

【論文】

Conceptualization of Anger in English and Japanese

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英語と日本語における怒りの概念化

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要旨：この論文は松木（1995）の日本語における怒りの認知モデルを批判的に考察し、英語と日本語の比喩表現の背後にある意味論的動機と語源的動機に焦点を当て、それぞれの言語文化モデルを対照分析する。中国伝統医学、そして四体液説の役割に特に注意が払われている。

Abstract : This paper is concerned with the conceptualization of anger in English and Japanese. In 1995, Matsuki proposed a cognitive model of anger in Japanese, which linked anger to three body areas: *hara* (belly), *mune* (chest) and *atama* (head). According to this model, true emotions, including anger, are contained in the *hara* (belly). While it is in the *hara*, anger can still be controlled. However, if its intensity increases, anger moves to the *mune* and finally to the *atama* where it is most difficult to suppress. Matsuki argued that the bearing of true emotions in the *hara*, where they were least likely to be detected by others, reflected sociocultural notions of *honne* (private self involving one's true feelings) and *tatemae* (behavior displayed in public). When one's inward feelings are contrary to what is expected by society, *honne* is suppressed, and a person adopts *tatemae*, acting in line with social expectations.

The present paper questions some of Matsuki's propositions following the results of three surveys conducted with 57 Japanese

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informants from different age groups. In the first survey, 35 university students were given a list of emotion-related idioms and instructed to mark the phrases that they associated with anger. After that they were asked to answer five questions regarding the parts of the body in which true emotions are felt, the intensity of these emotions, and the ability of the respondents to control them. The survey was then repeated with a group of 10 college instructors. Finally, a follow-up survey that involved anger intensity judgments was conducted with a new group of 12 students. The results obtained did not support Matsuki's claims about the bearing of true emotions in the *hara* or the supposed movement of anger through the body from the *hara* to the *atama* as the intensity of the emotion increases.

The paper offers a critical contrastive analysis of English and Japanese cultural models of anger by examining the semantic and etymological motivation behind metaphoric expressions in the two languages. Special attention is given to the role of traditional Chinese medicine and the theory of the four humors.

Key words: anger idioms in English and Japanese, metaphors of emotion, conceptual metaphors, figurative language, cross-cultural models of emotion

1. Introduction

Traditional studies of language and communication assume that figurative language serves only stylistic and literary purposes due to its violation of the standard communication norms of truthfulness and clarity. However, research in psychology and cognitive linguistics that has taken place over the last 40 years has shown that figurative language is not just a simple ornamental device, but rather a natural reflection of the ways people think and make sense of the world.

A major shift began with Lakoff and Johnson's (1980) seminal work on *conceptual metaphors*. Conceptual metaphor is a linguistic term that

denotes the process of the understanding of one idea or conceptual domain in terms of another. According to Lakoff and Johnson (1980), the way people think, act, and perceive the world around them is governed by conceptual principles which are metaphorical in nature. By establishing cognitive links between conceptual structures that pertain to different domains, people make sense of their experiences and structure their reality. Abstract and more complex concepts are understood by mapping sets of corresponding elements from simpler, concrete concepts, which are often grounded in physical experiences. This cross-domain mapping in the conceptual system is found not only in literary works but also in everyday language. For example, *life* is often conceptualized as a *journey*, with birth being seen as a beginning and death being perceived of as being at the end of a journey. When faced with decisions to be made, people are described as *standing at a crossroads*. Difficult times are often described in terms of their being *a rough road ahead*. Entering a new stage in life is often referred to as *moving on*, while those who have made progress or who have achieved success *have come a long way*.

Systematic cross-domain mappings can frequently be observed in the language of emotions. People can *boil with anger*, *be filled with sorrow or joy*, *burn with love* or *be weighed down by guilt*. Emotions are more than physiological responses of the human body to different experiences in the external world. They have complex conceptual structures which reflect metaphorical and metonymic patterns of thinking, some of which seem to be universal, and others which tend to be culture-specific. What people perceive as “the real world” is often subconsciously built on the language habits of the linguistic community they belong to (Sapir, 1929).

In other words, language habits determine human reality. Therefore, a cognitive linguistic analysis of emotional expressions can contribute to a better understanding of the physiological, cognitive, social and cultural components of emotional experience.

The present paper examines the conceptualization of anger in English and Japanese with reference to the models proposed by Lakoff and Kövecses (1987) and Matsuki (1995). Lakoff and Kövecses (1987) developed a prototypical model of anger based on North American English that has become a reference point for the studies conducted in other languages and cultures. In 1995, Matsuki outlined a model of anger in Japanese, which partially diverges from the prototypical scenario outlined by Lakoff and Kövecses. The sections that follow will evaluate the validity of Matsuki's propositions in the light of evidence from more recent corpus-based studies of Japanese figurative language, and three surveys conducted with an age-heterogeneous sample of Japanese informants.

2. The cognitive model of anger in North American English

(Lakoff & Kövecses, 1987)

Lakoff and Kövecses' (1987) model of anger is based on the prototype view of emotional meaning, in which the content of emotional concepts is seen as a sequence of events that are temporally and causally related. Under this framework, *anger* in North American English is conceptualized as a five-stage scenario.

The first stage is the *cause of anger*, an offending event that displeases a person and is frequently perceived of as an injustice that requires an act

of retribution.

The second stage is the *existence of anger*. Anger is manifested in a number of physiological effects such as heat, pressure and agitation that differ in intensity and put pressure on an angered person to attempt an act of retribution.

The third stage is *an attempt to control anger*. In the North American culture, *anger* is viewed as a negative emotion. Intense anger often leads to a loss of control, which is perceived as being dangerous to both the anger-bearer and people in his/her vicinity. Therefore, an angry person makes an effort to control anger.

The fourth stage is a *loss of control*. When the intensity of anger exceeds an individual's tolerance level, anger cannot be controlled, and an act of retribution is attempted.

Retribution is the final stage of the anger sequence. The angered person performs the act of retribution, anger is released, and the balance in the body is restored.

The basis for this scenario comes from the analysis of the conventional expressions that are used in reference to anger and the conceptual metaphors that underlie them. While different metaphors and metonyms are productive at different stages of the model, Lakoff and Kövecses (1987) identify ANGER IS HEAT as the most general metaphor for anger. There are two versions of this metaphor: (1) ANGER IS THE HEAT OF A FLUID IN A CONTAINER, where heat is conceptualized

as the fluid and (2) ANGER IS FIRE, where heat is conceptualized as a solid entity.

Both metaphors are grounded in bodily experiences. Anger leads to a number of physiological changes such as increased body heat, internal pressure, agitation, redness of the face and neck, and interference with accurate perception. The physiological changes experienced in the body are reflected in the language used. For example, people have *heated arguments*, an angry person *gets hot under the collar*, or, when anger is intense, the angry person *bursts a blood vessel*. Redness in the face is a visible sign of anger. An angry person can be *flushed with anger* or *scarlet with rage*. Agitation is also a part of the anger experience. Angry people *are hopping mad*, *shaking with anger* and *quivering with rage*.

Anger is also conceptualized as a force that puts pressure on its bearer. The pressure that anger exerts on the human body is similar to the pressure that a heated fluid exerts on a container. To illustrate the ontological correspondence between the human body and a container, Lakoff and Kövecses (1987) draw attention to conventional phrases such as 'He was *filled with anger*', 'She was *brimming with rage*' and 'Try to *get the anger out of your system*'.

An angry person may try to control the anger inside. If that attempt is successful, we say that anger is *contained*, *suppressed*, *turned inward* or *bottled up*. However, when anger becomes too intense, an angry person may *explode*, *blow up* or *breathe fire*. When anger takes over, people lose the ability to accurately perceive their surroundings. They *begin to see red* or *become blind with rage*. At this stage, they become

dangerous not only to the offender, but for anybody around them. They may *bare their teeth*, *snarl* at other people, *bite their heads off* or *jump down their throat*.

Using these numerous examples from everyday language, Lakoff and Kövecses (1987) make a convincing argument for the role that conceptual metaphors and physiology-based metonymies play in the conceptualization of anger in English.

3. Universality in the conceptualization of anger

In Lakoff and Kövecses' (1987) model, anger is conceptualized as a sequence of events and states that are grounded in physiological reality. Since physiological aspects of anger experience tend to be universal, the conceptualization of anger, and consequently, the language that people use to talk about anger experience is often similar across cultures.

Barcelona (1989) conducted a contrastive analysis of figurative expressions in English and Spanish and found metaphoric and metonymic conceptualization of anger to be the same in both languages. In Spanish, just like in English, ANGER IS HEAT is the central metaphor. Its two sub-versions - ANGER IS THE HEAT OF A FLUID IN A CONTAINER and ANGER IS FIRE, are encoded through a large number of conventionalized linguistic expressions, many of which are similar to those found in English. For example, when a person is angry his blood boils (*me hierve la sangre*), he may be fuming (*está que echa humo*) and eventually, if the pressure gets too high, he might explode (*terminó por explotar*). In both languages, anger is conceptualized as a destructive force that makes an angry person lose good judgment (*se le*

fue la cabeza = he lost his head; *está que trina* = he's hopping mad; *está echando espumarajos por la boca* = he's foaming at mouth). Like in English, an angry person is perceived as being dangerous for people in his surroundings as he bares his teeth (*enseña los dientes*), shoots flames from his mouth or eyes (*echa fuego por la boca/por los ojos*) and turns into a beast (*se puso hecho una fiera*).

The two variants of the ANGER IS HEAT metaphor (ANGER IS THE HEAT OF A FLUID IN A CONTAINER and ANGER IS FIRE) can also be found in Slavic languages. For example, in Serbian, when a person is angry, his blood boils (over) (*kljuca / kipi krv u nekom*) and fire comes to his cheeks (*pošla mu je vatra u obraze*). When anger is intense, he spits fire (*bljuje vatru*). Sometimes he may lose the ability to perceive things accurately as anger makes everything go dark (*smrklo mu se pred ocima*). An angry person can also be dangerous – he bares his teeth (*pokazuje zube*), glares at the opponent (*seva ocima*) and foams with rage (*udara mu pena od besa*).

In a corpus-based study of anger metaphors in English, Spanish, Turkish and Hungarian, Kövecses and his colleagues found that despite the linguistic and cultural differences between the four languages, the most salient metaphors were essentially the same (Kövecses et al., 2015). Anger was conceptualized as a FORCE / SUBSTANCE / FLUID IN A CONTAINER, as an OBJECT POSSESSED by the person affected, and an OPPONENT which an angry person either tries to control or uses as a weapon against another person. In all four languages, the two aspects that dominate the concept of anger are *intensity* and *control*. Anger was perceived as a highly intense emotion that needs to be contained.

The ANGER AS A PRESSURIZED CONTAINER metaphor can also be found in languages as distant as Tahitian and Wolof. In the Tahitian language, an angry man is compared to a bottle – “when he gets filled up, he will begin to spill over” (Solomon, 1984, p. 238). In Wolof, the word *bax*, which literally means ‘to boil’, is also used figuratively in the sense of ‘to be really angry’ (Munro, 1991 qtd. in Kövecses, 2000, p. 154).

The similarities in metaphorical mappings across different cultures and language groups highlight the universal elements in the conceptualization of anger, which can be attributed to the shared physiological experiences. However, the presence of common general metaphors does not imply an equivalence in terms of the metaphorical conceptualization. As Kövecses (2000) points out, shared conceptual metaphors can be elaborated in different ways in different cultures, and different language communities may have distinctive ways of interpreting their emotional experiences.

One of the languages in which the concept of anger has been seen as being culturally distinct is Japanese. A frequently cited study in support of this assumption is the work of Matsuki (1995), who argues that the Japanese anger scenario diverges from the model proposed by Lakoff and Kövecses (1987). The propositions of this model will be examined in more detail in the following section.

4. The concept of anger in Japanese (Matuski, 1995)

Matsuki (1995) acknowledges that, like American English, Japanese has a rich system of figurative expressions that appear to be structured by

the ANGER IS THE HEAT OF A FLUID IN A CONTAINER metaphor with a similar set of metonymic associations. Some examples include:

1. 腸が煮えくり返る。

Harawata ga niekurikaeru.

‘The intestines are boiling.’

2. 怒りが体の中でたぎる。

Ikari ga karada no naka de tagiru.

‘Anger seethes inside the body.’

3. 怒りが腹の底をぐらぐらさせる。

Ikari ga hara no soko wo guragura saseru.

‘Anger boils the bottom of the belly.’

4. 頭から湯気が立つ。

Atama kara yuge ga tatsu.

‘Steam rises from the head.’ (Matsuki, 1995, p. 140)

The broad lines in the prototypical scenario for anger in Japanese also correspond to the five-stage model outlined by Lakoff and Kövecses (1987) : (1) an offending event → (2) the existence of anger → (3) an attempt to control anger → (4) a loss of control → (5) an act of retribution.

However, Matsuki (1995) argues that the scenario contains some culturally-distinctive elements which are primarily observable in Stage 3. According to Matsuki (1995), unlike in American English, in Japanese, true emotions are contained in the *hara* (belly). While they are in the *hara*, these emotions can still be controlled, and they may not always be visible from outside. However, if the intensity of emotions increases, they

move to the *mune* (chest) and finally to the *atama* (head), where feelings are most condensed and most difficult to suppress.

Matsuki argues that the bearing of true emotions in the *hara*, where they are least likely to be detected by others, reflects sociocultural notions of *honne* (private self involving one's true feelings) and *tatemae* (behavior displayed in public). When one's inward feelings are contrary to what is expected by society, *honne* is suppressed, and a person adopts *tatemae*, acting in line with social expectations. As emotional outbursts and public displays of anger are generally viewed negatively by Japanese society, an angry person may not be willing to express this feeling outwardly in order to preserve his public face.

"Even when a person gets angry, his *honne*, or anger may be kept inside; he may smile while fighting increasing anger. *Hara, honne* and *tatemae* are parts of the Japanese scenario of anger, structuring such emotions in conflict" (Matsuki, 1995, p. 144).

With relatively limited research on Japanese metaphoric language available in English, Matsuki's (1995) paper has had a considerable impact in the scholarly domain, with as many as 242 citations on Google Scholar (January, 2020). However, most of Matsuki's data came from *The Dictionary of Emotive Expressions* (Nakamura (Ed.), 1979). Some data came from interviews, but Matsuki's paper does not include any information about the number of informants in her research or their background. The rest of this paper will examine the validity of Matsuki's model in the light of recent data collected from Japanese informants and corpus-based studies of figurative expressions of anger.

5. Present Study

5.1 Survey 1: Purpose and procedures

The initial motivation for the present study was pedagogical. The research was designed to find out whether anger expressions linked to the *hara* (belly), which Matsuki (1995) claimed to be unique to Japanese, would be more difficult to comprehend for non-Japanese speakers than other idioms of emotions involving body organs. To be able to analyse the second-language data, it was necessary to establish a native-speaker norm, that is, to identify figurative expressions related to the *hara* that Japanese speakers tend to associate with anger in a context-free condition. A list of 22 idioms was compiled. All the selected expressions referred to emotions contained in the body. Ten of the target phrases denoted *anger*, and twelve referred to other emotions. None of the phrases selected contained an explicit reference to an emotion; expressions where the target emotion could easily be identified from the surface structure of the phrase, such as *ikari ga hara no soko wo guragura saseru* (anger boils the bottom of the belly), were not included in the survey. The target phrases were collected from Matsuki's (1995) paper, the *Daijirin* dictionary (Matsumura (Ed.), 1998), *The Dictionary of Emotive Expressions* (Nakamura (Ed.), 1979) and the *New Dictionary of Synonyms* (Nakamura, Morita & Haga (Eds.), 2005). A complete list of the selected phrases, their literal translations, metaphoric meanings and sources can be found in Appendix 1. The survey was conducted with 35 native Japanese speakers (undergraduate college students; non-language majors). The participants were asked to tick the boxes next to the phrases that they associated with anger. As the target phrases were selected from the dictionaries and earlier published research, no significant differences were anticipated in the informants' judgments.

In the second part of the survey, the students were asked to respond to five statements regarding the parts of the body in which true emotions are felt, the intensity of those emotions, and the respondents' ability to control them. The statements were as follows:

1. Your true feelings and emotions (本音) are kept in your:

head (頭) chest (胸) belly (腹)

2. When something starts to make you angry, where do you feel that anger first?

head (頭) chest (胸) belly (腹)

3. If you are feeling angry, but you want to control your anger and not show it to other people, in which part of the body is your anger kept?

head (頭) chest (胸) belly (腹)

4. If your anger cannot be controlled in the part above, where does it go next?

head (頭) chest (胸) belly (腹)

5. The strongest anger is felt in your:

head (頭) chest (胸) belly (腹)

As in the case of the meanings of phrases, it was expected that, overall, there would be an agreement among the participants with regard to the body parts in which the true emotions are kept, controlled and felt most intensely, and that the results of this survey would provide a norm against which the data from informants from other linguistic backgrounds could be compared. However, the results from the survey data did not meet these expectations.

5.2 Survey 1: Results

5.2.1 Perception of the target phrases

Although the target phrases were selected from dictionaries and published research papers, there was a great variation in the recognition of these phrases as anger idioms. Table 1 shows the number of respondents who judged the target phrases as expressions connected with anger.

Table 1

Anger idiom recognition rates by Japanese university students (N=35)

Anger idiom	Recognition rates
腹立たしさに胸を締め付けられる (haradatashisa ni mune wo shimetsukerareru) The chest is wrung by belly rising	22 (62.8%)
腹が立つ (hara ga tatsu) The belly rises up	35 (100%)
へそを曲げる (heso wo mageru) To bend the navel	24 (68.5%)
頭にくる (atama ni kuru) To come to the head	28 (80%)
頭の中で血が固まる (atama no naka de chi ga katamaru) Blood congests in the head	1 (2.8%)
頭から湯気が立つ (atama kara yuge ga tatsu) Steam rises up from the head	24 (68.5%)
頭に血がのぼる (atama ni chi ga noboru) Blood rises to the head	33 (94.2%)
腹わたが煮えくり返る (harawata ga niekurikaeru) The guts boil	28 (80%)
息巻く (iki maku) Breath rolls up	9 (25.7%)
腹の虫が収まらない (hara no mushi ga osamaranai) Bugs in the belly won't calm down	21 (60%)

Note: A complete list of the phrases used in Survey 1 can be found in Appendix 1.

As can be seen from the figures above, only one phrase (*hara ga tatsu* =the belly rises up) was recognized as an anger idiom by all participants. Six out of ten target phrases had acceptance rates of less than 80% and one expression (*atama no naka de chi ga katamaru*= blood congests in the head) was recognized as an anger-related idiom by only one respondent. This particular phrase was reported by Matsuki

(1995) in the discussion of alternative anger scenarios. One of Matsuki's informants used the metaphor of blood congestion to describe the state when intense anger reaches the *atama* (head) and he is striving so hard to control it that "the blood in his head gets congested" (p. 149). The expression can be seen as a linguistic realization of the underlying conceptual metaphor ANGER IS THE HEAT OF FLUID IN A CONTAINER where anger is compared to hot blood flowing through the body. When anger is tamed, blood gets congested and the flow stops. However, the failure of other respondents to connect blood congestion with anger suppression suggests that at the surface linguistic level, this expression has not been conventionalized and should be approached as an individual idiosyncratic response whose interpretation is conditioned by the context.

Unexpected results were also obtained with regard to the parts of the body in which true emotions are felt, their intensity, and the ability to control such emotions. According to Matsuki's (1995) model, true emotions are kept in the *hara* (belly). Intensity of anger builds up as anger moves from the *hara* (belly) to the *mune* (chest) and eventually to the *atama* (head). The *mune* serves like a filter, but if anger gets through and reaches the *atama*, it becomes very difficult to control. However, as can be seen from Table 2, the data obtained in this study provides little empirical support for such a scenario.

Table 2

Perceptions of Japanese university students regarding the body organs, the storing of true emotions, anger intensity and anger control (N=35)

Questions	The most relevant body organ		
	<i>Atama</i> (head)	<i>Mune</i> (chest)	<i>Hara</i> (belly)
The place where true emotions are kept	13 (37.14%)	21 (60%)	1 (2.86%)
The place where anger is first felt	28 (80%)	2 (5.71%)	5 (14.29%)
The place where attempts to suppress anger are made	13 (37.14%)	12 (34.29%)	10 (28.57%)
The place where anger that cannot be controlled goes	24 (68.57%)	8 (22.86%)	3 (8.57%)
The place where the strongest anger is felt	28 (80%)	3 (8.57%)	4 (11.43%)

Contrary to Matsuki's (1995) proposition, the majority of the informants identified the *mune* (chest) as the place where true emotions are kept. Furthermore, for as many as 80% of the respondents the *atama* (head) rather than the *hara* (belly) was recognized as a place in which anger is first felt. An almost even distribution of the responses suggests that attempts to control anger can be made in any of the three organs in question (*hara*, *mune* or *atama*) and that these differences may be individual. The majority of the students did feel that uncontrollable anger and the most intense anger were likely to be felt in the head as Matsuki's (1995) model postulates. However, overall, the informants' responses provide little support for either the possible role that the *honne-tatema*e distinction may play in the conceptualization or manifestation of anger on the part of the Japanese speakers, or the *hara-mune-atama* sequence as the prototypical anger experience.

5.3 Survey 2: Purpose and participants

In order to explain the discrepancies between Matsuki's (1995) model and the results of the present study, the participants' sample was reviewed.

All respondents in Survey 1 were first-year undergraduate students with an average age of 19. Although they were native speakers of Japanese, a possibility that their knowledge of figurative expressions was still developing could not be excluded. Therefore, the survey was repeated with a group of ten university professors, all native speakers of Japanese, whose fields of specialty included linguistics, second language education and literature. The results of this survey are presented in the next section.

5.4 Survey 2: Results

The teacher group demonstrated a higher level of recognition of anger idioms compared to the student group. The raw scores and percentages are provided in Table 3 below.

Table 3

Anger idiom recognition rates by Japanese university teachers (N=10)

Anger idiom	Recognition rates (N=10)
腹立たしさに胸を締め付けられる (haradatashisa ni mune wo shimetsukerareru) The chest is wrung by belly rising	5 (50%)
腹が立つ (hara ga tatsu) The belly rises up	10 (100%)
へそを曲げる (heso wo mageru) To bend the navel	5 (50%)
頭にくる (atama ni kuru) To come to the head	9 (90%)
頭の中で血が固まる (atama no naka de chi ga katamaru) Blood congests in the head	0 (0%)
頭から湯気が立つ (atama kara yuge ga tatsu) Steam rises up from the head	9 (90%)
頭に血がのぼる (atama ni chi ga noboru) Blood rises to the head	9 (90%)
腹わたが煮えくり返る (harawata ga niekurikaeru) The guts boil	10 (100%)
息巻く (iki maku) Breath rolls up	3 (30%)
腹の虫が収まらない (hara no mushi ga osamaranai) Bugs in the belly won't calm down	9 (90%)

As can be seen, six out of ten target phrases were accepted as anger-related expressions by 90% ~ 100% of the respondents. As in both surveys the informants were adult native speakers of Japanese, and the observed differences in anger idiom acceptance rates between the teacher and the student groups can primarily be attributed to the literacy level of the respondents.

With regard to the conceptualization of anger and body organs, the results of the survey did not support Matsuki's (1995) claim that true emotions are kept in the *hara* (belly). As can be seen from Table 4 below, the percentage of the respondents who named the *mune* (chest) as the place where true emotions are kept was the same as the percentage of those who associated true emotions with the *hara* (belly).

Table 4

Perceptions of Japanese university teachers regarding the body parts and storing of true emotions, anger intensity and anger control (N=10)

Questions	The most relevant body organ		
	<i>Atama</i> (head)	<i>Mune</i> (chest)	<i>Hara</i> (belly)
The place where true emotions are kept	2 (20%)	4 (40%)	4 (40%)
The place where anger is first felt	10 (100%)	0 (0%)	0 (0%)
The place where attempts to suppress anger are made	1 (10%)	7 (70%)	2 (20%)
The place where anger that cannot be controlled goes	8 (80%)	1 (10%)	1 (10%)
The place where the strongest anger is felt	9 (90%)	1 (10%)	0 (0%)

All respondents identified the *atama* (head) as the place in which anger is felt first, which challenges the proposed *hara-mune-atama* sequence in terms of the development of anger experience. However, the results did support Matsuki's (1995) claim that the strongest anger is felt in the

atama (head) and the proposition that attempts to control anger are primarily made in the *mune* (chest), with which 70% of the respondents agreed.

5.5 Surveys 1 & 2: Discussion

The results of the two surveys did not provide support for Matsuki's (1995) model. The responses obtained question Matsuki's propositions about the *hara* (belly) as the locus of true emotions, and the *hara-mune-atama* sequence as the prototypical anger scenario. However, the analysis of the phrases that were identified as anger idioms indicates some similarities in the Japanese and English conceptualization of anger. The ANGER IS THE HEAT OF THE FLUID IN A CONTAINER metaphor is also pertinent to the Japanese concept of anger. Expressions such as *atama kara yuge ga tatsu* (steam rises up from the head), *atama ni chi ga noboru* (blood rises up to the head), *harawata ga niekurikaeru* (the guts boil) show that in Japanese, the human body is also seen as a container for emotions which are conceptualized as fluids. Like in English, anger is associated with heat. Intense anger leads to boiling inside the body, produces steam, and results in a rise in blood level.

Another characteristic of Japanese anger experience is an upward movement of body fluids and organs. The expression *atama ni kuru* (to come to the head), identified as an anger idiom by 90% of the respondents, does not explicitly state what it is that comes to the head, but as the expression is used in the same way as *atama ni chi ga noboru* (blood rises up to the head), it can be assumed that it is blood that moves up as anger takes over. Similarly, in *hara ga tatsu* (the belly rises up), it is the content of the stomach that rises at the outset of anger. In

English, there are similar expressions such as *one's stomach rises / one's stomach turns*, but they are usually associated with the feeling of disgust rather than anger. The closest English expressions may be *one's gorge rises / it make one's gorge rise up*, which convey a feeling of anger or disgust.

Although same bodily experiences motivate figurative expressions in both languages, some phrases are language-specific. Agitation, for example, is universally associated with anger, and provides motivation for the Japanese expression *hara no mushi ga osamaranai* (bugs in the belly won't calm down). However, this idiom has no direct equivalent in English. At the surface level, the closest expression would be *to have butterflies in one's stomach*. However, in English this expression is not associated with anger, but rather with nervousness and anxiety.

There were three expressions in the survey on which the teachers were divided: *haradatashisa ni mune wo shimetsukerareru* (the chest is wrung by the belly rising), *heso wo mageru* (to bend the navel) and *iki maku* (breath rolls up), which were identified as anger idioms by 50%, 50% and 30% respectively. According to Matsuki (1995), *haradatashisa ni mune wo shimetsukerareru* (the chest is wrung by the belly rising) refers to the state when a person tries to control anger to show *tatemaie*, but in spite of these efforts, anger continues to increase and overflows from the *hara* (belly) to the *mune* (chest). The entry for *iki maku* in the *New Dictionary of Synonyms* (Nakamura et al. (Eds.), 2005) defines the expression as “hoarse breathing due to excessive anger” (p. 412) while *heso wo mageru* is explained as “taking a sour attitude” (p. 413). Yet, these expressions were not recognized as anger idioms by some of the

informants in this study. This may be for various reasons. One possibility may be differences at the idiolect level. Even when speakers share the same language or dialect, there are grammatical and lexical differences in their language use. In the case of polysemous words, not all word senses are equally salient for all speakers. A case in point is *iki maku*. According to an online dictionary site *Tanoshii Japanese*, in addition to *rage* and *being furious*, this expression also means *to enthuse*, *to speak passionately*, *to get worked up*, *to galvanize...* Although *anger* was established as the primary sense in the dictionary, the target phrases were provided out of context, and they may not have been automatically associated with anger by some of the respondents.

The expression *atama no naka de chi ga katamaru* (blood congests in the head) was rejected by all respondents in the teachers' group. As discussed above, this phrase may present an instance of individual idiosyncratic use and may not generally be associated with any stage of the anger scenario.

5.6 Survey 3: Purpose and procedures

In order to further test Matsuki's (1995) proposition about the differences in intensity of anger felt in different parts of the body, another survey was done with a new group of 12 Japanese students. The students were asked to rate the intensity of anger they associated with twenty-nine figurative idioms on the scale of 1 to 7, with 1 denoting mild anger and 7 denoting extreme anger or fury. This range was selected following the results of earlier studies about the optimal number of response categories in rating scales, which suggest that seven response categories maximise the information obtained (Cicchetti, Showalter &

Tyrer, 1985; Green & Rao, 1970; Preston & Colman, 2000). The target phrases were selected from *The Dictionary of Emotive Expressions* (Nakamura (Ed.), 1979) and *New Dictionary of Synonyms* (Nakamura et al. (Eds.), 2005). Fourteen expressions included body parts. For the fifteen expressions in which organs were not explicitly mentioned, the students were asked to indicate where they believed anger was most likely to be felt. There were five response options: ① *Head* ② *Chest* ③ *Belly* ④ *Other*: ____ ⑤ *I don't know*. This question was important in order to identify possible connections between particular body parts, and anger intensity. The options were given in Japanese. The phrases were presented in a random order. A sample of the survey can be found in Appendix 2.

5.7 Survey 3: Results

5.7.1 Idiom classification

The results of the survey revealed significant differences in the participants' perceptions regarding the body organs associated with different anger expressions. A summary of the responses is provided in Table 5 below.

Table 5

Body parts associated with different anger expressions (N=12)

<i>Anger Expressions</i>	<i>Associated body parts</i>
1. 瞋恚の炎を燃やす (<i>shin i no homura wo moyasu</i>) To burn with wrath	H:2 C:6 DK:4
2. 気色ばむ (<i>keshikibamu</i>) To give an air of (indignation)	H:7 O:1 (face) DK:4
3. 怒り狂う (<i>ikari kuruu</i>) To go mad with anger	H:10 C:1 B:1
4. 鬱憤を晴らす (<i>uppun wo harasu</i>) To vent one's anger	H:1 C:4 B:4 O:1 (body) DK:2
5. 逆上する (<i>gyakujou suru</i>) To reverse (the flow of blood)	H:10 B:2

6. 憤懣を覚える (<i>funman wo oboeru</i>) To bear resentment	H:2 C:4 B:1 O:1 (heart) DK:4
7. かんかんになって怒る (<i>kankan ni natte okoru</i>) (*onomatopoeia) To get angry with a clanging noise	H:8 C:2 B:1 O:1 (body)
8. ぶりぶりする (<i>puripurisuru</i>) (*onomatopoeia) To fret and fume; to be in a huff	H:5 C:1 B:1 DK:4 O:1 (face)
9. 怒りが噴き上げる (<i>ikari ga fukiageru</i>) Anger blows up	H:6 C:2 B:4
10. 憤怒する (<i>fundo suru</i>) To become furious	H:8 C:1 B:2 DK:1
11. 怒気を帯びる (<i>doki wo obiru</i>) To wear/carry anger	H:5 C:4 B:1 O:1 (eyes) DK:1
12. 怒りを覚える (<i>ikari wo oboeru</i>) To bear anger	H:8 C:3 B:1
13. ぶんぶん怒る (<i>punpunokoru</i>) (*onomatopoeia) To puff	H:8 C:2 DK:1 O:1 (body)
14. キレル (<i>kireru</i>) To snap	H:10 C:1 B:1
15. むかつく (<i>mukatsuku</i>) To be fed up	H:7 C:4 B:1

H=head C=chest B=belly O=other DK=don't know

As there were no phrases on which all participants agreed, the expressions were associated with a specific organ if at least 8 out of 12 participants (66.6%) indicated the connection. Seven expressions, all of which were associated with the head, met this criterion.

Based on the students' responses and the lexical composition of the phrases, the following four categories were established: head-related expressions (10 phrases), chest/heart-related expressions (6 phrases), belly-related expressions (5 phrases) or other (8 phrases). The target phrases grouped by body parts can be found in Table 6 below.

5.7.2 Intensity ratings

While the small number of phrases and their uneven distribution across the categories made a meaningful statistical analysis difficult, the students' responses produced some interesting results.

First, the ratings did not indicate an increase in emotional intensity with

a presumed upward flow of anger fluid through the body. As can be seen in Table 6 below, high-intensity expressions were associated with different parts of the body - the head (e.g., 怒り狂う (ikari kuruu) to go mad with anger), the heart (e.g., 怒り心頭に発する (ikari shintou ni hassuru) anger emanates from the heart) and the belly (e.g., 腹わたが煮えくり返る (harawata ga niekurikaeru) the guts boil). Furthermore, although Matsuki's (1995) model associates *atama* (head) with high-intensity anger, the ratings obtained in this study suggest that *atama* is associated with a wide range of anger expressions, some of which are perceived to convey a mere annoyance, while others express rage. Various degrees of anger intensity were also observed in idioms involving chest and belly areas, as well as in the case of expressions for which the related body parts could not be clearly identified.

Table 6

Anger intensity ratings (N=12)

Anger expressions	Anger intensity ratings on the scale of 1 to 7
HEAD-related expressions	Average: 4.06
ぶんぶん怒る (punpun okoru) (*onomatopoeia) To puff	2.25
頭にくる (atama ni kuru) To come to the head	2.75
怒りを覚える (ikari wo oboeru) To bear anger	3.25
頭から湯気が立つ (atama kara yuge ga tatsu) Steam rises up from the head	3.75
頭に血がのぼる (atama ni chi ga noboru) Blood rises up to the head	4.17
キレル (kireru) To snap	4.17
逆上する (gyakujou suru) To reverse (the flow of blood)	4.67
かんかんになって怒る (kankan ni natte okoru) (*onomatopoeia) To get angry with a clanging noise	4.67
憤怒する (fundo suru) To become furious	4.73
怒り狂う (ikari kuruu) To go mad with anger	6.25
CHEST/HEART-related expressions	Average: 3.87

胸がむかむかする (mune ga muka muka suru) (*onomatopoeia) Feel sick in the chest	2.91
胸糞が悪い (munakuso ga warui) The chest is bad	3.08
心に怒りが萌す (kokoro ni ikari ga kizasu) Anger sprouts in the heart	3.10
胸が怒りに騒ぐ (mune ga ikari ni sawagu) The chest makes noise in anger	3.91
胸が怒りに燃える (mune ga ikari ni moeru) The chest burns in anger	4.90
怒り心頭に発する (ikari shintou ni hassuru) Anger emanates from the heart	5.33
BELLY-related expressions	Average: 4.03
へそを曲げる (heso wo mageru) To bend the navel	2.25
腹が立つ (hara ga tatsu) The belly rises up	3.08
業腹になる (gouhara ni naru) Get the burning stomach	3.90
腹の虫が収まらない (hara no mushi ga osamaranai) Bugs in the belly won't calm down	4.83
腹わたが煮えくり返る (harawata ga niekurikaeru) The guts boil	6.09
OTHER	Average: 3.87
ぶりぶりする (puripuri suru) (onomatopoeia) To fret and fume; to be in a huff	1.58
むかつく (mukatsuku) To be fed up	2.50
気色ばむ (keshikibamu) To give an air of (indignation)	3.00
怒気を帯びる (doki wo obiru) To wear/carry anger	3.50
鬱憤を晴らす (uppun wo harasu) To vent one's anger	3.92
瞋恚の炎を燃やす (shin i no homura wo moyasu) To burn with wrath	4.44
憤懣を覚える (funman wo oboeru) To bear resentment	4.89
怒りが噴き上げる (ikari ga fukiageru) Anger blows up	5.17

5.8 Summary

Following Matsuki's (1995) argument about the uniqueness of the Japanese conceptualization of anger, the present study was intended to investigate how Japanese idioms of anger, and those associated with the belly area in particular, would be comprehended by speakers of other languages. The hypothesis was that expressions where the *hara* is the "abode" of anger would be more difficult to interpret than idioms of

emotions involving other body parts. With a goal of compiling a list of target phrases that denote the emotion of anger but do not make an explicit reference to it at the phrase surface level, a survey was conducted with a group of Japanese college students. However, the responses obtained failed to provide a normative standard due to a large variation in acceptability judgments among the respondents. Furthermore, the findings did not support Matsuki's (1995) proposition about the *honne / tatemae* motivation of the metaphorical conceptualization of emotions or the *hara-mune-atama* sequence as a prototypical anger scenario. A follow-up survey with a group of Japanese university instructors, and an additional set of data concerning the perceptions of anger intensity associated with different body parts, also failed to provide support for Matsuki's (1995) model. Expressions denoting different levels of anger intensity were associated with different body parts as well as body as a whole, with no clear patterns emerging.

6. General Discussion

Although the original aim of this study was not to assess the validity of Matsuki's (1995) model, the differences between the proposed prototypical scenario and the results obtained, point to the need to re-examine some of Matsuki's propositions.

Several possible reasons may be considered for the discrepancies in the findings. A simple explanation could be individual differences in the perception of anger. As Kövecses (2000) observes, the conceptualization of emotions is not homogenous within a culture or society, and there may be significant differences in the constructs that individuals adopt to interpret and express their emotional experiences. It is possible that

Matsuki's informants, and the participants in this study, simply happened to have different ways of conceptualizing and expressing anger. As Matsuki's (1995) paper does not provide any information about the number of informants or their backgrounds, it is difficult to determine either the scale of her study or the possible effects that the social and educational background of the participants may have had on their understanding and expression of anger. Yet, considering that in total 57 individuals participated in the study described in this paper and that there were hardly any responses that conformed to Matsuki's propositions, it seems unconvincing to attribute the lack of empirical support to individual idiosyncrasies only.

Another possible reason may be the diachronic gap between Matsuki's research and the present study. Matsuki's paper was published in 1995. A number of profound changes have taken place in Japanese society over the last two decades, and it could be assumed that the concepts of *honne* and *tatemae* are not as strong as they used to be, especially among the young generation. However, while this supposition could explain deviation from Matsuki's model in the students' group, it does not explain the lack of support from the teachers' group, which is likely to have absorbed and conserved the concepts of *honne* and *tatemae*.

A third explanation, and the one that this paper endorses, is that the Japanese concept of anger is not as unique as Matsuki's (1995) model seems to suggest, and that the *hara* (belly) is neither the center of true emotions, nor necessarily the starting point of the anger experience. Furthermore, there is little evidence in favor of the *hara*(belly)—*mune*(chest)—*atama*(head) sequence as a prototypical

Japanese anger scenario, or the influence of the notions of *honne* and *tatemae* on Japanese conceptualizations of anger.

Research in cultural anthropology and philosophy has identified three main orientations in the conceptualization of the mind and emotions based on the body region involved, known as *abdominocentrism*, *cardiocentrism* and *cerebrocentrism* (or *cephalocentrism*) (Sharifian, Dirven, Yu & Niemeier, 2008). Japan, together with China and Korea, is considered to be a cardiocentric culture. In these cultures, intellectual and emotional activities are traditionally associated with the heart or the area around it.

In modern Japanese, the cultural model of the HEART is associated with four terms: (1) a Chinese loan words *shinzo* (lit. heart-storehouse), which refers to the heart as a physical organ, (2) *kokoro*, the native Japanese word for the heart, which denotes the presumed mental and emotional faculties of the heart, (3) *mune* (chest), which stores the heart and (4) *haato*, an English loanword, which is primarily associated with the notion of romantic love (Ikegami, 2008; Occhi, 2008).

Kokoro is the central term when it comes to the expression of emotions. According to Ikegami (2008), the word *kokoro* is possibly etymologically-related to the verb *kooru*, which means to become solid, to congeal. The idea was that body organs, including the heart, were formed through the congealment of a fluid that filled the body. Ikegami (2008) reports that in the earliest linguistic records, *kokoro* denoted both the body organ as well as its presumed functions, which encompassed a wide range of mental, emotional and volitional activities. However, in its

diachronic development, the word underwent a number of semantic changes, and today *kokoro* is associated primarily with the mental and emotional faculties of the heart rather than the physical organ itself. Occhi (2008) quotes a number of definitions from Japanese-English dictionaries where *kokoro* is translated as the human heart, human psychology, the psyche, the mind, the emotions, a person's feelings, etc. This wide range of possible interpretations shows that, unlike in the Western cultural tradition where there is a dichotomy between reason and emotion, in Japanese *kokoro* there is blending of heart and mind. *Kokoro* is not only the seat of emotions, but also the center of cognitive faculties such as thinking and reasoning.

The Japanese concept of *kokoro* is likely to have evolved under the influences of traditional Chinese philosophy. In traditional Chinese thought, the human body and nature were closely linked. The five key elements in nature – wood, fire, earth, metal and water- were associated with different seasons, animals, plants, flavors, odors, colors etc. as well as with five key organs – the heart, the liver, the lungs, the spleen and the kidneys. Each of these organs was linked to specific emotions and mental functions. According to Yu (2002, 2008), the heart was associated with joy, and was believed to store the spirit, while the liver was linked to anger and sadness, and was thought to store the ethereal soul. This connection can still be seen in modern Chinese in the expressions such as *he's got a roaring fire in his liver* and *he got flamed up in his liver* (Yu, 1995), both of which denote strong anger. The lungs were related to sorrow, and believed to store the corporeal soul, the spleen was linked to overthinking and anger, and believed to store intentions or purposes, while the kidneys were associated with fear and the will. For the ancient

Chinese, the heart was the most important organ, the central faculty of cognition, which unified and governed human will, desire, emotion, intuition, reason, thought and moral guidance. Even today, the Chinese cultural model of the heart presumes the unity of mind and body, with the heart being as seen as the center of thought, emotions and volition, which is in many ways similar to the Japanese concept of *kokoro*.

Kokoro is closely related to *mune* (chest), which is perceived as its physical container. The strong link between the two concepts can be observed clearly in Japanese Sign Language, in which the sign for *kokoro* and its knowledge-related senses of *understanding* and *not-understanding* all involve movements of the hand in the chest area (Tani, 2005 qtd. in Occhi, 2008, p. 195). *Mune* and *kokoro* are also the places in which things are remembered. For example, the expressions *mune/kokoro ni kizamu*, which literally mean 'to carve something in one's chest/heart', can be used in a sense of 'taking the lesson to heart' or 'keeping something in one's mind'.

In terms of emotive expressions, the *mune* (chest) as an externally-visible part of the body, can be seen as a metonymic substitute for the body-internal *kokoro*, and in some cases *mune* and *kokoro* can be used interchangeably. Some examples are *mune ga ikari ni moeru* (the chest burns in anger) and *kokoro ga ikari ni moeru* (the heart burns in anger), and *mune ga odoru* (the chest bounces) and *kokoro ga odoru* (the heart bounces), indicating joy and happiness. While the use of body-internal organ (*kokoro*) suggests conceptualization of a heart as an entity and the use of body-external part (*mune*) indicates that the heart is conceived as a locus (Ikegami, 2008), both concepts are associated

with emotional faculties. Perceiving *mune* as a metonymic extension of *kokoro* may explain the responses of the participants in this study, where 60% of the students and 40% of the teachers indicated *mune* as the place in which true emotions are felt.

Although Japan is a predominantly cardiocentric culture, the area of the abdomen also has conceptual significance. Modern Japanese contains a large number of figurative expressions that involve the *hara* (belly) area. It is plausible to suppose that the prominence of *hara*-based metaphors is, to some extent, also a legacy of traditional Chinese thought. Three of the five key organs in traditional Chinese philosophy - the liver, the spleen and the kidneys - are located in the abdominal area. The theory of the five elements also identifies five secondary organs - bladder, gallbladder, stomach and small and large intestine - which are also located in the abdominal area. Although these organs do not have mental functions, they are associated with specific emotions: intestines are linked to anxiety and sadness, the stomach to anxiety, and the gallbladder to fear. If the *hara* is approached as a physical container of the above organs, the richness of *hara*-related metaphoric expressions and their overall negative meanings do not come as a surprise.

Some evidence for the influence of traditional Chinese thought on the Japanese conceptualization of emotions can also be found in the early Japanese linguistic records. In the discussion of native and borrowed names for body organs in Japanese, Ikegami (2008) reports that, in addition to *kokoro*, early Japanese contained a reference to *kimo*, an abstract and polysemous word, which used to denote body-internal organs in general, as well as various mental and emotional states.

However, in later semantic development, the Chinese loan word *kanzo* gradually replaced *kimo* as a medical term for the liver. Unlike *kokoro*, which retained its metaphorical content, the usage of *kimo* has become restricted mainly to expressions related to courage/bravery such as *kimo wo hiyasu* (to cool the liver) meaning to be disturbed or frightened, *kimo wo tsubusu* (to crush the liver) meaning to be greatly alarmed, or *kimo ga chiisai* (to have a small liver), which conveys fear or lack of courage.

Yet, while the semantic boundaries of *kimo* have narrowed, the *hara* (belly) as a container for *kimo* has remained associated with different emotional states and activities, albeit to a smaller extent compared to *kokoro*. Ikegami (2008) observes that while there are instances in which *hara* and *kimo* can be used interchangeably to denote positive states such as strong determination (e.g., *kimo/hara wo sueru* (to set the liver / the belly on sth)), *hara* tends to be associated with negative emotions or actions such as anger or deception. According to some views, even the ritual of *hara-kiri* (lit. belly-cutting), a traditional honorable suicide allowed only to respectable warriors, was performed in order to prove that there was nothing evil in their belly. This belief is also reflected in modern Japanese, which has preserved expressions such as *hara wo saguru* (to feel around one's stomach) meaning to probe someone's real intentions, and *hara wo yomu* (to read one's stomach) meaning to understand someone's real intentions, attitudes or feelings. In short, it is possible that the associations between the abdominal organs and emotions such as anger or fear and mental faculties such as intentionality and the will, that originated in the theory of the five elements were, over the course of time, mapped onto *kimo* and by

metonymic associations the *hara* area in general.

The *atama* (head), the third key body part in Matsuki's (1995) model, traditionally has not been perceived as the center of emotions in Japanese. However, the emotion of anger is an exception. According to Arizono (2007) there are two emotional states that the *atama* is associated with: anger and the suppression of anger as in the expression *atama wo hiyasu* (lit. to cool down the head = cool down one's anger). The data collected in this study also suggest a strong association between the head and the emotion of anger. An overwhelming majority of the respondents indicated the head as the body region in which anger is first felt. The head was also perceived as the organ to which uncontrollable anger is headed for, and the place in which anger is most strongly felt. Baba (2012) observes that the head is a visible and prominent part of the human body, and that symptoms of redness and sweating that people experience after activities such as exercising or taking a bath are similar to the outward signs of anger, which may have provided a semantic motivation for the expression *atama kara yuge ga tatsu* (steam rises up from the head). Physiological changes in the body also underlie the expression *atama ni chi ga noboru* (blood rises up to the head). While people are normally not aware of the blood flow in their bodies, unpleasant emotions such as anxiety or anger lead to the sensation of an increase in blood flow to the brain, which leaves a feeling of discomfort and uneasiness. If this feeling is intense or prolonged, a person's judgment may become impaired, and anger may be displayed by injudicious behavior. Even though there is no explicit reference to blood at the lexical level, the expression *atama ni kuru* (to come to the head) is also thought to be motivated by blood rush caused by anger

(Arizono, 2007; Baba, 2012). Like other forms of mental stress, anger causes dilation of the neck's carotid arteries and the release of stress hormones such as adrenaline and cortisol, leading to a speeding up of the heart rate, a rise in blood pressure, and an increase in blood flow (Preidt, 2009). In other words, semantic motivation for the *atama* (head) model of anger seems to be primarily motivated by human physiology rather than cultural traditions. The way anger is conceptualized in *atama* also seems to be different from that of *hara* or *mune*. As earlier examples have shown, *hara* and *mune* are conceived of as containers of anger, or anger itself. However, in the expressions *atama ni kuru* (to come to the head) or *atama ni chi ga noboru* (blood rises up to the head), the head does not stand either for anger or its container; rather, *atama* is a container of rational thought which receives the negative effects of anger (Tanaka, 2003).

Tanaka (2003) also questions Matsuki's (1995) proposition about the correlation between anger intensity and its presumed movement through the human body. As discussed earlier, according to Matsuki (1995) anger starts in the *hara* and moves to the *atama* if the emotion becomes too intense. To support this claim, Matsuki (1995) refers to the expressions *hara ga tatsu* (the belly rises up) and *toutou atama ni kita* (finally, (it) has come to the head), arguing that the first expression shows the offset of anger, while the second one indicates the final stage of anger experience. However, Tanaka (2003) points out that anger in Japanese can rise not only from the *hara* but also from the *mune* or the *atama*. Some examples are expressions such as *kyotei kara ikari ga wakiagatte kita* (anger boiled up from the bottom of the heart) and *ikinari atama ni kita* (all of a sudden (anger) came to the head).

Furthermore, strong anger is not restricted to the *atama* but can be felt in the *mune* or the *hara* too, as exemplified by the expression *ikari ga kare no mune no nakade arekurui iki wo tsumaraseta* (the anger was choking his rough breathing).

Another issue of concern is Matsuki's (1995) assertion about the role of the cultural notions of *honne* (true self) and *tatemae* ('public-facade') in metaphorical conceptualizations of anger in Japanese. It is true that concepts of *honne* and *tatemae* underlie Japanese social reality. Japan is a group-oriented society in which social harmony is highly valued. Expressions of frustration and anger are avoided for fear that they may lead to arguments and conflicts that are harmful to group spirit and cohesion. The Japanese language has a proverb that warns that nothing is to be gained by losing one's temper: *tanki ha sonki* (a short temper means a lost spirit). Displaying anger in public is considered bad taste and poor manners, and is perceived as a major character flaw (Hendon, Hendon & Herbig, 1996). As in other high-context cultures, Japanese communication is often indirect and context dependent. This means that during social interaction, Japanese individuals will typically be very attentive to what is to be said and how it is to be said in order to maintain the quality of relationships and ensure smooth social functioning. Emotions and thoughts are often not expressed verbally. Rather, they are exchanged implicitly, and the success of communication depends on the sensitivity of others to recognize the real messages in social interactions.

However, a confrontation-averse communication style does not automatically imply that the concept of anger is motivated by the

notions of *honne* and *tatemae*. Conflict avoidance is a natural and quasi-universal communication strategy. Although most languages do not have specific terms that correspond to *honne* and *tatemae*, the concepts themselves are by no means unique to Japanese society. The ability to exert self-control has evolved to increase the chances of one and one's family's survival through mutual support within a group (Pyle, 2011). In ancient Greek and Roman scripts, anger was often portrayed negatively. Epicurus, for example, associated anger with weakness (*The 40 Sovereign Maxims*), while Cicero argued that "In anger nothing right nor judicious can be done" (*De Officilis*, Book I, section 38). The Bible also warns against losing one's temper: "Fools vent their anger, but the wise quietly hold it back" (Proverbs 29:11, English Standard Version, 2007). In other words, although Occidental culture tends to be associated with individualism and directness in communication, the important role that self-restraint plays in preserving social relations has been recognized.

The role of abdominal body parts in the language of emotions should also be addressed. Matsuki (1995) links *hara*-based anger metaphors to notions of *honne* and *tatemae* and describes them as being culturally unique. However, metaphoric expressions that involve stomach, belly, guts and other organs in the abdominal area can also be found in English. Some examples are idioms such as *to have butterflies in one's stomach* and *to feel a knot in the stomach*, both of which convey the feeling of nervousness and anxiety. If a person has no desire to do something, we say that he /she *has no stomach for something*. If a person lacks courage, we say that he/she is *gutless* / *lacks guts*. Our *gorge rises* when we are disgusted by something, and our *stomach turns* when something makes us feel sick or when we are shocked by

something. There are also anger-related expressions. Some examples are phrases such as *to have a bellyful of something* and *to stir one's bile*, and adjectives such as *liverish*, *splenetic* or *galling*. According to Geeraerts and Grondealers (1995), many of the emotion words in several European languages such as English, French and Dutch can be traced back to the doctrine of the four humors. In ancient Greek and Medieval physiology, the human body was thought to be regulated by four kinds of fluids or *humors*: *phlegm*, *black bile*, *yellow bile* and *blood*. Blood had a special status in the humoral theory as, in addition to being one of the basic fluids, it was also believed to carry other humors through the body. Each of the fluids was associated with different organs and temperaments: *phlegm* with the brain, the bladder and phlegmatic temperament, *black bile* with the spleen and melancholic temperament, *yellow bile* with the liver, the stomach and choleric temperament, and *blood* with the heart and a sanguine temperament.

In the doctrine of four humors, Geeraerts and Grondealers (1995) see semantic motivation for the general metaphor ANGER IS THE HEAT OF FLUID IN A CONTAINER. Conceptualizing the body as a container of emotions, and anger as heat, does not imply that anger must be conceptualized as a fluid. Understanding anger as a gas or as a solid are equally-possible interpretations. The reason why the fluid version of the general ANGER IS HEAT metaphor is more elaborate than its solid version (ANGER IS FIRE) can be traced back to the theory of four humors. The humoral doctrine provides etymological motivation for expressions such as *gall*, *liverish*, *choleric* and *to stir one's bile*. Geeraerts and Grondealers (1995) further argue that it is humoral theory that can explain the link between anger and the warming up of

blood. Although anger was associated primarily with yellow bile, blood was believed to be a transmitter of all four humors through the body. Therefore, the warming up of the body that results from anger can be said to be metonymically-linked to the warming up of the entire mixture. Although the humoral doctrine has been rejected by modern medical science, its lexical legacy is still visible.

In conclusion, both the English and the Japanese language conceptualize the body as a container for anger, and follow similar metonymic principles in describing anger experience by referring to the physiological effects of this emotion. This difference in the salience of specific organs can be attributed to different philosophical and ethnomedical traditions. In Japanese, under the influence of traditional Chinese thought and medicine, the key organs such as the *hara* (belly), the *mune* (chest) and the *atama* (head) have become associated with both emotions and rational thought. On the other hand, the English concept of anger has its roots in ancient Greek medicine and philosophy, and the Cartesian dichotomy between mind and body. In Western popular culture, the brain, the mind and the head are associated with reasoning, while the heart is conceptualized as a center of emotions. Although modern medicine tells us that the brain controls both thoughts and feelings, the folk model still persists. As a result, emotion expressions involving the head in English are relatively rare, and are considered to be non-prototypical (Niemeier, 2008).

Conclusion

Cultural knowledge plays a significant role in how humans understand their physical, social and psychological worlds. Different social and ethnic groups have beliefs, values and norms that are shared among their members, and which distinguish them from other groups. Therefore, cultural models can serve as a window into how different societies think, communicate, and behave. Culture-specific mental structures are reflected in language and shaped by language. Figurative expressions, which are often acquired and used unconsciously, can provide important insights into different cognitive and anthropological traditions. However, the role of specific beliefs and traditions must be examined carefully and critically. The existing cultural models must be tested and revised if necessary. Extra efforts must be made to make the research literature published in languages other than English available to international scientific community. Failure to do so may result in the biased dissemination of research findings, the building of distorted cultural models, and superficial generalizations and stereotyping, which endangers both future research and current efforts to apply research outcomes in settings that could benefit from it.

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Appendix 1: Idioms used in Surveys 1 and 2

Note: The phrases are presented in the order in which they appeared in the survey.

No.	Idiom	Literal translation	Emotion	Source
1	頭が重い Atama ga omoi	The head is heavy	Worry	<i>Daijirin</i> dictionary (Sanseido, 1988)
2	胸が塞がる Mune ga fusagaru	The chest is plugged up	Dislike	<i>The Dictionary of Emotive Expressions</i> (Tokyodo, 1997)
3	腹立たしさに胸を締め付けられる Haradatashisa ni mune wo shimetsukerareru	The chest is wrung by belly rising	Anger	Matsuki, 1995
4	腹が立つ Hara ga tatsu	The belly rises up	Anger	<i>The Dictionary of Emotive Expressions</i> (Tokyodo, 1997)
5	へそを曲げる Heso wo mageru	To bend the navel	Anger	<i>New Dictionary of Synonyms</i> (Sanseido, 2005)
6	頭にくる Atama ni kuru	To come to the head	Anger	<i>The Dictionary of Emotive Expressions</i> (Tokyodo, 1997)
7	頭の中で血が固まる Atama no naka de chi ga katamaru	Blood congests in the head	(Tamed) Anger	Matsuki, 1995
8	頭を捻る Atama wo hineru	To twist the head	Striving	<i>Daijirin</i> dictionary (Sanseido, 1988)
9	胸が一杯になる Mune ga ippai ni naru	The chest gets full	Happiness / Sadness	<i>The Dictionary of Emotive Expressions</i> (Tokyodo, 1997)
10	頭から湯気が立つ Atama kara yuge ga tatsu	Steam rises up from the head	Anger	Matsuki, 1995

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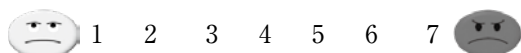
11	頭を痛める Atama wo itameru	To hurt the head	Worry	<i>Dajirin</i> dictionary (Sanseido, 1988)
12	胸が裂ける Mune ga sakeru	The chest is torn	Sadness	<i>Dajirin</i> dictionary (Sanseido, 1988)
13	胸が潰れる Mune ga tsubureru	The chest is crushed	Sadness	<i>Dajirin</i> dictionary (Sanseido, 1988)
14	胸が痛む Mune ga itamu	The chest hurts	Worry	<i>Dajirin</i> dictionary (Sanseido, 1988)
15	頭に血がのぼる Atama ni chi ga noboru	Blood rises up to the head	Anger	Matsuki, 1995
16	腹わたが煮えくり返る Harawata ga niekurikaeru	The guts boil	Anger	<i>New Dictionary of Synonyms</i> (Sanseido, 2005)
17	息巻く Iki maku	Breath rolls up	Anger	<i>The Dictionary of Emotive Expressions</i> (Tokyodo, 1997)
18	胸がすく Mune ga suku	The chest becomes clear / free	Relief	<i>Dajirin</i> dictionary (Sanseido, 1988)
19	腹の虫が収まらない Hara no mushi ga osamaranai	Bugs in the belly won't calm down	Anger	<i>Dajirin</i> dictionary (Sanseido, 1988)
20	頭を抱える Atama wo kakaeru	To hold the head in the hands	Worry	<i>Dajirin</i> dictionary (Sanseido, 1988)
21	腹が黒い Hara ga kuroi	The belly is black	Maliciousness	<i>Dajirin</i> dictionary (Sanseido, 1988)
22	胸が騒ぐ Mune ga sawagu	The chest makes noise	Anxiety / Excitement	<i>Dajirin</i> dictionary (Sanseido, 1988)

Appendix 2: Survey 3 (Idiom intensity ratings)

Part One

Instructions: On a scale of 1-7 rate the level of anger that you associate with each of the idioms below.

1 indicates mild anger; 7 indicates extreme anger, fury



1. 臍患の炎を燃やす	1	2	3	4	5	6	7
2. 腹の虫が収まらない	1	2	3	4	5	6	7
3. 胸が怒りに燃える	1	2	3	4	5	6	7
4. 気色ばむ	1	2	3	4	5	6	7
5. 怒り狂う	1	2	3	4	5	6	7
6. 鬱憤を晴らす	1	2	3	4	5	6	7
7. 頭に血がのぼる	1	2	3	4	5	6	7
8. 逆上する	1	2	3	4	5	6	7
9. 憤懣を覚える	1	2	3	4	5	6	7
10. 心に怒りが萌す	1	2	3	4	5	6	7
11. 胸が怒りに騒ぐ	1	2	3	4	5	6	7
12. かんかんになって怒る	1	2	3	4	5	6	7
13. 胸がむかむかする	1	2	3	4	5	6	7
14. ぶりぶりする	1	2	3	4	5	6	7
15. 頭から湯気が立つ	1	2	3	4	5	6	7
16. 腹わたが煮えくり返る	1	2	3	4	5	6	7
17. へそを曲げる	1	2	3	4	5	6	7
18. 怒りが噴き上げる	1	2	3	4	5	6	7
19. 腹が立つ	1	2	3	4	5	6	7

20. 憤怒する	1	2	3	4	5	6	7
21. 胸糞が悪い	1	2	3	4	5	6	7
22. 怒気を帯びる	1	2	3	4	5	6	7
23. 怒りを覚える	1	2	3	4	5	6	7
24. ふんぷん怒る	1	2	3	4	5	6	7
25. 業腹になる	1	2	3	4	5	6	7
26. 頭にくる	1	2	3	4	5	6	7
27. キレル	1	2	3	4	5	6	7
28. 怒り心頭に発す	1	2	3	4	5	6	7
29. むかつく	1	2	3	4	5	6	7

Part Two

II. Where is anger indicated by following expressions most likely felt?

1. 怒り狂う

頭 胸 腹 他: _____ わからない

2. キレル

頭 胸 腹 他: _____ わからない

3. 逆上する

頭 胸 腹 他: _____ わからない

4. 怒気を帯びる

頭 胸 腹 他: _____ わからない

5. 憤怒する

頭 胸 腹 他: _____ わからない

6. 瞋恚の炎を燃やす

頭 胸 腹 他: _____ わからない

7. 鬱憤を晴らす

頭 胸 腹 他：_____ わからない

8. 気色ばむ

頭 胸 腹 他：_____ わからない

9. 憤懣を覚える

頭 胸 腹 他：_____ わからない

10. 怒りが噴き上げる

頭 胸 腹 他：_____ わからない

11. 怒りを覚える

頭 胸 腹 他：_____ わからない

12. かんかんになって怒る

頭 胸 腹 他：_____ わからない

13. ぷりぷりする

頭 胸 腹 他：_____ わからない

14. ぶんぶん怒る

頭 胸 腹 他：_____ わからない

15. むかつく

頭 胸 腹 他：_____ わからない

Thank you for your cooperation.

