “How meaning is given to rating scales: The effects of response language on category activation.” Their paper, which addresses response language from a linguistic

perspective, also utilizes cognitive concepts that will be introduced in the next chapter. The model they propose:

...posits that semantic end labels on rating scales activate corresponding cognitive categories. Take for example the case where the researcher needs to measure perceptions of political candidates on an honest versus dishonest continuum. If a rating scale is labeled from *not at all honest* to *very honest*, the category honest is activated. If the same question is asked, but instead a scale is given which is labeled *not at all dishonest* to *dishonest*, the category dishonest is activated.” (Gannon and Ostrom 1996; p.338).

This, they say, suggests that the category dishonest is not the opposite of honest, and that this occurs not just because different words are being used but also because different cognitive categories are involved. Dichotomies of this sort are common, and include such examples as “pain and pleasure” and “happiness and sadness.” Their discussion reinforces the notion that language expression and cognition can differ, and this happens to also explain the difference between a linguistic metaphor and a conceptual metaphor. Gannon and Ostrom’s (1996) and Ostrom and Gannon’s (1996) models also take advantage of Rosch’s (1973) notion that a category such as honesty consists of a series of terms, some of which are better examples of the category than others, and they report a series of experiments that support this model.

The first part of this chapter reviewed principles of language usage, but I have now pointed out that language usage represents only one set of tools that will be needed to define and assess qualitative states. That a language usage analysis can be quite useful was demonstrated by my attempt to bringing some order to the confusing array of definitions that have been offered to define quality-of-life or HRQOL. While I did not deal with all known definitions (e.g., Rapkin and Schwartz 2004¹⁶) those I have reviewed could be classified into one of four categories. These categories can be summarized as follows:

- (I) $A = (\sum_{1-x} F)$, is caused by DT (Causative definitions)
- (II) $A \approx B$ (Matching definitions)
- (III) $A = (\sum_{1-x} F)$ (Descriptive definitions)
- (V) $H = V \times A$ (Valuation definitions)

I also pointed out that not all classes of definitions are equal. Thus, including a valuation statement in a quality-of-life or HRQOL definition makes that class of definitions unique. In the absence of a unique indicator, quality-of-life or HRQOL definitions can be easily confused with other definitions (e.g., definitions that include psychosocial adjustment variables). This distinction is also relevant to the issue discussed in Chap. 1, where I asked if a qualitative assessment is meant to prevent (quality control) or enhance the consequences of events, processes or life. It is also relevant to whether a well-being statement can be used as an expression of quality-of-life; a statement which, I would argue, is not obvious (Chap. 11), especially if the purpose of the assessment is the prevention of adverse events.

Most important was my discussion concerning conceptual metaphors and how they helped me understand how language was being used in these quality-of-life or HRQOL definitions. What appears to be true is that while the linguistic metaphoric content in definitions may vary, they consistently contain conceptual metaphors. For example, Definitions I and II (Table 2.4) use the EVENT STRUCTURE Metaphor. Thus, Causes Are Forces or Causes Are Movement metaphors helped me see the linkage between the phrases “provided by,” “effect of,” “impact of” and cause–effect relationship being posited in the definitions in Table 2.4. The A PURPOSEFUL LIFE IS A JOURNEY METAPHOR helped me understand that the definitions in Table 2.5 were referring to reaching a goal or objective. I also noted that the term well-being was being substituted for quality-of-life or HRQOL in a number of definitions (Table 2.7), and raised the issue of whether this type of substitution enhanced or complicated the usefulness of the resultant definition. I will discuss this more in Chap. 11, where it will be made clear that well-being is a term that is a state indicator, although it could assume a number of other semantic roles (e.g., as an evaluator and if “qualified” as a contributor to a qualitative assessment). I also noted in this chapter the relationship between well-being and moral accounting, suggesting that if this accounting were “qualified” it could be used to express the inherent moral purpose of a quality or quality-of-life assessment. Finally, I discussed how THE MEASURING STICK METAPHOR helped me understand how I could produce a rating, or imagine a line and select a position on it to reflect my values.

More generally, my discussion about the difference between literal and nonliteral language usage gave me the opportunity to discuss “how I come to know”, an issue that was captured in the debate between the nonconstructionists and constructionists. I will return to all of these topics again as I continue to consider how I define and assess quality, quality-of-life, or HRQOL.

Finally, it is important to restate that examining the language of a quality assessment is important because of both the analytical and monitoring opportunities it creates, and that as a result it provides unique research opportunities for an investigator. The next chapter will add another set of conceptual tools for the discussion to follow, by describing some of the cognitive processes that may be involved during a qualitative assessment.

Notes

1. I have not been able to find a similar list of definitions for the term “quality,” so I will confine this discussion to different definitions of “quality-of-life” or “HRQOL.”
2. Glucksberg (2001) view, of course, has strong resemblance to what Wittgenstein was telling us.
3. For a continuation of this discussion, see Chap. 4’s discussion about objective and subjective indicators of quality-of-life. Also, Raphael (1996) provides an overview of some of the philosophical alternatives relevant for quality-of-life or HRQOL research.
4. The relationship between language used and reality is an important issue which I will address at various places in this book. I will argue that the spoken and written language that I know is deficient in characterizing the experience of quality, especially of the compromised person, and that the more precise language of mathematics, and its analog, a *conceptual space*, may offer an alternative means of characterizing quality. I will discuss this most directly in Chap. 10. Also, in Chap. 4 (p. 97) I will discuss details about the relationship between objectivity and subjective assessments. I will also argue in Chap. 4 that the assessment process itself tends to optimize the objective character of any observation, independent of its subjective or objective origin. This, however, is not contradicted by my argument here that my sense of reality is a form of constructionism. What is assessed is not necessarily the same as what I consider reality, although it is also clear that the two may overlap.
5. Although I have distinguished between a metaphysical and empirical forms of constructionism, I will use the term “constructionism” from now on to only mean “empirical constructionism.”
6. See the next section and Chap. 3, where this idea of acquired reality is expanded during a discussion of Hayek’s contribution to the understanding of cognitive processes.
7. Miller (1993) states that terms such as encoding, mapping, categorization, inference, attribution, and so on are all examples of apprehension. Thus, apprehension can be thought of as a “superordinate term” referring to several mental processes.
8. Glucksberg (2001) refers to this as “dual referencing,” where a term may have a concrete reference, such as a law limiting the freedom of a class of citizens, or as a superordinate category referring to a wide range of restraints on a person’s freedom.
9. As an alternative, Steen (1999) describes a *linguistic* approach to conceptual metaphor analysis. Steen would like to be able to determine if a particular metaphoric expression is a conceptual metaphor (so called one-shot metaphors), without alluding to broader issues. Thus, he is interested in *metaphor analysis* as opposed to *metaphoric understanding*. He identified five steps which he suggests are sufficient to do a *linguistic analysis of a conceptual metaphor*.
10. The association between perceptual processes and affect is important and I will discuss it when I discuss the topic of well-being in Chap. 11.
11. I will discuss the Fernandex-Duque and Johnson (2002) paper in more detail in Chap. 7.
12. Koltko-Rivera (2006) has recently suggested that Maslow had another level to his motivational hierarchy in mind, beyond self-actualization, that he referred to as “self-transcendence.”
13. Patrick and Chiang (2000) have presented an expanded version of this definition which seems designed for broader policy oriented issues and will be discussed in Chap. 8.
14. The reader is probably aware that many investigators fail to differentiate quality-of-life and psychosocial indicators when they describe what they mean by a quality-of-life or HRQOL assessment. One of the reasons for this has to do with the fact that these investigators feel that descriptive statements are sufficient to define quality-of-life or HRQOL, the consequence of which is that there is no operational consequences to using either class of indicators.
15. Feldstein (1991) pointed out that the quote from Barofsky (1990) was originally reported in 1983 at a *Conference on Methodology in Behavioral and Psychosocial Cancer Research* in response to comments by Wellisch (1984).
16. The Rapkin and Schwartz (2004) definition proposes a complex cognitive structure that will be discussed in Chap. 11.

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Quality

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