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Author(s)      M. Abbott, C. Forceville  
Faculty         FGw: Amsterdam School for Cultural Analysis (ASCA)  
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## Visual representation of emotion in manga:

### LOSS OF CONTROL IS LOSS OF HANDS in *Azumanga Daioh* vol. 4

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23 Figures, 2 Tables

Authors: Michael Abbott and Charles Forceville

E-mail addresses:

[michaeltheabbott@hotmail.com](mailto:michaeltheabbott@hotmail.com)

[c.j.forceville@uva.nl](mailto:c.j.forceville@uva.nl)

Address corresponding author:

Charles Forceville

University of Amsterdam

Department of Media Studies

Turfdraagsterpad 9

1012 XT Amsterdam

The Netherlands

Tel: +31 20 5254596

Fax: +31 20 5252980

**Abstract** Comics and manga have many ways to convey the expression of emotion, ranging from exaggerated facial expressions and hand/arm positions to the squiggles around body parts that Kennedy (1982) calls ‘pictorial runes’ (see Forceville, 2005, forthcoming, Van Eunen, 2007, Eerden, 2009). Emotions as such are presumably universal, but this is not necessarily the case for their expression. While many of the iconic markers and pictorial runes that Forceville (2005) found in an Asterix album occur also in Japanese manga, Shinohara and Matsunaka (2009) also found markers and runes that appear to be typical for manga. In this paper we examine an unusual emotion marker found in volume 4 of Kiyohiko Azuma’s *Azumanga Daioh*: the ‘loss of hands’, and argue that it contributes to the characterization of Azuma’s heroines. We will end by discussing our findings with reference to emotion metaphors as discussed within Conceptual Metaphor Theory.

**Keywords** emotion in manga; hands as emotion markers; conceptual metaphor theory; embodied cognition

## 1 Introduction

*Azumanga Daioh* is a four volume ‘slice of life’ manga following six schoolgirls and their teachers through their school career. The series consistently employs standard manga markers for expressing emotion (Shinohara and Matsunaka, 2009), but also uses the following curious marker: during certain, mostly emotionally charged situations the hands of a character disappear, a state we will hereafter refer to as ‘hand loss’ (HL). This feature does not occur in other titles by the same author (e.g., *Yotsuba&!*), nor have we encountered it in other authors’ work. It thus appears to be a creative device. Our central aim in this paper is to demonstrate that HL in volume 4 of *Azumanga Daioh* connotes ‘loss of control’. The structure of the paper is as follows. In section 2 we will mount our argument by introducing the corpus, explain our

approach, and discuss a number of examples. In section 3 we will provide quantitative data, comment upon the nature of the emotions depicted, and report how the HL is distributed across the main protagonists. Furthermore, cases that do not appear to fit the prototype will be examined. In section 4, we will relate our results to research by Conceptual Metaphor theorists on the representation of emotion. Specifically, we will consider our findings in light of the claim that one of the dominant emotion metaphors is EMOTIONS ARE PHYSICAL FORCES (Kövecses, 2000: 71 *et passim*) and in light of Yu's emphasis on the importance of 'hands' in Chinese emotion expressions (Yu, 2003). Section 5 will position our findings in the context of related research on emotions in comics. The final section sums up our findings and suggests opportunities for further research.

## 2 Corpus and method of analysis

We have chosen to discuss the final part of the four-volume *Azumanga Daioh* series, basing ourselves on the English translation (Azuma, 2007). We are aware that, as European scholars with no knowledge of Japanese and very limited knowledge of Japanese culture, we cannot but present our analyses with due caution. However, we have mitigated the risk of cultural misinterpretation by asking a Japanese colleague to comment on an earlier draft (see acknowledgments). The reason that we restrict our analyses to volume 4 (first published in Japan in June 2002) is that the feature under discussion, loss of hands, occurs here far more often than in the first three volumes (first published in Japan between February 2000 and September 2001), and moreover appears to have evolved in the course of the four volumes, and to be used with greatest consistency in the last one.



Fig. 1: Page 628 – Key to read the coding of figures in panels: ‘page number – panel number – character number’. Thus 628.4.3 is page 628, panel 4, third character from the right; (reading right to left as in Japanese). If there is no number after the panel number then there is only one depiction of HL in the panel.

In order to convincingly analyse the narrative use of HL we must first delineate what counts as belonging to this category (see figure 1 for panel key). Figures 2 and 3 are prototypical examples of HL, with the character on the left, Tomo, clearly depicted without her hands. Note that in figure 3, the ensuing panel, Yomi (the character on the right) has become angry, too (see also the ‘popped-up vein’ rune on her right cheek, Shinohara and Matsunaka, 2009), but that she is depicted with her hands intact.



Fig. 2: 552.7 – Tomo smashes Yomi's tea out of her hands in a fit of disappointment and rage.



Fig. 3: 552.8 – Yomi, now angry too, retains her hands, despite suitable conditions for HL, whilst Tomo rages on.



Fig. 4: 555.5 – Chiyo-Chan is anxious that her nice gesture of giving a present to the teacher, Yukari, has been misunderstood (as destined for another teacher).

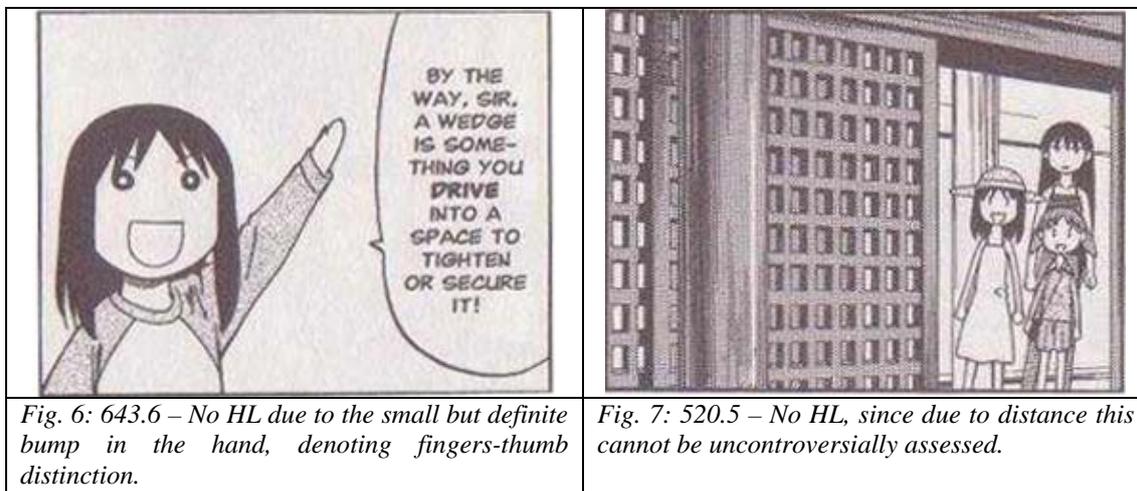


Fig. 5: 521.4 – Tomo is not considered as suffering HL, despite some emotional context, as her hands are invisible.

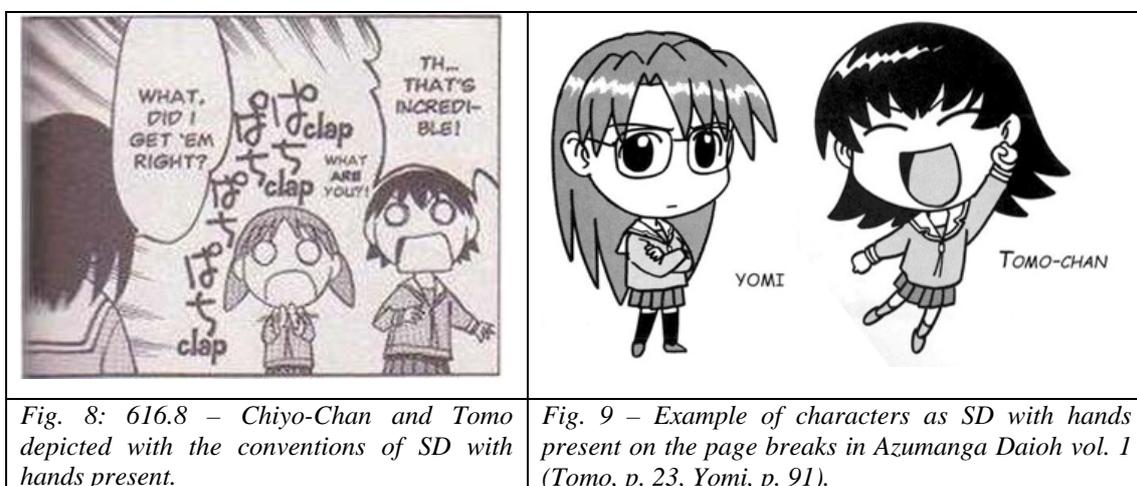
Figures 2, 3, and 4 are typical examples of the conditions and situations that prompt the use of HL, which are mostly emotion-related. We counted each situation in which a slimming of at least one arm of a protagonist is seen in conjunction with no discernable hand definition as exemplifying HL. In our counting HL we have been conservative. In the following cases we did *not* count HL:

- When hands were outside the frame or otherwise hidden, and HL could therefore not be objectively decided on (e.g., figure 5);
- When a hand was schematically drawn, but still shows a minimal distinction between the thumb and the other fingers (e.g., figure 6);

- When characters were depicted too far away to assess HL unambiguously (e.g., fig. 7);
- When hands were shown in rounded form, suggesting fists – even when no distinction between the fingers was shown.



At this point some readers with knowledge of Japanese drawing conventions might assume that HL is merely part of the ‘super-deformed’ (SD) technique that is characteristic of Japanese manga’s character design. The conventions of this technique are: reduced and rounded bodies, large heads, short arms, and simplified facial features. That this does not include HL can be demonstrated by adducing examples where SD style is *not* accompanied by HL. Figure 8 shows Chiyo-Chan (the addition ‘-Chan’ is an intimate form of ‘-San’ – ‘Mr,’ ‘Miss,’ etc.) and Tomo (middle and right) with SD eyes and mouths, but with their hands. The same holds for Yomi and Tomo in figure 9 (note the atypical use of “-Chan” for Tomo here).



HL is thus a marked stylistic choice to suggest that a character is affected by loss of (emotional) control, and is not a standard element of SD illustration.

### 3 Results

	Chiyo-Chan	Kagura	Osaka	Sakaki	Tomo	Yomi	<b>Total</b>
Character visible in panel	510	172	376	230	399	200	<b>1887</b>
No HV/HL	274	094	164	133	167	114	<b>946</b>
HV+HL	236	078	212	97	232	86	<b>941</b>
HV	205 (87%)	071 (91%)	181 (85%)	96 (99%)	202 (87%)	82 (95%)	<b>837 (89%)</b>
HL	031 (13%)	007 (9%)	31 (15%)	1 (1%)	30 (13%)	4 (5%)	<b>104 (11%)</b>

Table 1: HL in *Azumanga Daioh*, vol. 4. The ‘no HV/HL’ row enumerates the cases where a character is visually present in the panel, but her hands (or absence-of-hands) are hidden from view (i.e., outside the frame, invisible behind an object or text balloon). The ‘HV+HL’ row enumerates the “hands visible” and “hand loss” cases combined. The numbers in this row are split in the next two rows: the ‘HV’ row enumerates all “hands visible” cases, while the ‘HL’ row enumerates all hand loss cases. Only attestable cases have been counted. HL was counted if at least one hand of a character displayed the feature. If a character occurred more than once in a panel, HL was counted only once. Both authors counted independently, per character (6) in the two conditions of ‘character visible’ and ‘no HV/HL’ in each of the 18 parts. In only 5 of the 216 (6x2x18) situations our counts diverged by more than two. These latter cases were resolved by discussion; in the case of a difference of two or one we averaged between our counts.

In the 1887 times (in 1257 panels) that the six heroines (Chiyo-Chan, Kagura, Osaka, Sakaki, Tomo, and Yomi) were recognizably present in a panel, there were 104 occurrences of HL (for present purposes we disregard the 5 occurrences of HL befalling other characters). This accounts for 11% of all cases in which full arms were depicted in a panel, and hence where the HL constituted a deliberate choice on Azuma’s part (see table 1). Almost two thirds of these cases (63 out of 104) unequivocally pertain to characters’ experience of strong emotions (see table 2). Of these, in turn, considerably more HL occurrences in our view reflect ‘negative’ emotions, such as anger, anxiety, confusion, disappointment and embarrassment than positive emotions, such as happiness and excitement. Since emotions are often not ‘pure’ (positive admiration may be mixed with negative envy, and happiness with egotistical pleasure), however, we have refrained from systematically categorizing the emotions into positive and negative ones. In addition we found occurrences of HL in two other situations: when a character lost physical control, e.g. by tripping over or

behaving impulsively; and when a character had a diminished sense of reality, e.g., by dreaming or fantasizing.

Character	HL	Emotion	Loss of physical control	Loss of sense of reality	Undecidable
Chiyo-Chan	31	29	02	00	00
Kagura	07	06	01	00	00
Osaka	31	12	00	14	05
Sakaki	01	00	01	00	00
Tomo	30	16	08	04	02
Yomi	04	02	02	00	00
TOTAL	104	65	14	18	07

Table 2: Types of HL of the six protagonists in the 1257 panels in vol. 4 of. *Azumanga Daioh*. The authors counted separately, and agreed on all cases of HL. Only four of the 104 attributions to “type” (all related to Tomo) had to be resolved after discussion.

We will now briefly discuss HL in relation to each of the six protagonists, showing how Azuma uses HL as a way to help characterize his heroines.

**Chiyo-Chan.** Chiyo-Chan is a child genius who has skipped several school grades and is therefore much younger, and smaller, than her classmates. She also is often worried on behalf of her friends. Both her immaturity and her sense of responsibility make her vulnerable to emotional outbursts (fig. 10), and less capable of maintaining emotional control. An atypical instance of Chiyo-Chan’s HL occurs in panel 522.8. After a particularly stuffing trip to a buffet, Chiyo-Chan is lying in her bed feeling nauseous after over-eating. Her HL here pertains to loss of bodily rather than emotional control. Another intriguing example of Chiyo-Chan’s HL takes place in the imagination of Osaka (559.6-8), which is why we have attributed it to Osaka rather than Chiyo-Chan.



Fig. 10: 511.5 – Chiyo-Chan is shocked by Yukari's (untrue) message that the school trip has been cancelled.



Fig. 11: 624.5 – Tomo and Kagura chase pigeons. Tomo has lost her hands whilst Kagura has retained hers, which fits in with narrative information that Tomo is more likely than Kagura to lose control and suffer HL.

**Tomo.** Tomo is the most immature girl in the group, unable to take things seriously or follow social conventions (fig. 11). She is boisterous and over-enthusiastic, trying to attract attention by exuberant behaviour, much to the annoyance of the others. As Tomo is this sort of character it makes sense that she would suffer HL often, and in various situations. Tomo can be prone to fits of anger, despair, aggression and mischief, as well as to impulsive behaviour. It is to be noted that while Chiyo-Chan's HL is usually motivated by her anxious concern on behalf of others, Tomo's is the result of her unthinking, rough physical behaviour.

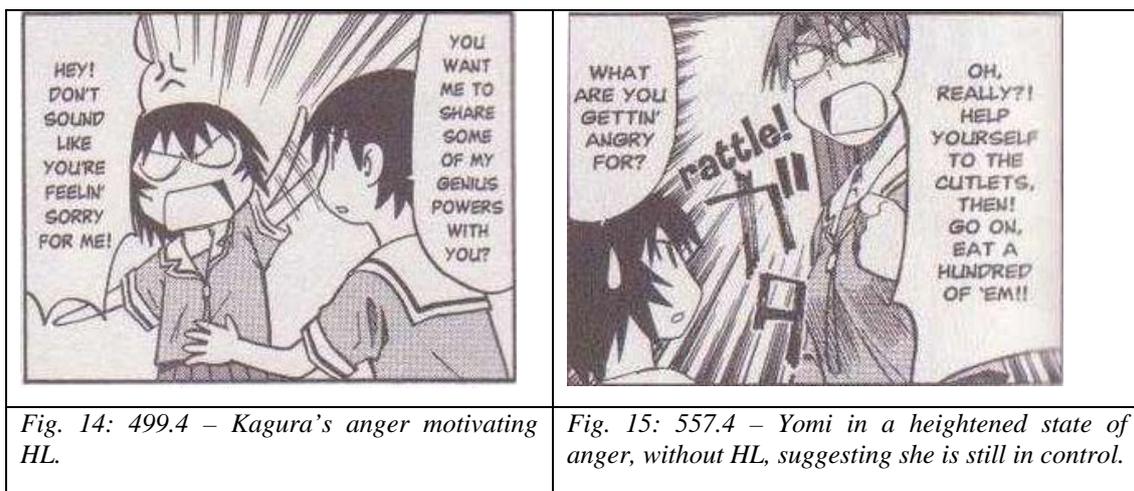


Figs. 12 and 13: 545.7 and 545.8 – Osaka is half awake and is enjoying her dream-like state, a use motivated by a loss of grip on reality. That she is enjoying herself is suggested by her smile.

**Osaka.** Osaka is depicted about as often with HL as Tomo and Chiyo-Chan. But her HL is not so much associated with emotional outbursts or concern for others as with the fact that she is given to flights of fantasy and daydreaming. Her 'loss of control'

pertains to a loss of awareness of what goes on around her (figs. 12 and 13). Indeed, the ‘loss of reality’ HL occurrences are mostly related to Osaka.

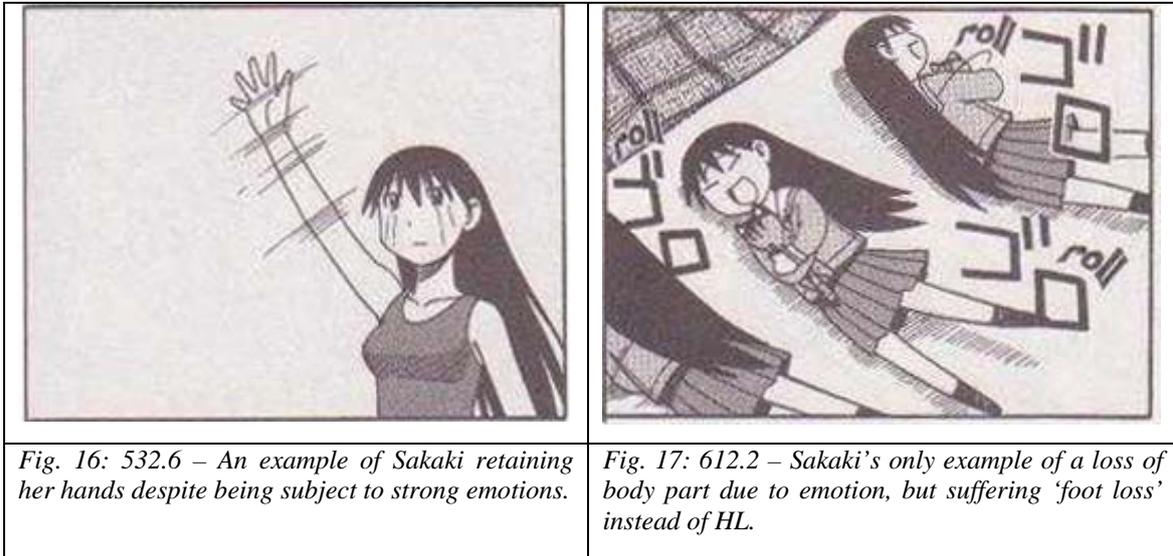
**Kagura.** Kagura’s original entrance to the series was as a rival for Sakaki in sports, something Sakaki is good in but cares little for. Kagura’s entire character thread is developed around competitive storylines, such as who can eat fastest. Her HL examples tend to feature aggression of some sort, which is in line with her ultra-ambitious, sporty and confrontational character.



**Yomi.** Yomi is a more mature girl, as transpires from her concern with diets and weight, but she nonetheless shows her emotions quite regularly. However, this display of emotions is rarely accompanied by HL (see figure 15).

**Sakaki.** Sakaki is the epitome of a stoic, mature, and reserved person, never expressing her emotions emphatically. It is therefore fitting that she suffers HL only once (in 608.8 she is seen running in the distance, with three of her friends – also suffering foot loss – in a spirit of abandon), remaining composed even in the most stressful circumstances (figure 16). Sakaki is exceptional in being the only character whose positive emotion is depicted on one occasion, in three consecutive panels, by *foot loss*, rather than HL. This happens when she at long last has found a cat which does not bite her. Indeed this cat – strictly speaking an ‘iriomote-yamaneko’ wild lynx (a rare, endangered species, now protected in Japan) – proves to be very fond of her (figure 17). It is further worthwhile noticing that Sakaki’s foot loss comes at the only moment of emphatically displayed emotion from her in all 4 volumes; and, tellingly,

when she is *alone*. The singularity of the event helps differentiate Sakaki from her friends, and Azuma has chosen to emphasize this visually by reserving ‘positive foot loss’ for her alone. (To be sure, we spotted a very few other foot loss occurrences, but there the feature of ‘positive emotion’ was absent.)



In conclusion to this section, we would like to reiterate that strong emotion may, but need not, be accompanied by HL. Conversely, as we have seen, HL does not necessarily cue strong emotion. It can also signal loss of control over reality, as it does a number of times, specifically in the case of Osaka, and loss of physical control. An unusual instantiation of HL is provided by figure 18, which we scored as ‘undecidable’. Osaka’s loss of control here is not a loss of temper or a fit of despair but rather a loss of social control, an abandonment of etiquette and convention, evidenced in Chiyo-Chan’s horrified response (figure 19). It is this loss of social control that has provided Osaka with joy. Figure 18 once more concisely demonstrates that HL is a strongly coded stylistic technique in *Azumanga Daioh*, because it apparently does not interfere with Osaka’s ability to throw the sea cucumber to Chiyo-Chan. If Kiyohiko Azuma had meant the HL to be understood literally he would not have depicted characters without hands partaking in hand-related activity.



#### 4 Hand loss in relation to Conceptual Metaphor Theory

Up till now we have focused on demonstrating that HL in *Azumanga Daioh*, vol. 4 is neither to be taken literally, nor as exemplifying a feature of the ‘super-deformed’ technique, but as a patterned occurrence cueing a character’s loss of control, predominantly through being overcome by emotion. We have indicated this phenomenon as LOSS OF CONTROL IS LOSS OF HANDS. Hitherto we have not elaborated on this choice to present the HL phenomenon in terms of a conceptual metaphor, because our findings do not depend on acceptance of Conceptual Metaphor Theory (CMT). However, since we see CMT as providing a highly persuasive theoretical framework for explaining human beings’ conceptualizing processes, we will in this section consider our findings in light of this theory. CMT’s central claim that human beings can only understand the abstract in terms of the concrete (a view known as ‘embodied cognition’ (e.g. Johnson, 2007: 119) still largely relies on verbal evidence (e.g., Lakoff and Johnson, 1980, 1999; Lakoff, 1987; Johnson, 1987, 1993; Gibbs, 1994, Kövecses, 2005, 2010; Sweetser, 1990; for a state of the art, see Gibbs, 2008), and thus requires that non-verbal and multimodal discourse is systematically investigated for (dis)confirmation of this central tenet (see e.g., McNeill, 1992, 2005; Müller, 2008; Müller and Cienki, 2009; Mittelberg and Waugh, 2009; Forceville, 1996, 1999, 2002a, 2006, 2008a, 2008b, 2009; Forceville and Urios-Aparisi, 2009). Comics and manga provide excellent source material for such investigations, since the medium is relatively coded, and moreover makes ample use of exaggerations that

potentially carry narrative meaning (see also Bounegru and Forceville, forthcoming). In the second place, the investigation of emotions is a major strand within CMT, and thus provides a context within which *Azumanga Daioh*'s HL can be usefully discussed. We will now briefly elaborate on this CMT scholarship.

Zoltán Kövecses has investigated English verbal expressions in English and other languages that pertain to various emotions, maintaining that 'a single metaphor (namely, the metaphor EMOTIONS ARE FORCES) [...] organizes much of our thinking about emotion' (Kövecses, 2000: xiv). In more recent work, Kövecses affirms that 'most (though not all) metaphors in the emotion domain can be characterized as an interaction of forces. This leads to the conclusion that there exists a single master metaphor for emotion: EMOTIONS ARE FORCES' (2008: 385). The HL as indicator of emotion and loss of control appears to be at least commensurate with, and possibly to confirm, the reality of this master metaphor. As a matter of fact, Kövecses comes quite close to formulating a subtype of it when discussing EMOTIONAL HARM IS PHYSICAL DAMAGE (Kövecses, 2000: 46), commenting that 'physical damage is intended here in the sense of visible damage as a result of one physical object knocking into another (as in one car making a dent in another' (Ibid.: 40). Clearly, this description only partly matches the case under consideration here, but undeniably HL exemplifies a physical damage of some sort.

The first wave of studies in the CMT paradigm emphasized the 'embodied' aspect of conceptual metaphors, thereby providing support to the idea that they occur universally. However, it is now generally accepted within the model that 'nature' is complemented by 'nurture' – that is, that conceptual metaphors also have an accultured component (e.g., Emanatian, 1995, Gibbs and Steen, 1999, Yu, 1998, Kövecses, 2005). Ning Yu (1998), for instance, has investigated conceptual metaphors pertaining to time and emotions in Chinese, concluding that Chinese and English share many metaphors, but that their elaborations sometimes significantly differ due to cultural circumstances. The current state of research in CMT can be summed up by Kövecses' view that embodied cognition and cultural models have evolved in close interaction: 'In the course of this joint evolution, the conceptualized experiential basis [i.e., 'embodied cognition', MA and ChF] (often appearing as conceptual metonymies) and the emerging conceptual metaphors contribute to the basic schematic structure of the cultural model, while the simultaneously present

cultural context fleshes out the details of the schema' (2008: 392; the same point is made by Forceville et al., 2006).

In his later work, Yu paid extensive attention to the metaphorical use of the word 'hand' in Chinese, delineating a wide variety of examples that point to the metaphor THE PSYCHOLOGICAL CHARACTERISTIC OF A PERSON IS THE PHYSICAL CHARACTERISTIC OF HIS/HER HAND (Yu, 2003: 345). Yu also concludes that among the multiple usages for hands in the creation of metaphor are those where 'the strength of hands is associated with the concepts of power and control' (Ibidem: 342). This makes good sense: since our hands are a primary means of controlling our physical surroundings, it is unsurprising that this is metaphorically extended to the control of our abstracted surrounding. The plausibility of this view is bolstered by Yu's acknowledgement that 'Kövecses and Szabo (1996) defined the relevant metonymy and metaphor as THE HAND STANDS FOR CONTROL and CONTROL IS HOLDING IN THE HAND' (Ibidem: 343; see also Forceville, 2009). Yu supports the argument that these concepts are globally used and understood by continually acknowledging that the concepts present in Chinese have a companion in the English lexicon (Ibidem: 349), and proposes that 'our everyday bodily experiences with hands establish the cognitive schemas upon which we build more abstract and complex concepts' (Ibidem: 338). Finally, the word 'hand' is often used non-literally in Japanese. Kazuko Shinohara reports that one of the most widely used Japanese-Japanese dictionaries, *Kojien*, lists as many as 97 idioms including 'te' ('hand'). She also points out that "'te" itself can mean "measures" or "ways of doing things". It also means "skills" (e.g. "te-awase" = "hand-match", "competition of skills"), "talents", or "care of others"' (private communication, e-mail 17 August 2010).

Our findings with reference to HL in *Azumanga Daioh* vol. 4 thus appear to support both Kövecses' claimed dominance of the EMOTIONS ARE FORCES metaphor and Yu's discussion of the metaphorical uses of the concept 'hand'. That being said, it is important to emphasize that inasmuch as 'the medium is the message' (McLuhan, 1964: 14), the fact that the LOSS OF CONTROL IS LOSS OF HANDS metaphor discussed here occurs in Japanese manga is crucially important. In the first place, our examples occur in the *visual* modality rather than in the verbal one. Secondly, they occur in the *genre* of comics. Thirdly, they occur in a typically *Japanese* subgenre (manga). While it is far beyond our remit to survey the consequences of these three facts (for some discussion, see Forceville, 2006, 2008b), it seems clear, for instance, that a visually

informed but pre-literate child might pick up the metaphorical meaning of HL thanks to its pictorial representation. As for genre, it could be argued that because of the acceptability of exaggeration, manga, even more so than European and American comics, is a more natural locus for HL than, say, mainstream live-action film, theatre, or realist photography.

## 5 Links with recent CMT work on non-literal depiction of emotions in comics

Since the current paper builds not only on CMT scholarship primarily investigating verbal manifestations of conceptual metaphors, but also on more recent work on comics that was inspired by this scholarship, we would like to sketch briefly how our findings can be situated in this budding line of research.

In Forceville (2002b, 2005), Kövecses' (1986, 2000) analyses of English expressions of anger were taken as a starting point to investigate the visual manifestations of this emotion in an Asterix album. Both iconic manifestations (such as furrowed brows, clenched teeth, red face) and non-iconic manifestations (such as the various squiggly flourishes emanating from characters' mouths or surrounding their heads) of anger were analysed. Forceville labelled both types subcategories of what Kennedy (1982) called 'pictorial runes'. Whereas it seems uncontroversial to see the former as 'motivated signs' (they are, after all, only hyperbolic exaggerations of how we recognize emotions in everyday life), the claim is that the latter, non-iconic, signs are also motivated, rather than arbitrary, signs. This was discussed in terms of one of Kövecses anger metaphors: ANGER IS THE HOT FLUID IN A PRESSURIZED CONTAINER. In retrospect, it seems more sensible to restrict the label 'pictorial runes' to the subtype of non-iconic visual phenomena only, and to coin another label for the iconic manifestations – for instance 'indexical sign' (Forceville, 2005) or 'pictorial marker' (Eerden, 2004). That being said, the interesting question arises how we would have to label the HL phenomenon in *Azuma Daioh*. It seems misleading to consider this a 'non-iconic flourish' (Forceville, forthcoming), the short definition of a pictorial rune; but it seems equally counterintuitive to speak about an 'absence' (i.e., of hands) in terms of iconic resemblance. Still, HL is closer to the latter, so for the time being we will consider it a special case of the 'indexical sign/pictorial marker' category.

More important than the labelling, however, is our argument that HL is not an arbitrary but a motivated sign, by virtue of the strong metonymic connection between 'hands' and 'control'.

Eerden (2004, 2009) extends the framework proposed by Forceville (2002b, 2005) by focusing on other Asterix albums, taking into account another emotion (romantic love), and considering how emotions are represented in Asterix animation films. He found that, unsurprisingly, the animation films made less use of pictorial runes than the comics; since animation shows *moving* images, it has medium-specific opportunities to render emotions, and thus needs to rely less on runes than static comics panels. Here it is relevant to mention that since the completion of the *Azumanga Daioh* series, an animated version was produced. It is extremely faithful to the source text and features many moments present in the manga. What is pertinent here, however, is the fact that the device of HL is employed in the animated version in instances when it had not yet been consistently developed in the earlier volumes of the manga version. This suggests that the producers of the animated version completely understood the device's function, as they use it when seeking to convey a sense of loss of control, predominantly emotionally motivated. It also indicates they considered it to be an effective system of delivering abstract information, even when having other modes of communication at their disposal, such as audio and colour. An example of this can be seen by comparing the panels in figures 20 and 21 with the frames in figures 22 and 23 (originally in colour).



Figs. 20 and 21: *Azumanga Daioh!* vol. 1; 010.3 and 010.4 – Chihiro is upset after having to admit she was receiving help from Chiyo-Chan rather than providing help to her -- hands clearly present.



Figs. 22 and 23 – The same moment as in figures 20-21 is rendered in the animation version with the addition of HL to heighten the emotional impact in the first frame; after she has regained control Chihiro is merely sobbing so her hands have returned.

A similar shift occurs in the scene where one of the teachers, Yukari, makes a fool of herself by assuming a male student is flirting with her when in fact he is informing her of an error. In the manga panel (007.4) her hands are present, while in the animated version this moment is extended and Yukari suffers HL to provide evidence of her embarrassment (other, medium-specific, cues include loss of colour). The successful ‘uptake’ of the pictorial manifestations of LOSS OF CONTROL IS LOSS OF HANDS by both the recipients of the manga and the makers and viewers of the animated version show that this metaphor has keyed in to an embodied cognitive concept that equates the presence or absence of hands to the respective abstract concepts regarding control.

Since our findings pertain predominantly to the representation of emotion in Japanese manga, they complement the results by Shinohara and Matsunaka (2009), who considered anger and other emotions in manga, using the model developed in Forceville (2005). They found by and large the same pictorial runes and pictorial markers in a selection of manga by various authors that Forceville located in one Asterix album. In addition, they proposed that the Y-shaped ‘popped-up vein’ is typical of manga (see figures 3 and 14), and also point to the predominance of the metaphorical depiction of weather conditions in manga (e.g., a black thundercloud behind a girl in an indoor scene suggests her anger). However, although they give examples from *Azumanga Daioh*, they do not comment on the HL phenomenon.

We note in passing that there may still be other bodily changes that are deployed to express abstract emotive content. One of the teachers, for instance, after an humiliating experience, is depicted as being childishly small, and without facial features (543.5-8). Possibly, a superordinate metaphor EMOTION IS BODILY CHANGE can be postulated in Azuma’s manga – or in manga more generally.

## 6 Concluding remarks

In this paper we have demonstrated that ‘hand loss’ in *Azumanga Daioh* vol. 4 reflects a meaningful stylistic choice on the artist’s part to indicate lack of control. In most cases this lack of control pertains to emotional outbursts, but there are also examples of loss of physical control and loss of a sense of everyday reality. By discussing HL with reference to the six major protagonists, we were moreover able to show that HL is narratively significant by enhancing each protagonist’s characterization in different ways. The young and empathetic Chiyo-Chan and the boisterous Tomo are more prone to HL than the more mature Yomi and Sakaki. HL to suggest drifting away from everyday reality is predominantly associated with the dreamy Osaka. We thus suggest that HL is not *simple* shorthand [sic] to express a *singular* abstract concept, but *complex* shorthand with a *variety of meanings* related to the personality of the protagonist displaying it.

We furthermore propose that our findings can be phrased in terms of the metaphor LOSS OF CONTROL IS LOSS OF HANDS, and are consistent with Conceptual Metaphor Theory’s emphasis on embodied cognition, in particular with Kövecses’ (2008) EMOTIONS ARE PHYSICAL FORCES metaphor, Yu’s (2003) analyses of the role of hands in metaphorical expressions in Chinese, and Forceville’s (2005, 2009) findings of the important role of hand/arm positions in an Asterix album and in two feature films, respectively.

We like to conclude by reminding readers that we have only been able to make generalizations thanks to the development of a fairly rigorous identification procedure and its systematic application to a clearly delineated corpus. Such stylistic analysis has the advantage of being repeatable, testable, and improvable by other scholars. We believe that humanities scholars who are prepared to conduct their analyses in similarly systematic ways can make substantial contributions not only to the budding disciplines of Comicana and visual and multimodality studies, but also, via Conceptual Metaphor Theory, to understanding cognition.

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