Chapter 10
Cross-Cultural Experience of Anger: A Psycholinguistic Analysis

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Abstract In this chapter, I will provide evidence for the embodied nature of the concept of anger and some of its metaphors from work in cognitive psychology. I will show that many unrelated languages and cultures do seem to share the generic-level metaphor: THE ANGRY PERSON IS A PRESSURIZED CONTAINER. This metaphor, I suggest, is motivated by the universal embodiment of anger. The pressurized container metaphor underlies the widespread conception that anger is a force that makes the angry person perform aggressive or violent actions. The actual physiology of anger provides much support for this conceptualization. At the same time, however, there is a considerable amount of variation in the counterparts of anger both cross-culturally and intraculturally. To account for some of this variation, a new, more nuanced view of embodiment will be proposed, where the major idea is that the embodiment of anger consists of multiple components, and cultures may choose which of these components they focus on. I will call this process of selecting one or several such components "experiential focus." This idea helps us in part explain why, despite universal actual physiology, different cultures can have widely different understandings of their anger-like experiences.

This chapter examines some of the important dimensions of the cross-cultural experience of anger – especially the metaphors associated with it. As I have argued in a number of publications, metaphors play a major role in our understanding of abstract concepts in general and emotion concepts in particular (Kövecses, 1986, 1988, 1990, 2000a, 2005). Many metaphors have a constitutive role in the way we think about emotion concepts, including anger. Because of the importance of these metaphors in comparing the experience of anger across cultures, this chapter will not be a general survey of the cross-cultural study of anger. Instead, it proposes a new alternative to other approaches.

The relationship between metaphors and scientific theories of emotion has been elucidated in some previous publications (Kövecses, 1990, 2000a). In this chapter, I focus attention on the following specific issues relating to anger:

First, I will present some evidence that comes from cognitive psychology that the concept of anger is an embodied one. Second, I will show, again relying on work by cognitive psychologists, that the metaphors we use to understand the concept of anger have psychological reality, and they are not simply linguistic frills. Third, based on my previous research, I will suggest that the PRESSURIZED CONTAINER metaphor for anger is a near-universal metaphor. Fourth, I will show that in addition to the potential universality of several anger metaphors, they also exhibit a great deal of variation both

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cross-culturally and within cultures. Fifth, I will propose that it is the central metaphors of anger that give the various anger concepts much of their structure and content in different cultures. Sixth, in response to some recent challenges, I will offer a more nuanced view of the embodiment of anger. Seventh, I will briefly describe how embodiment, culture, and cognition jointly play a role in how anger is conceptualized.

10.1 The Embodiment of Anger

In cognitive linguistics, metaphor is a set of conceptual correspondences, or more technically, mappings, between two conceptual domains, a source and a target (Lakoff & Johnson, 1980; Kövecses, 2002). The correspondences between a source and a target domain make up a conceptual metaphor. It follows from this cognitive definition of metaphor that most conceptual metaphors will have linguistic instantiations in everyday language use (that is, they will be expressed by means of metaphorical linguistic expressions). Take, for instance, the conceptual metaphor ANGER IS A HOT FLUID IN A CONTAINER. This shows up in such metaphorical linguistic expressions as "*seethe* with anger," "*boil* with anger," "*simmer* down" . The basic mapping, or set of correspondences, that defines the conceptual metaphor that underlies these expressions includes, for example, "the physical container the angry person's body."

Psycholinguistic studies suggest that anger, like any abstract concept, is embodied. (Chapter 9 by Green et al., this book; on embodiment in general, see Gibbs, 2006.) In these studies, researchers ask people to think about and report on their embodied experiences concerning domains that are known, on the basis of linguistic evidence, to be used as source domains in conceptual metaphors, such as THE ANGRY PERSON IS A PRESSURIZED CONTAINER. However, in the experiments subjects are only asked about their experiences concerning the source domain; no mention is made of the target domain.

In a well-known series of experiments, Ray Gibbs (1992, 1994) asked his subjects about their embodied experiences concerning pressurized containers: What would cause the container to explode? Does the container explode on purpose or does it explode through no volition of its own? Does the explosion of the container occur in a gentle or a violent manner? People's responses to these questions were remarkably similar. They agreed that the explosion happens as a result of internal pressure caused by the increase in the heat of the fluid inside the container; that the explosion happens unintentionally; and that the explosion happens in a violent manner. This way, the researcher generates a nonlinguistic profile of the embodied experience of pressurized containers that is one of the source domains of intense emotional states such as anger. With the help of such nonlinguistic profiles certain predictions can be made about people's understanding of the target domains. This is possible only if in the course of comprehending a target domain in terms of a source, the source preserves its basic, generic-level profile or image-schematic structure. For example, it can be predicted that when the pressurized container as source domain is used for anger, the loss of control over anger that angry people often experience will be conceptualized as being caused by internal pressure, as being unintentional, as well as sudden and violent. These predictions, or hypotheses, concerning the conceptualization of anger proved to be the case in a variety of tasks. For example, when people understand idioms for anger (such as *blow your stack, flip your lid, hit the ceiling*), they infer that the loss of control that these idioms describe is due to some internal pressure, that it is unintentional, and that it occurs in an abrupt and violent manner. It is important to see that in these experiments the researcher attempts to discover people's intuitions concerning their bodily experiences *before* any questions are asked concerning their judgments about linguistic expressions, their meaning or

their metaphorical status. It is such nonlinguistic profiles associated with source domains that are preserved for the structuring of target domains, thus providing them with conceptual structure and content. I suggest that many source domains, such as HOT FLUID IN A CONTAINER, or more generally, PRESSURIZED CONTAINER, for anger, are in the business of mapping such predetermined conceptual materials to the target – in this case, anger (see Kövecses, 2000b, 2002).

One of the remarkable features of metaphorical thought is that even our most basic target concepts can be construed in multiple ways. The metaphorical conceptual system is not monolithic – target concepts are not limited to a single source concept. Let us take as an example the abstract target concept of intensity. There is an experiential correlation between intensity and heat, in that when we perform a physical activity intensely or when we are in certain intense emotional states, the body produces more heat. We can now say that this correlation forms the basis of the conceptual metaphor INTENSITY IS HEAT. However, heat is not the only source domain for this target domain, as shown below:

> INTENSITY IS HEAT (e.g., "There was *heated* debate about the issue")
> INTENSITY IS QUANTITY (e.g., "I care *a lot* about you")
> INTENSITY IS SPEED (e.g., "*sudden* growth in the economy," "a *sluggish* economy")
> INTENSITY IS STRENGTH (OF PHYSICAL EFFECT) (e.g., "The country was *hit hard* by the flood")

All these alternative conceptualizations of intensity are "primary" or "simple" metaphors that can jointly characterize particular "complex" metaphors (Grady, 1997a, b). When they do, we can think of them as providing very strong motivation for the selection of particular complex images. One case in point would be the complex conceptual metaphor ANGER IS A HOT FLUID IN CONTAINER. At least three of the four simple metaphors for intensity seem to be involved in this complex metaphor: HEAT, QUANTITY, and SPEED. If we lose our *cool,* we become very angry; anger *welling up* in someone indicates less intense anger than anger *coming over* or *overcoming* someone; and a person *flaring up* is more intensely angry than someone doing a *slow* burn. But maybe the fourth intensity metaphor also plays a role in this anger metaphor. For instance, an out*burst* of anger indicates very intense anger and also the forcefulness of the outbreak. Be that as it may, the point is that the extremely simple local metaphors that are based on basic correlations in human experience jointly apply to this complex metaphor and make it a very natural conceptual metaphor for anger.

10.2 The Psychological Reality of Anger Metaphors

Ray Gibbs and his associates were among the first to demonstrate that conceptual metaphors are real, i.e., they exist in our conceptual system and not just in our language (Gibbs & O'Brian, 1990; Gibbs, 1994). Participants first formed mental images of idioms (e.g., *blow your stack, flip your lid, hit the ceiling*) and were then asked a series of questions about their images (Gibbs & O'Brian, 1990). The images relating to idioms with roughly the same meaning (e.g., "getting angry") were remarkably consistent across subjects. Participants made use of the image-schematic knowledge that was mentioned in the previous section. They said that in the case of idioms like *blow your stack,* the cause of losing control over anger is internal pressure, and that the loss of control is unintentional and violent. In other words, their responses were based on the source domain of pressurized container (like a hot fluid in a container). This means that in interpreting the idioms they relied on the conceptual metaphor ANGER IS A HOT FLUID IN A CONTAINER. If people's knowledge were not

structured by such metaphorical mappings, there would be very little consistency in the images they get in connection with idioms with the same nonliteral meaning. What Gibbs and O'Brian showed was that people do indeed understand idioms relating to a given target domain (like anger) in terms of conceptual metaphors (such as ANGER IS A HOT FLUID IN A CONTAINER).

But understanding is not only a matter of long-term memory. It also involves the online, or real-time, understanding of language. One of the greatest challenges to the cognitive linguistic view of metaphor is the claim that conceptual metaphors play no role in online understanding. My specific claim is that we process metaphorical expressions online without (consciously or unconsciously) evoking or relying on metaphorical mappings.

Gibbs and his associates (Gibbs, Bogdonovich, Sykes, & Barr, 1997) took up the challenge; in particular, they wanted to see how people immediately comprehend metaphorical idioms based on ANGER IS A HOT FLUID IN A CONTAINER, such as *blow one's stack.* Participants read stories ending with idioms, such as this, and then quickly gave lexical decision responses to letter strings that were presented to them visually. The letter strings had to do with either the conceptual metaphor underlying the idioms or they were unrelated to them. For example, a related letter string was "heat," and an unrelated one was "lead." People responded faster to the lexical decision questions after they were presented with a related letter string than when they were with an unrelated one, such as "lead." Findings in a variety of tasks were consistent. All of this research shows that people do make some use of conceptual metaphors when they comprehend metaphorical expressions in real time.

10.3   The Universality of the PRESSURIZED CONTAINER Metaphor for Anger

The ANGER IS A HOT FLUID IN A CONTAINER (and its generic version THE ANGRY PERSON IS A PRESSURIZED CONTAINER) metaphor was first studied by Lakoff and Kövecses in English (Kövecses, 1986; Lakoff, 1987; Lakoff & Kövecses, 1987), and then by a number of researchers in both related and unrelated languages including Chinese (King, 1989; Yu, 1995, 1998), Japanese (Matsuki, 1995), Hungarian (Bokor, 1997), Wolof (Munro, 1991), Zulu (Taylor & Mbense, 1998), Polish (Micholajczuk, 1998), and some others (for a summary, see Kövecses, 2000a). In addition to the expressions given above, here are some linguistic metaphors that express this conceptual metaphor in English: "Let him *stew*," "You make my blood *boil*," "He *blew his top*," "*Simmer* down!"

In all of these languages, a CONTAINER metaphor was found for anger, and the container was found pressurized, either with or without heat. The correspondences, or mappings, of the PRESSURIZED CONTAINER metaphor for anger include

the container with some substance or objects → the angry person's body
the substance or objects in the container → the anger
the pressure of the substance or objects on the container → the force of the anger on the angry person
the cause of the pressure → the cause of the anger force
keeping the substance or objects inside the container → controlling the anger
the substance or objects going out of the container → the expression of the anger

As we will see later, these correspondences play a key role in the constitution of the concept of anger. Through its detailed mappings, the metaphor provides a coherent structure for the various "anger-like" concepts in different languages.

Table 10.1 Entailments of the ANGER IS A HOT FLUID IN A CONTAINER METAPHOR

Metaphorical entailments	Corresponding linguistic examples
WHEN THE INTENSITY OF ANGER INCREASES, THE FLUID RISES:	His pent-up anger *welled up* inside him
INTENSE ANGER PRODUCES STEAM:	Billy's just *blowing off steam*
INTENSE ANGER PRODUCES PRESSURE ON THE CONTAINER:	He was *bursting with* anger
WHEN ANGER BECOMES TOO INTENSE, THE PERSON EXPLODES:	When I told him, he just *exploded*
WHEN A PERSON EXPLODES, PARTS OF HIM GO UP IN THE AIR:	I *blew my stack*
WHEN A PERSON EXPLODES, WHAT WAS INSIDE HIM COMES OUT:	His anger finally *came out*

The PRESSURIZED CONTAINER metaphor gives rise to a series of metaphorical entailments. In English, these are given in Table 10.1

Many of these entailments are shared by several of the languages that were studied. Hungarian, Japanese, and Chinese have most of them, but the other languages have them as well to varying degrees, as the evidence of linguistic expressions makes it clear.

This is an extraordinary situation. How can speakers of such diverse languages as Chinese, Hungarian, Zulu (spoken in South Africa), Wolof (spoken in West Africa), and possibly many others around the world, have conceptualized an "anger-like" experience in such remarkably similar ways? First of all, we should look at the anger-related metonymies in diverse languages. Metonymy is a cognitive process in which an entity in a domain or frame provides mental access to another entity within the same domain or frame (see Kövecses & Radden, 1998). Many of the languages for which we have data share several important conceptual metonymies that include

BODY HEAT STANDS FOR ANGER
INTERNAL PRESSURE STANDS FOR ANGER
REDNESS IN FACE AND NECK AREA STANDS FOR ANGER

In line with the above definition of metonymy, the mention of body heat, internal pressure, and redness in the face and neck area can be used to provide mental access to anger. In general, the metonymies tend to describe the physiological, behavioral, and expressive reactions in the case of emotion.

Actually, we seem to have some (though not conclusive) nonlinguistic evidence for the universality and the anger specificity of such physiological responses. Paul Ekman, Levenson, and their colleagues (Ekman, Levenson, & Friesen, 1983; Levenson, Ekman, & Friesen, 1990; Levenson, Carstensen, Friesen, & Ekman, 1991) provide evidence that anger is indeed associated with objectively measurable bodily changes such as increase in skin temperature, blood pressure, pulse rate, and more intense respiration; other emotions, like fear and sadness, go together with a different set of physiological reactions. These studies were conducted with American subjects only. However, Levenson and his colleagues extended their research cross-culturally and found that emotion-specific ANS (autonomic nervous system) activity was the same in Americans and the Minangkabau of West Sumatra (Levenson, Ekman, Heider, & Friesen, 1992). For example, skin temperature and pulse rate rise in anger in both American and Minangkabau subjects. These findings give us reason to believe that the actual physiology might be universal. The universality of actual physiology might be seen as leading to the similarities (though not equivalence) in conceptualized physiology (i.e., the conceptual metonymies), which might then lead to the similarity (though again not equivalence) in the metaphorical conceptualization of anger and its counterparts (i.e., the PRESSURIZED CONTAINER metaphor). (On this issue, see also Chapter 7 by Stemmler, this volume.)

The conceptual metonymies mentioned above capture people's folk theory of some of the physiology of anger. English, Hungarian, Japanese, Zulu, Polish, Wolof, and, to some degree, Chinese as well seem to share the notion of an increase in body heat in anger, and they also talk about it metonymically. The notion of subjective body heat, perhaps together with the idea of the felt warmth of blood, seems to be the cognitive basis for the heat component of the English, Hungarian, Japanese, and Wolof CONTAINER metaphors. The fact that Chinese does not have a large number of metonymies associated with body heat may be responsible for the Chinese CONTAINER metaphor *not* involving a *hot* fluid or gas.

Internal pressure is present in English, Chinese, Japanese, Hungarian, Polish, and Zulu. The physiological response "redness in the face and neck area" can be taken to be the result of both body heat and internal pressure. This response seems to characterize English, Chinese, Japanese, Hungarian, Polish, and Zulu. The Wolof word *boy* "to be red hot (of charcoal)" also means "to be really angry."

My proposal here was that conceptualized physiology (i.e., the conceptual metonymies) provides the cognitive motivation for people to conceptualize the angry person metaphorically as a PRESSURIZED CONTAINER (Kövecses, 2000a). The PRESSURIZED CONTAINER metaphor is well motivated by the conceptual metonymies, in that it is mainly based on the notions of heat and pressure. The metonymies make this particular metaphorical conceptualization natural for people. If conceptualized physiological responses include an increase in internal pressure as a major response in a given culture, people in this culture will find the use of the PRESSURIZED CONTAINER metaphor natural.

Without the constraining effect of universal embodiment, it is difficult to see how such a surprisingly uniform category (of a variety of PRESSURIZED CONTAINER metaphors) could have emerged for the conceptualization of anger and its counterparts in very different languages and cultures. But these changes in physiology in anger may overlap with physiological changes in other emotions. This is why happiness can also have the PRESSURIZED CONTAINER metaphor (as indicated by examples such as "*bursting* with joy"), although without the strong heat component that characterizes anger in English-speaking subjects. Thus, a more general conceptual metaphor that could account for such cases would be A PERSON IN AN INTENSE EMOTIONAL STATE IS A PRESSURIZED CONTAINER. The main meaning focus of the metaphor is "difficulty in controlling a process," which in turn derives from the mapping "difficulty in controlling a (n emotional) process → difficulty in keeping a substance in a pressurized container." It is this mapping that characterizes the PRESSURIZED CONTAINER metaphor in its various applications to emotions other than anger and in languages other than English. For example, Palmer, Bennett, and Stacey (1999) point out that the metaphor is applied to the emotion concepts of shame and grief in Tagalog.

It is important to note that the "same" bodily phenomenon may be interpreted differently in different cultures and that activities of the body (and the body itself) are often "construed" differentially in terms of local cultural knowledge (see, for example, Csordas, 1994; Gibbs, 1999). In the present context, physically identical bodily activities can receive different meanings in two different cultures (or subcultures). And yet, it seems that the kinds of bodily experiences that form the basis of many conceptual metaphors (such as the PRESSURIZED CONTAINER metaphor for anger and some other intense emotions) can and do exist independently of any cultural interpretation – either conscious or unconscious. They are products of the kinds of physical bodies that we have. However, this is not to say that these products of the body cannot be shaped by local cultural knowledge.

10.4 Cross-Cultural and Intracultural Variation in Anger

Although THE ANGRY PERSON IS A PRESSURIZED CONTAINER metaphor seems to be a widespread, even near-universal metaphor, it can occur in somewhat different forms in different cultures. Other metaphors for anger may reveal the same kind of variation. In the present section, I will look at some

of the types of variation that can occur in the various aspects, or components, of this key metaphor for anger.

10.4.1 Specificity and Congruence of the Source

Consider all the specific-level manifestations of the generic-level PRESSURIZED CONTAINER metaphor for anger. In American English, the dangerous PRESSURIZED CONTAINER is specified as A HOT FLUID IN A CONTAINER at a lower level of conceptual organization or abstraction, and at a very low level of specificity it can be further specified as a VOLCANO, a FUSE, an EXPLOSIVE, a COW GIVING BIRTH, and so on. These latter, highly specific source domains are likely to be language specific, much more so than either the HOT FLUID metaphor or the PRESSURIZED CONTAINER metaphor, which is a potentially universal conceptual metaphor. In another case, Hungarian shares with English the conceptual metaphors THE BODY IS A CONTAINER FOR THE EMOTIONS and ANGER IS FIRE. The body and the fire inside it are commonly elaborated in Hungarian as a PIPE, where there is a burning substance inside a container. This conceptual elaboration seems to be unique to Hungarian. Hungarians also tend to use the more specific container of the HEAD (with the brain inside) for the general BODY CONTAINER in English in talking about anger, and a large number of Hungarian expressions indicate how anger can affect the head and the brain.

10.4.2 Entailments

Let us now compare some of the entailments of some of the anger metaphors in English and Zulu. The analysis of the Zulu anger metaphors is based on Taylor and Mbense's (1998) work on Zulu anger.

Both English and Zulu have FIRE as a source domain for anger, but speakers of Zulu make use of inferences (or entailments) concerning the metaphor in a way in which speakers of English do not. In Zulu one can *extinguish* somebody's anger *by pouring water* on them. This possible metaphorical entailment is not picked up by the English FIRE metaphor in the form of conventionalized linguistic expressions. What comes closest to the Zulu expression in English is the stylistically limited (literary–religious) use of the verb *quench* (see Chapter 22 by Potegal, this volume). However, this does not represent widespread, everyday usage, as the Zulu expression does. In this sense, this entailment of the FIRE source domain that applies to anger in Zulu does not exist in English in a conventional form.

The cultural, or cognitive, model of anger has desire (to harm) as a component in both English and Zulu. This can be found as a submapping (or submetaphor) of the ANGER IS A WILD ANIMAL metaphor: DESIRE IS HUNGER. This submetaphor appears to exist in Zulu as well, but it seems to have unique entailments for speakers of Zulu. We can interpret Taylor and Mbense's (1998) description of Zulu anger in such a way as to suggest that in Zulu an angry person's appetite can be so voracious that he eats food that is not even prepared or he does not even separate edible from inedible food. This aspect of the metaphor is obviously missing from English, at least as judged by the English conventionalized linguistic expressions.

In both English and Zulu, anger can be comprehended as A NATURAL FORCE. But speakers of Zulu go much further in making use of the entailment potential of this metaphor than speakers of English. In Zulu one can say of an angry person that *the sky became dark with thunderclouds*, *the sky* (= lightning) *almost singed us*, or *why did he blow a gale?* These entailments do not exist in English in conventionalized form, but speakers of English may well understand them given the shared conceptual metaphor.

10.4.3 Linguistic Expressions for the Same Conceptual Metaphor

Most of the differences between conceptual metaphors in any two languages will occur at the level of linguistic expressions. The generic conceptual metaphors may be shared, even some of the specific conceptual metaphors may be shared, but we can expect a great deal of variation in the exact phrasing of the linguistic metaphors that express a particular anger-related conceptual metaphor. Here are some examples in Tunisian Arabic (Maalej, 2003):

> ma-bqaaš   3and-i   wayn ydur   ir-riiH.
> No exist   with me   where circulate   the wind
> There is no more room for air to circulate inside me.
> I could barely keep it in anymore.
>
> Talla3-l-i   id-damm   l-raaS-i.
> [He]lift-past to me   the blood   to head my
> He lifted blood up to my head.
> I was flushed with anger.
>
> Haraq-l-i   muxx-i.
> [He]burn-past to me brain my
> He burnt my brain to me.
> He caused my blood to burn.

It is probably only Arabic speakers who express these figurative meanings related to anger in the particular ways they do: as wind circulating inside the person, as blood being lifted to one's head, and as someone burning your brain. The meanings can be translated into English, and they sound familiar. However, the actual phrasing in Tunisian Arabic is radically different from what we find in English or Hungarian. This is so despite the fact that shared conceptual metaphors are utilized: ANGER IS PRESSURE INSIDE THE PERSON in the first two examples and ANGER IS HEAT in the third. What this situation suggests is that we have the same figurative meaning expressed by words whose literal meaning differs markedly from that of English words used for the same purpose and which are expressions of the same conceptual metaphors.

10.4.4 Degree of Linguistic Elaboration

A shared conceptual metaphor can be elaborated differently in different languages/varieties. Elaboration here means that a given mapping or metaphorical entailment gives rise to a larger or fewer number of linguistic expressions in two languages/varieties. For example, the metaphor ANGER IS A HOT FLUID IN A CONTAINER has, among others, the following mappings and entailments in English: "pressure inside the container → difficult-to-control anger in the person," "the container exploding → the person losing control over anger," and "when the person-container explodes, parts of him go up in the air." These aspects of the metaphor are highly elaborated in American English but less so in Spanish (Barcelona, 2001). In American English, you can *have a cow, blow a fuse, blow a gasket* and *flip your lid, blow your top, blow your stack, fly off the handle,* but these expressions do not seem to have equally conventionalized counterparts in Spanish. This is not to say that Spanish has no means of talking about this aspect of anger; rather, the claim is that it has a much less elaborated repertory of conventionalized linguistic expressions to do it. For example, in Spanish one can say *Se volo la olla,* "His kettle (i.e., his head) blew up," which, according to Barcelona (2001), is not limited to anger.

10.4.5 *Variation in the Understanding of Anger in the Same Culture Through Time: The United States*

Was anger always predominantly conceptualized in the United States as it is today, that is, in terms of the HOT FLUID IN A PRESSURIZED CONTAINER metaphor? This is a difficult question for a cognitive linguist to answer, but, fortunately, social historians of American culture come to our rescue. Peter Stearns (1994) offers an excellent history of emotions in America in his book *American Cool*. Stearns' study shows that the conceptualization of anger, and of emotions in general, underwent important changes from the eighteenth to the nineteenth century. According to Stearns (1994, pp. 66–67), before the nineteenth century, the concept of anger was (and emotions in general were) primarily understood metonymically, rather than metaphorically. There was a great deal of emphasis on what actually happens to the body while in intense emotional states, such as hot blood for anger and cold sweats for fear. This emphasis on "embodiment" was replaced by metaphoric thinking about anger in the course of the nineteenth century, which resulted in viewing anger in humoral terms, that is, in terms of the body as a container with fluids in it. This conception comes close to, although is still not the same as, the now dominant HOT FLUID metaphor. In order for this particular metaphor to emerge, certain changes had to occur in the general social and cultural setting. In sum, what we can see here is a gradual shift from metonymic to metaphoric understanding, and, later on, from one metaphoric understanding to another.

As Stearns (1994) notes in connection with Victorian emotionology, anger was not a permissible emotion in the home, but, for men, it was actually encouraged at the workplace and in the world of politics. Women were supposed to be "anger-free," and men, while calm at home, were expected to make good use of their anger for purposes of competition with others and for the sake of certain moral ends. But why did this "channeled anger" give way to the ideal of "anger-free" people or to the ideal of suppressing anger under all circumstances, as presupposed by the now dominant PRESSURIZED CONTAINER metaphor? Why did anger become a completely negative emotion? There were a variety of specific reasons, as Stearns argues, including the following:

> New levels of concern about anger and aggression followed in part from perceptions of heightened crime, including juvenile delinquency, and the Results of untrammeled aggression in Nazism and then renewed world war. It was difficult, in this context, to view channeled anger as a safe or even useful emotional motivation (p. 195).

As a result, the attacks on any form of anger, which started around the 1920s, continued throughout the depression period and the Second World War, leading to a global rejection of the emotion by the 1960s in mainstream culture. The new metaphoric image that became prevalent was that of the "pressure cooker waiting to explode," that is, the metaphor that we call ANGER IS A HOT FLUID IN A PRESSURIZED CONTAINER today. This was a fully mechanical metaphor that depicted anger as something completely independent of the rational self, the angry person as incapable of any rational judgment, and the resulting angry behavior as extremely dangerous. The process (that started in the eighteenth century) of the separation of the emotion from the self and the body, i.e., the "mechanization" of anger, was now completed.

It is important to see that this brief history concerns the cultural model, the folk theory, of anger in the United States – and not its expert or scientific theories. Experts, like psychologists, can and do talk about the positive aspects of anger. As a matter of fact, what kind of anger is considered prototypical in a given culture seems to be largely a matter of what the cultural context (see below). The view of anger as a potentially positive, constructive force is also present today in many cultures, including the United States, though not as the prototype of anger.

We might add to Stearns' causes of the change in the conceptualization of anger, as Michael Potegal (personal communication) suggested, that the change was also due to the increasing salience of the machinery of the industrial revolution, e.g., the steam engine, in people's lives.

10.5 The Concept of Anger and Its Central Metaphors in Different Languages and Cultures

Lakoff and Kövecses (1987) characterized the naive, or folk, understanding of anger in English as a prototypical cognitive, or cultural, model. They suggested the following model based on linguistic evidence in American English:

1. Offending event
   Wrongdoer offends self.
   Wrongdoer is at fault.
   The offending event displeases self.
   The intensity of the offense outweighs the intensity of the retribution (which equals zero at this point), thus creating an imbalance.
   The offense causes anger to come into existence.

2. Anger
   Anger exists.
   Self experiences physiological effects (heat, pressure, agitation).
   Anger exerts force on the self to attempt an act of retribution.

3. Attempt to control anger
   Self exerts a counterforce in an attempt to control anger.

4. Loss of control
   The intensity of anger goes above the limit.
   Anger takes control of self.
   Self exhibits angry behavior (loss of judgment, aggressive actions).
   There is damage to self.
   There is danger to the target of anger, in this case, the wrongdoer.

5. Retribution
   Self performs retributive act against wrongdoer (this is usually angry behavior).
   The intensity of retribution balances the intensity of offense.
   The intensity of anger drops to zero.
   Anger ceases to exist.

The main idea here was that the metaphors and metonymies associated with anger converge on and constitute the model, with the different metaphors and metonymies mapping onto different parts of the model.

Native speakers of Hungarian seem to have very much the same cultural model of anger (*düh* in Hungarian). The *but*-test that Lakoff and Kövecses (1987) used to ascertain the validity of the model for English yields the same Results for speakers of Hungarian as it does for speakers of English. For example, the sentence "He was angry, but he didn't lose control" and its Hungarian equivalent sound more natural than the sentence "He was very angry, but he lost control" in both languages. This is because the conjunction "*but*" is used to counter expectations. In this case, the expectation dictated by the prototypical model would be that once we are very angry (Stage 2), we tend to lose control (Stage 4). In other words, the applicability of the *but*-test indicates deviation from the prototypical cultural model. Since it indicates the same kinds of deviations in the two languages, it also shows that the underlying prototypical cultural models have a similar overall structure. (On using the *but*-test in psycholinguistic experiments concerning anger, see Gibbs, 1994.)

In the characterization of Japanese *ikari* (and, less typically, also *hara*), Matsuki (1995) notes in connection with the model found in American English: "The scenario applies to Japanese anger, although Stage 3 is more elaborate than in English" (p. 145). In the Japanese conception, the control aspect of *ikari* is more elaborate because anger first appears in *hara*, then it goes up to *mune*, and finally to *atama*. As Matsuki points out, *hara* is a container (the stomach/bowels area) and, metonymically (CONTAINER FOR CONTENT), can also be the emotion itself. *Mune* is the chest and *atama* is the head. If anger reaches *atama*, the angry person is unable to control anger.

King (1989) suggests that there are two prototypical cognitive models operating in Chinese:

1. Offending Event
   Wrongdoer offends self.
   The offending event displeases self.
   The offense causes an imbalance in the body.

2. Anger
   Anger exists.
   Self experiences physiological effects (heat, pressure, agitation).

3. Attempt to control anger
   Self exerts a counterforce in an attempt to control anger.

4. Release of anger
   Self releases anger by exhibiting angry behavior.

5. Restoration of equilibrium
   The amount of discharged anger balances the excess in the body.
   The imbalance disappears and equilibrium is restored.
   The other model differs from the one above in stages 4 and 5:

4. Diversion
   The force of anger is diverted to various parts of the body.
   Self exhibits somatic effects (headaches, stomachaches, etc.).

5. Compensating event
   The compensating event pleases the self (this is usually sympathetic behavior directed at self).
   The intensity of compensation balances the intensity of the offense.
   The somatic effects of anger disappear.
   Anger ceases to exist.

In addition to the several differences, we find several things in common to these models. They all seem to be composed of several successive stages and they all seem to have an ontological, a causal, and an expressive aspect. Based on the characterizations given above, the following general structure of the respective emotion concepts (*anger*, *düh*, *ikari/hara*, and *nu*) can be identified.

The prototypical cognitive models have an *ontological* part that gives us an idea of the ontological status and nature of anger, that is, the kind of thing/event it is In all four languages anger, or its counterpart, is a force inside the person that can exert pressure on him or her. The ontological part also includes some physiological processes associated with the respective emotion. It is the ontological part of the model that constitutes the second stage of the cognitive model or scenario as a whole.

The first stage in the model corresponds to the *causal* part. This presents anger and its counterparts as an emotion that is caused, or produced, by a certain situation.

Still another part of the model is concerned with the *expressive* component; that is, the ways in which anger, or its counterpart is expressed in the different cultures. The cognitive models tell us that all four cultures conceive of anger as something that is somehow expressed.

Finally, the expressive component is preceded by a *control* component that is manifested as two separate stages of the model: attempt at controlling expression and loss of control over expression.

Thus, the resulting five-stage model for the four cultures seems to be the following:

   (1) cause → (2) existence of anger, or its counterpart (in the form of a force) → (3) attempt at
       control → (4) loss of control → (5) expression

(Here, the arrow → indicates temporal succession and causal sequence). Since expression and control are closely linked (i.e., at issue is the control of expression), it is possible to conceive of the two as a single aspect and refer to them as the expression component of the model, yielding the highly schematic model:

   cause → existence of emotion (as forceful entity) → expression.

   This then seems to be the *basic skeletal structure* that all four cultures share in their folk understanding.

   But how can metaphors create such a model? My suggestion is that this happens by means of the set of mappings that characterize conceptual metaphors. Some metaphors play a central role in defining a particular model for a concept. In the case of anger, the central metaphor that "lends" much of the structure to the model of anger in a variety of cultures is that of PRESSURIZED CONTAINER. The particular structure that anger and other emotion concepts share is the "cause–existence of emotion–expression" schema. This is defined, in large part, by the PRESSURIZED CONTAINER metaphor that is characterized by the mappings we saw above. I believe that these are the mappings that play a constitutive role in the construction of the basic structure of the folk understandings of anger and its counterparts in different cultures. Without these mappings (i.e., imposing the schematic structure of how the force of a fluid or gas behaves in a container onto anger), it is difficult to see how anger and its counterparts could have acquired the structure they seem to posses. Without the PRESSURIZED CONTAINER metaphor, the "cause–emotion force–involuntary expression" structure would remain a mystery.

   In the view presented here, the conceptual metaphors and metonymies contribute actively to the structure and content of the prototypical cultural models. In Zulu, the chief conceptual metaphor that provides the skeletal structure for anger is a version of the PRESSURIZED CONTAINER metaphor: ANGER IS IN THE HEART (Taylor & Mbense, 1998; Kövecses, 2000a). However, just like in English, additional metaphors focus on particular aspects of this generic structure. In the case of Zulu anger, two metaphors are especially important for the "expression" part of the basic model, which specifies the nature and intensity of angry behavior. Speakers of Zulu elaborate on two metaphors that speakers of English do not or do to a much smaller degree: ANGER (DESIRE) IS HUNGER and ANGER IS A NATURAL FORCE (Taylor & Mbense, 1998). If the metaphor DESIRE IS HUNGER is elaborated as voracious appetite that devours everything indiscriminately and NATURAL FORCE as a force that destroys everything, as is the case in Zulu, then this will probably influence the cultural model of anger, as is indeed the case according to Taylor and Mbense. Instead of venting their anger on a specific target (in English, the person who offended you), Zulu people appear to respond in a less clearly directed way and behave aggressively toward everyone indiscriminately. This is not to say that English cannot have this response or that Zulu cannot have the directed response; rather, the two languages seem to differ in what they consider the prototypical cultural model for the concept.

   The major claim I am making here is that systematic links take us from (possibly universal) actual physiology of anger through conceptualized metonymy and metaphor to cultural models. In the process, the broader cultural contexts also play a crucial role, in that they fill out the details left open in the schematic basic structure. In other words, I believe that we can offer a satisfactory explanation of the emergence of cultural models if we take into account the possibly universal experiential

basis of most of our abstract concepts, the conceptualization of this experiential basis by means of conceptual metonymies, the conceptual metaphors that often derive from these metonymies, and the broader cultural context. The central conceptual metaphor in the case of anger is the PRESSURIZED CONTAINER metaphor (and the generic FORCE metaphor for the emotions in general; see Kövecses, 2000a), but other domains would be structured by other central metaphors. We should of course not imagine the process of the emergence of cultural models in sequential steps, going from experiential basis to cultural model. A probably more adequate way of thinking about it would be to say that the components outlined here are all at work at the same time, mutually influencing each other. In the course of this joint evolution, the conceptualized experiential basis (often appearing as conceptual metonymies) and the emerging conceptual metaphor contribute to the basic schematic structure of the cultural model, while the simultaneously present cultural context fleshes out the details of the schema.

10.5.1 The Role of Cultural Context in Variation

By cultural context I simply mean the broader context that a culture or subculture provides for the understanding of any of its concepts, including all the (sub)culturally unique and salient concepts and values that characterize particular (sub)cultures – together with the governing principles of a given culture or subculture. The governing principles and key concepts have special importance in (metaphorical) conceptualization because they permeate several general domains of experience for a culture or cultural group.

To demonstrate the effect of these differences on metaphor, let us first consider in some detail the near-universal PRESSURIZED CONTAINER metaphor for anger in a variety of cultures. We have seen above that at a generic level, this metaphor is very similar across many cultures. However, I also pointed out that at a specific level we can notice important differences in the metaphor across certain cultures. How do the differences arise?

Geeraerts and Grondelaers (1995) note that in the Euro-American tradition (including Hungary), it is the classical–medieval notion of the *four humors* from which the Euro-American conceptualization of anger (as well as that of emotion in general) derived. (We may also note that the Hungarian concept of *düh* also comes from the same source.) But they also note that the application of the humoral doctrine is not limited to anger or the emotions. The humoral view maintains that the four fluids (phlegm, black bile, yellow bile, and blood) regulate the vital processes of the human body. They were also believed to determine personality types (such as sanguine, melancholy) and account for a number of medical problems, together with cures for them (like blood-letting). Obviously, then, the use of the humoral view as a form of cultural explanation extends far beyond anger and the emotions. In addition to being an account of emotional phenomena, it was also used to explain a variety of issues in physiology, psychology, and medicine. In other words, the humoral view was a key component of the classical–medieval cultural context and it exerted a major impact on the emergence of the European conception of anger as a fluid in a pressurized container.

In Japan, as Matsuki (1995) tells us, there seems to exist a culturally distinct set of concepts that is built around the concept of *hara* (meaning both the belly/stomach area and anger). Truth, real intentions, and the real self (called *honne*) constitute the content of *hara*. The term *honne* is contrasted with *tatemae* or one's social face. Thus when a Japanese person keeps his anger (*ikari*) under control, he or she is hiding his or her private, truthful, innermost self and displaying a social face that is called for in the situation by accepted standards of behavior. The notion of *hara* has greatly influenced the Japanese conception of anger over the ages.

King (1989) and Yu (1995, 1998) suggest that the Chinese concept of *nu* (corresponding to anger) is bound up with the notion of *qi*, that is, the energy that flows through the body. *Qi* in turn is embedded in not only the psychological (i.e., emotional) but also the philosophical and medical discourse of Chinese culture and civilization. The notion and the workings of *qi* are predicated on the belief that the human body is a homeostatic organism, the belief on which traditional Chinese medicine is based. And the conception of the body as a homeostatic organism seems to derive from the more general philosophical view that the universe operates with two complementary forces, *yin* and *yang*, which must be in balance to maintain the harmony of the universe. Similarly, when *qi* rises in the body, there is anger (*nu*), and when it subsides and there is balance again, there is harmony and emotional calm. Without the concept of "qi," it would be difficult to imagine the view of anger in Chinese culture.

Thus the four emotion concepts, *anger* in English, *düh* in Hungarian (the two representing European culture), *ikari* in Japanese, and *nu* in Chinese, are in part explained in the respective cultures by the culture-specific concepts of the *four humors*, *hara*, and *qi*. What accounts for the distinctiveness of the culture-specific concepts is the fact that, as we have just seen, the culture-specific concepts that are evoked to explain the emotion concepts are embedded in very different systems of cultural concepts and propositions. It appears then that the broader cultural contexts that operate with culture-specific key concepts account for many of the specific-level differences among the four emotion concepts and the PRESSURIZED CONTAINER metaphor.

10.6 A More Nuanced View of the Embodiment of Anger: "Experiential Focus"

It is a fundamental claim of the theory presented here that in many cases human beings share a great deal of bodily experience on the basis of which they can build universal metaphors. The question that inevitably arises is this: Is this universal bodily basis utilized in the same way across languages and cultures or even varieties? In light of the available evidence it seems that the answer is no. The universal bodily basis on which universal metaphors *could* be built is *not* utilized in the same way or to the same extent in different languages and varieties of languages. The notion that I would like to offer to get clear about this issue is that of "differential experiential focus." What this means is that different peoples may be attuned to different aspects of their bodily functioning in relation to a target domain, or that they can ignore or downplay certain aspects of their bodily functioning as regards the metaphorical conceptualization of a particular target domain.

The conceptualization of anger in English and Chinese offers a good example to prove the point. As studies of the physiology of anger across several unrelated cultures suggest that increase in skin temperature and blood pressure may be universal physiological correlates of anger. This accounts for the ANGER IS HEAT metaphor in English and in many other languages. However, King's (1989) and Yu's (1995, 1998) works suggest that the conceptualization of anger in terms of heat is much less prevalent in Chinese than it is in English. In Chinese, the major metaphors of anger seem to be based on pressure, not on pressure *and* heat. This indicates that speakers of Chinese have relied on a different aspect of their physiology in the metaphorical conceptualization of anger than speakers of English. (Assuming that their physiological response to anger does not differ from that of English speakers.) The major point is that in many cases the universality of experiential basis does not necessarily lead to universally equivalent conceptualization at the specific level of hot fluids, in the case of anger. But, as we saw, at a generic level near-universality does occur.

Another example of how different cultures utilize a presumably universal bodily basis in anger is offered by Michelle Rosaldo in her description of Ilongot anger (Rosaldo, 1980). The Ilongot are a former headhunting tribe living in Northern Luzon, Philippines. For young Ilongot men, anger, *liget,* is a highly energized state that they need in order to successfully accomplish their headhunting raids. In Rosaldo's words "The *liget* that Ilongots associate with youthful prowess and, for them, with the universal agitation that makes young men want to kill, takes on reality and significance because it is bound up not in mystery or cosmology, but in three forms of relation central to Ilongot social life" (Rosaldo, 1980, p. 138). Indeed, Rosaldo glosses the Ilongot term for anger as "energy/anger." This suggests that for the Ilongot anger (*liget*) figures as a generalized state of arousal that can sufficiently motivate their actions. They think of their anger also as hot but, most importantly, as an agitated and energized state that makes them want to go out and take heads. Clearly, this is, for us, a surprisingly different way of building on our presumably universal bodily experience in conceptualizing anger.

As a matter of fact, the conceptualization of anger in terms of heat has not always been the case even in English. Carolyne Gevaert (2001, 2005) found on the basis of a variety of historical corpora that heat-related words for anger fluctuate a great deal in the Old English and Middle English period. According to Gevaert, her data indicate that the conceptualization of anger in terms of heat is not a permanent and ever-present feature of the concept of anger in English. She suggests that if her findings are correct, they invalidate, or disprove, the embodiment hypothesis. Her reasoning is that if the idea that people's concepts of anger are embodied in universal (physiological) experience, then people's conceptualization of anger cannot change over time.

I would like to suggest that universal physiology provides only a *potential* basis for metaphorical conceptualization – without mechanically constraining what the specific metaphors for anger will be. I believe it is best to replace a mechanical notion of embodiment and rely on the new notion of "differential experiential focus" (see Kövecses, 2005).

Heat was a major component in the concept of anger between AD 850 and 950, and then after a long decline it began to increase again at around 1400 – possibly as a result of the emergence of the humoral view of emotions in Europe (see Gevaert, 2001, 2005; Geeraerts & Grondelaers, 1995). We can observe the same kind of fluctuation in the use of the domain of "swell," which I take to be akin to what we call the "pressure" component in the conceptualization of anger today. Pressure was a major part of the conceptualization of anger until around 1300, but then it began to decline, only to emerge strongly again, together with heat, in the form of the HOT FLUID IN A CONTAINER metaphor centuries later. The point is that we should not expect any of the *conceptualized* responses associated with anger to remain constant in conceptualizing anger (and the emotions in general) throughout the ages because our experiential focus may change from culture to culture and through time.

More generally, what I would like to emphasize here is that universal embodiment associated with a target domain may consist of several distinct components or aspects. The conceptual metaphors that emerge may be based on one component, or aspect, at a certain point in history and on another at a different point. Which one comes to the fore depends on a variety of factors in the surrounding cultural context. In addition, the conceptual metaphors may be based on one component, or aspect, in one culture, while on another component, or aspect, in another culture. Moreover, even if there is a universal physiological component, the conceptualization of anger or other emotion concepts in a given language/culture may be based on related metaphors or metonymies only marginally. One such language is Tsou (an Austronesian language spoken in parts of Taiwan), where the emotions are primarily expressed linguistically through an elaborate prefix system attached to emotion *verbs* (not nouns). But as Shuanfan Huang (2002), the linguist who studied the language, tells us even in this language there exists the conceptual metaphor ANGER IS EXCESS AIR or FIRE IN A CONTAINER.

As a matter of fact, it also seems possible that universal physical or biological embodiment is entirely ignored in conceptualization. For example, we know of at least one culture where the angry

person is not, or is only to an insignificant degree, viewed as a pressurized container. Cathrine Lutz (1988) tells us that on Ifaluk, a Micronesian atoll, the folk conception of *song*, the counterpart of English anger, can be characterized in the following way:

1. There is a rule or value violation.
2. It is pointed out by someone.
3. This person simultaneously condemns the act.
4. The perpetrator reacts in fear to that anger.
5. The perpetrator amends his or her ways.

This model of *song* does not emerge from the mapping that characterizes the ANGRY PERSON IS A PRESSURIZED CONTAINER metaphor. The model emphasizes the *prosocial*, *moral*, *ideological* aspects of anger – as opposed to the antisocial, individualistic, and physical aspects that the PRESSURIZED CONTAINER metaphor emphasizes in Western cultures (Lutz, 1988). That is, although the Ifaluk physiology of anger may be very similar to the English and Chinese, this does not necessarily lead them to conceptualize *song* as pressure in a container. For the Ifaluk, anger is a much more social business, as their language, thinking, and behavior reveal. That is, *song* is an abstract concept motivated by the particular social–cultural practice of the Ifaluk, not by their bodily experience.

10.7 The HOT FLUID Metaphor in Relation to Embodiment, Culture, and Cognition

We have seen how embodiment, culture, and cognitive processes play a role in the conceptualization of anger. All three systems work jointly in the creation of particular metaphors and thus the metaphors may display a high degree of overall coherence. Let us take the ANGER IS A HOT FLUID IN A CONTAINER metaphor in English. First, as noted above, this metaphor is coherent with the bodily experience of anger. Second, it is also coherent with a particular system of social–cultural experience. Its coherence derives from the fact that this metaphorical conceptualization of anger is a social–cultural product deriving from the humoral view of emotions in Medieval Europe, and even earlier in Greek antiquity. Finally, it is coherent with a particular cognitive system – one that has a preferential experiential focus on the components of both heat and pressure, rather than just heat or just pressure. An example of the choice of heat only in the metaphorical conceptualization of anger would be a language that has heat-related expressions (like *hot-head*) but no HOT FLUID IN A CONTAINER metaphors, whereas an example of pressure only would be a language where pressure far outweighs heat in the conceptualization of anger. A language that comes fairly close to this latter situation is Chinese, as we saw above. The general point is that this metaphor is at the intersection of the three coherently interacting systems that were identified as playing a key role in metaphor variation in anger.

However, the picture is not as neat as we would like it to be. Take the ANGER IS A HOT FLUID IN concept of anger again. Much of the motivation for metaphorically conceptualizing anger as a HOT FLUID IN A CONTAINER comes from the physiological response of increase in body heat that people experience when they are in a state of intense anger. However, we can also talk about *cold anger* to refer to a particular kind of anger, say, when the angry person is meditating, in a self-controlled way, a retribution that far outweighs the offense. This kind of conceptualization of anger should not exist because it goes against the embodiment of anger that involves body heat. But it does exist and needs to be accounted for. In this case, I believe that the explanation is fairly straightforward. The notion of cold anger is based on conceptualizing a part of anger (retribution) as a rational act on the part of the angry person. It is this rational, as opposed to an emotional, decision that is conceptualized as

being "cold." It is the RATIONAL IS COLD (as opposed to the EMOTIONAL IS HOT) metaphor that applies to a part of the cultural model of anger. In other words, I would claim that in this case the conflict in metaphorical conceptualization is more apparent than real.

10.8 Conclusions

In this chapter, I provided some evidence for the embodied nature of the concept of anger and some of its metaphors from work in cognitive psychology. This was necessary because my purpose was to show that some anger metaphors and some aspects of anger are near-universal. Indeed, many unrelated languages and cultures do seem to share the generic-level metaphor THE ANGRY PERSON IS A PRESSURIZED CONTAINER.

This metaphor plays a key role in structuring the concept in English and its counterparts in other languages and cultures. It underlies the widespread conception that anger is a force that makes the angry person perform aggressive or violent actions. The actual physiology of anger provides much support for this conceptualization.

But despite the universality of the physiology, the widespread nature of its metonymic and metaphoric conceptualization, and the near-universality of the generic-level cognitive model of anger, we have seen that there is a considerable amount of variation in the counterparts of anger both cross-culturally and intraculturally.

To account for some of this variation, a new, more nuanced view of embodiment was introduced, where the major idea is that the embodiment of anger consists of multiple components, and cultures may choose which of these components they focus on. This is what I called "experiential focus." This idea helps in part explain why, despite physiology which may be universal, different cultures can have widely different understandings of their anger-like experiences.

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