# The Cognitive Process of Objectivization in Different Cultures:
## A Japanese/English Comparison

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### 1. Introduction

The literature in (cognitive) linguistics has so far ignored cultural variation in the cognitive processes that must be the fundamental source of all linguistic functions, even though it is known that different cultures motivate quite different modes of language. In large part, linguistic studies focusing on (general) cognitive abilities in order to characterize language phenomena have accentuated the language-cognition interplay and its universality in linguistic surveys but have never treated the cultural impact on cognitive (e.g., meaning-making) processes. Fortunately, since J. Bruner published "Acts of Meaning" in 1990, cultural psychological studies have developed greatly and demonstrated a great variety of deeper cultural contrasts that affect the basic cognitive processing, including perception, emotion, and thought (e.g., motivation and reasoning). According to these studies, such cognitive functions are not just mounted in a universal way but largely shaped by cultural values. We think that cognitive linguists (literally, linguists dealing with cognition) are supposed to apply the culturally divergent cognitive characteristics that these psychologists have unraveled to an investigation of a wide range of linguistic aspects—lexicon, syntax, meaning, and context—and of their variation from one language to another.

Although they never refer to those psychological researches, some cognitive linguists in Japan have already shed a little light on this issue. Above all, they have conducted a contrastive study of subjectivity/objectivity between Japanese and English: simply put, Japanese tend to make a *subjective* construal/perception, English speakers an *objective* one (e.g., Ikegami 2008). Methodologically, however, they have not demonstrated the hypothesis experimentally as normally required in psychological or other scientific studies, but adopt as evidence the widely known linguistic fact that the Japanese language allows the omission of the grammatical subject of a sentence (especially, the 1st person pronoun) but English does not. It is thus inevitable for psychologists or cognitive scientists to cast a skeptical eye on the applicability (or the effect on the mind) of the cognitive contrast that those linguists have ever insisted.

Even so, the cultural variation in subjectivity/objectivity is significant *per se* but has seldom been discussed in other related areas besides linguistic surveys (including social/cultural psychology). As its concrete definition can vary (indeed, it has been divided into four meanings in the current work), the concept of subjectivity/objectivity abstractly (or commonly) refers to *the relation of an object to a subject in the mind*—e.g., the relation of a judge with the judged—and so


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is quite fundamental and widely applicable. For instance, one view of **objectivization** is as the process whereby a personal idea or statement is regarded as more general and acceptable, so the degree of objectivity in that sense is the focus of attention in numerous scenes such as a natural scientific study. Note that, of course, contrastive (cognitive) linguists do not argue that, because Japanese people have a subjective mind, they are deficient in objectivization or unable to think in a scientific way.

Importantly, the conceptual process of subjectification/objectivization might also be interconnected with cultural values. As has been already empirically supported by cultural studies as a most robust piece of knowledge, Japanese (or East Asians) are more *interdependent* and *holistic*, or less *dependent* and *analytic*, than Americans (or North Americans), suggesting that Japanese focuses not only on the object of judgment but on a comprehensive view that includes the conceptualizers[1] (speakers, hearers, and/or others in a community). The current research combines certain linguistic facts with this basic cultural contrast to put forth an alternative hypothesis about subjectivity/objectivity as follows:

(1) Japanese and English speakers (or Americans) have different cognitive systems or strategies of objectivization: in order to attain objectivity, Japanese minds seek to increase *agreement* among judges (based on intersubjectivity) but Americans attempt to decrease *commitment* of themselves to an object (thing or event), compared to one another.

(2) In line with (1), Japanese people insist on taking an *inclusive* (bird's-eye) view from which to look at the whole picture (including self and others and their activities). Americans, in contrast, need to gain an *exclusive* view to better analyze the object in focus.

Hypothesis (1) presumes that each culture has distinct types of objectivity: objectivity$_1$ means lower (or no) commitment of conceptualizer, and objectivity$_2$ indicates greater (or complete) agreement among conceptualizers. From the original (or subjective) state where *an object is connected with a speaker*, Japanese increase the number of judges to reach objectivity$_2$ (i.e., objectivization$_2$) but Americans decrease (or separate) a conceptualizer (from an object) to accomplish objectivity$_1$ (i.e., objectivization$_1$).

Likewise, Hypothesis (2) entails other types of objectivity—objectivity$_3$ refers to the intensity of attention to or level of focus on an object, and objectivity$_4$ denotes the wideness of viewing field or height of perspective. From a default viewpoint, Japanese speakers seek distance to obtain a far and broad viewpoint (objectivization$_4$), but Americans approach an object to examine it well (objectivization$_3$). The present work, disregarding the linguistic literature that does not cohere with this view, aims to partially demonstrate this supposed divergence in objectivization between the two cultures (Japan vs. the U.S.) with experiments on (price and height) evaluations.

## 2. Cross-cultural differences in the cognitive process

The study of culture and self in cultural psychology (CP) has cast understanding of a number of fundamental cognitive contrasts among various regions (in particular, Westerners vs. East Asians), which are naturally regarded as contributive to language as well. The contrast of subjectivity and objectivity has long been the object of study of academics in various fields, including linguistics. In particular, cognitive linguistics (CL) in Japan has been intrigued by the cognitive variation making a broad range of linguistic differences between Japanese and English and consequently has made the claim on linguistic grounds that Japanese prefers the *subjective* perception or conception, English the *objective* one—which is well accepted and seen as a common sense.

This may, however, contradict the assertion presented in (1-2), primarily because we have constructed hypotheses not in accordance with *theoretical* studies of CL but with the results of *empirical* studies of CP. Moreover, there is an *orientational* difference: our account is based on the idea that the psychological domain motivates and supports the linguistic domain (mind→language), while CL supposes that the linguistic data is able to explain aspects of human cognition (language→mind).

### 2.1 Culture in the mind

Cultural psychologists have so far illustrated a set of substantial cognitive differences across cultures with abundant experimental evidence, among which we shall briefly introduce a few items relevant to subjectivity/objectivity: (a) *interdependent* vs. *independent* cognitive orientations, (b) *holistic* vs. *analytic* attention/perception, and (c) *self-criticism* vs. *self-enhancement*.

(a) *Interdependence vs. Independence*

East Asian and western cultures have different interpretations of self—the *interdependent* and *independent* construals, respectively—which have powerful consequence for cognition, feeling, and judgment (e.g., Markus and Kitayama 1991). In East Asia cultures (such as Japan, South Korea, and China), the emphasis is on the fundamental "connectedness" of human beings to each other (Kondo 1982), and people are thus required to maintain the *interdependence* among individuals, implicating others in many domains of social life. Moreover, it is significant that Galtung (1981:832) discusses the inseparability not only of human beings but also of basic elements such as subject-object and person-situation. Western culture, by contrast, insists on the inherent separateness of distinct persons, so one is asked to be *independent* from others, other labels being *egocentric, separate, autonomous, individualist*, etc.

(b) *Holistic vs. Analytic*

Masuda et al. (2008) and Masuda and Nisbett (2011) indicated that East Asians (Japanese),

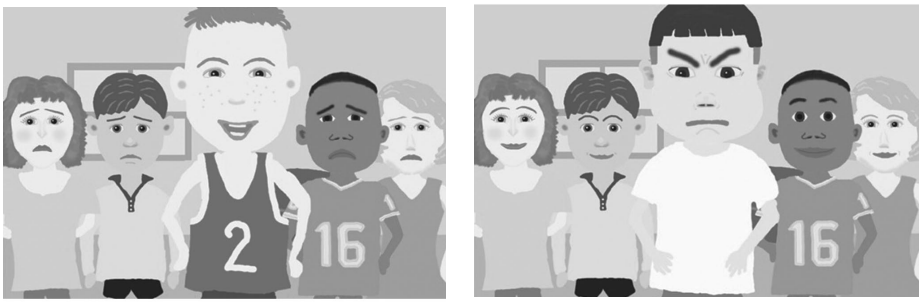



**Figure 1.** An example of the cartoon images used in Masuda et al. (2008).

more than Westerners (Americans), incorporated not only a target object but also its surrounding information into their perception or conception. They designed several different types of objects and their contexts—animation, cartoons, or photographs—for use in experiments to observe the participants' response, response time (RT), and eye-movement in order to measure the degree of their attendance to background. For instance, Masuda et al. (2008) used cartoons, exemplified in Figure 1, and asked the participants to judge the emotion of the man in the center. In consequence, Japanese participants were more likely to report that they were influenced by the changes in the background figures, whereas Western participants were likely to report that they were not. Subsequent studies confirmed this result and applied it to a wide variety of fields like child development (e.g., Senzaki et al. 2014).

(c) *Self-criticism vs. self-enhancement*

The cognitive bias of self-criticism or self-enhancement behavior is integrated into the popular contrast of *collectivism* and *individualism*, respectively (Kitayama 1998). In the Japanese context, for example, a number of experiments in social psychology have indicated that Japanese participants blamed a task failure on themselves, while attributing the success of a task to others or to their group/community. That tendency is completely reversed in the U.S. context, where people believe that their success is caused not by others but by the individual's own inner ability, which enables him to enhance his self-evaluation. We understand that the Japanese mind basically works together with the group(others) but that Americans think of pursuing their own view and value as the most significant.

Unfortunately, CP has neither addressed these effects on language, despite its interest in how language shapes culture (i.e., linguistic relativity), nor referred to subjectivity/objectivity as an object of study.

## 2.2 Subjective vs. objective organization

The current section presents a general discussion of subjectivity and objectivity in different languages. A new view of them will be proposed here, not only because previous research in Japanese CL has not provided sufficient evidence (just a few linguistic expressions) to elucidate cultural differences in cognition, but also because their assertions seem incompatible with the findings of cultural psychological studies. First and foremost, we regard the concept of subjectivity/objectivity as polysemous and thus divide it into four senses, each indicated by a subscript (e.g., subjectivity$_1$ and objectivity$_3$), in order to concretize and give psychological reality to that concept. This is true for both the change of state from subjectivity to objectivity and vice versa (e.g., subjectification$_2$ and objectivization$_4$).

In general, it goes without saying that subjectivity/objectivity makes reference to the relationship of subject and object—e.g., the perceiver and the perceived, the judge and the judged, and the conceptualizer and the concept. The subjective state indicates a normalized relation between them (e.g., looking at an accident, making an idea for a decision, and holding a feeling toward a man). Such a mental state of the object, however, can develop via the conceptual process of **objectivization** (attenuating the subject) into an objective condition. As a result, the object is drawn away from the individual to take universal status. For example, one comes up with the idea, "Steve is a crazy man," and assumes it as fact, in which case there is no room for discussion. He may, however, undergo **subjectification** (the opposite direction of the process), returning the idea to the individual— "[he thought] Steve is crazy"—which might lead to a discussion of whether it is true or not.

The goal of objectivization, however, might be radically different among cultures, because there are the two distinct "logics" of subjectivity/objectivity that are rooted in different cultures (i.e., Western vs. East Asian). The essence of their difference can be logically deducible from studies in CP as well. As Western (*independent* and *analytic*) culture prefers to separate an object from others to observe it more specifically, people completely divide an object from a subject (objectivization$_1$) and close up but to view an object (objectivization$_3$). The East Asian (*interdependent* and *holistic*) context, in contrast, insists on inseparability, so people attempt to attenuate self by means of incorporating others or their group (objectivization$_2$) and take distance from an object to monitor the surroundings at the same time (objectivization$_4$).

As a person is able to zoom in/out smoothly and gradationally, subjectification/objectivization in any sense does not mean a distinct change of state (S or O) but forms a graduation (S⇢O). Thus, any type of "subjective/objective" is considered here a degree term like gradable adjectives (such as *good/bad*, *high/low*, and *strong/weak*), unlike non-gradable ones (e.g., *open/closed*, *dead/alive*, and *left/right*). In order to satisfy the requirement of psychological reality, the degree of each type of subjectivity/objectivity shall be defined in its own terms—commitment, agreement, intensity of consciousness, and wideness of sight, respectively.

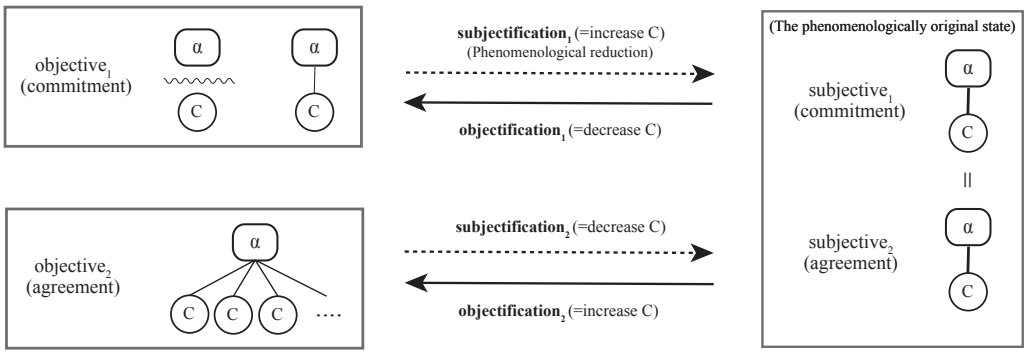



**Figure 2.** Subjectification$_{1/2}$ and objectivization$_{1/2}$.

*Separation vs. Increment*

First of all, subjectivity$_1$/objectivity$_1$ can vary according to the degree of *commitment* of a conceptualizer (*C*) to an object ($\alpha$), which is indicated by weight of the line connecting *C* and $\alpha$, shown in Figure 2, the wavy line between them indicating the purely objective$_1$ state, or the complete separation between a person and a situation. In a number of scenes (e.g., natural science, logic, mathematics, and other rational thinking), pure objectivity$_1$ is such an ideal condition that (western) people are required to attain the status, because of its bearing no relation to any individual: that is, universality. From the phenomenological standpoint, needless to say, that appears to be unrealistic, since no object could completely escape inclusion of the existence of a subject: as if almost all assertions in science would remain just a hypothesis (i.e., no perfect demonstration). Any relation of subject and object, however, is organized mentally (or inside head) by its nature, so everyone is capable of the complete division between them in his conceptual world—*illusive objectivity*$_1$. The subjective$_1$ state, on the other hand, is associated with one's emotions, biases, beliefs, personality, heuristics, and the like, and is thus basically regarded as a worse condition. Western society, or the analytic and independent culture, may prompt objectivization$_1$ for better thinking.

Second, subjectivity$_2$/objectivity$_2$ is the reverse of the previous type: a more objective$_2$ state is attained by augmenting *agreement* among conceptualizers, which is in turn signified by the number of *C* (objectivity$_2$ rises according to the number of *C*), as in Figure 2. It is possible to view this process as another strategy to decrease the commitment of C to $\alpha$ (i.e., objectivity$_1$), since leaving one's judgment (totally or partly) up to others or one's group means attenuation of the subject's own relation to the judgment. In line with this, an objective$_2$ opinion may refer to one made by another person, a group, or a society (above all, an authority), which is nevertheless thought of as a well-accepted logic, as, say, in Japanese culture. A subjective$_2$ method of thinking is basically construed there as personal, egocentric, unsuitable and even unpleasant (individualism), so an interdependent and holistic society promotes objectivization$_2$ to inculcate in people

the socially acceptable and desirable way of thinking (collectivism).

Note that, as mentioned earlier, these two kinds of objectivization are interchangeable with one another, although they are based on two distinct logics or cultures—Western vs. East Asian. While a more objective$_1$ state is quite likely to result in broader acceptance or agreement in a community (i.e., objectivity$_2$), *the cause-effect relation*, a considerably objective$_2$ state, as stated above, may bring about less commitment of *C*: that is, *the directly-opposed relation*. For example, a simple mathematical calculation is accepted by anyone, and an opinion that everyone (including you) believes is no longer related to you. There is, moreover, a successive relation between these two types: subjectification$_1$ is the process whereby a relation is formed (0→1) and objectivization$_2$ is the process whereby such relation is indefinitely extended (1→∞), the other way around (subjectification$_2$ and objectivization$_1$) being true. Lastly, these two logics correlate with the other two types regarding eyesight or viewpoint: that is, moving closer for a better look (objectivization$_3$) or moving away for a comprehensive look (objectivization$_4$), respectively.

*Close-up vs. Zoom out*

Thirdly, subjectivity$_3$/objectivity$_3$ concerns the degree of concentration on an object, or intensity of consciousness, which is indicated both by color density (white to black) and by weight of circle line (thin to thick) in Figure 3. First of all, let us use a personal experience to exemplify the third and fourth types of objectivization. Nowadays, many public spaces furnish water coolers to provide water to their users. The university libraries in use in Japan and in the U.S. have similar types of these. When we come to drink water, however, it is sometimes necessary to wait for the student ahead of us to finish. Although this might be perfectly accidental, we noticed that Japanese students took consideration for the people in line behind them and tried to finish as

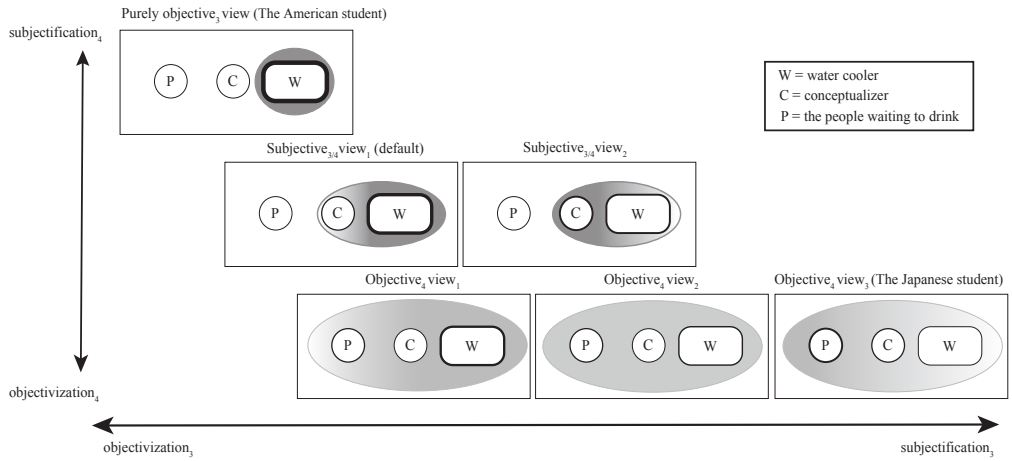
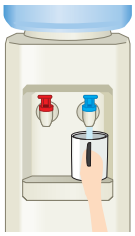



**Figure 3.** Subjectification$_{3/4}$ and objectivization$_{3/4}$.

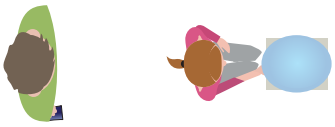
early as possible, much more so than American students did. That is, however, unsurprising and reasonable if you remember the cultural contrasts offered above. This instance, as is obvious from Figure 3, shows that the American user is apt to focus on the object so as not to fail (that is, the *exclusive* view) while the Japanese student tends to take a broader view including the other, or the *inclusive* view (i.e., objectivization$_4$), thus putting a *weaker* focus on the object. This is the point where this type is correlated to the last type, objectivization$_4$: while the broader sight increasingly blurs the focus of an object, moving closer makes it possible to get more conscious on the object. In western logic, it is natural that an analytic and independent culture prefers the latter strategy (objectivization$_3$) to find out the truth and take better actions.

Fourthly, subjectivity$_4$/objectivity$_4$ refers to the distance from an object, according to which the scope of vision changes, as indicated by the range of the circle space in Figure 3. Because your viewpoint or eyesight is biologically determined (i.e., only two eyes on your face), of course, you can neither broaden nor narrow your current viewing area by its nature, whose vision is called here *the phenological view*, as indicated in Figure 4(a). Through a continual change of view, however, you can come to understand more things outside your current view, making it possible to project a viewpoint in different ways (see Figures 4(b, c, d)). Among these, perhaps, a Japanese user of the water cooler may take Metacognitive view$_3$—the view of the man waiting to drink next—and so empathically make haste in order to pass their turn to him quickly. It is not in doubt that an



(a) Phenomenological view

(b) Metacognitive view$_1$



(c) Metacognitive view$_2$

(d) Metacognitive view$_3$

**Figure 4.** Phenomenological and metacognitive views.

interdependent and holistic society like Japan, due to its social standards, increases the number of people who take a metacognitive, or others', viewpoint to better maintain the community.

### 2.3 Linguistic applications

First, we have to claim that the mind motivates the language, not vice versa. As language could not exist without mind or could emerge only after it was supported by human mind, there is a hierarchy of various domains (rule>material>life>**human**>**mind**>**language**). Since the precedence of language is seen as mind or cognition, psychological studies are equivalent to fundamental study in linguistics (mathematics>physics>biology>**psychology**>**linguistics**). Linguistic relativity, or so-called the Sapir–Whorf hypothesis, seems to lie the opposite direction, but its strong form (i.e., linguistic determinism) has already been refused by much credible counter-evidence. Basically, owing to this, it is a methodological failure to believe that what happens in language must also appear in the mind. In conclusion, insisting on cognitive (e.g., perceptual) differences beyond the language domain in CL based only on linguistic evidence must be a fundamentally wrong (misleading) method. We are asked instead not to break the imperative: a language system is constructed to be compatible with the psychological function, because the basement of language is the human mind, not the other way around.

Before discussing cultural differences between Japanese and English speakers, let us examine cognitive grammar's account of subjectivity/objectivity (e.g., Langacker 2008), because it seems the most fundamental theory of CL. His theory is, needless to say, based on western logic, but it is interesting that it structures a grammatical theory in terms of the viewing arrangement: that is, we see that its definition is concerned the most with subjectivity$_3$/objectivity$_3$, as the intensity of attention/consciousness appears to be equivalent to the concept of *prominence* (or profile) that he utilizes to characterize grammatical phenomena (e.g., grammaticalization). His definition of that concept, however, is circular and thus lacks substance: as one example, the most salient, or primarily focused, status (called Trajector) is given to the grammatical subject of a sentence even in the case "I was waiting for Mary to finish drinking water," where "Mary" would be the focus of attention but "I" must be seen, by definition, as Trajector in his framework. On the whole, his work is conducted, better or worse, only as an explanation of grammar, the psychological element being regarded just as an explanatory tool to do that. Thus, even if he uses such psychological elements for focus, attention, cognition, and perception, he does not take psychological reality into consideration at all. He does not touch on the nature of psychological/cognitive function *per se*, let alone any cultural differences it shows.

Although they are begin with his framework, some Japanese cognitive linguists nonetheless have made reference to cultural differences in perception/conception, or cognition, sharing the assumption among them that the *interaction* mode (I-mode) of cognition is the convention of Japanese speakers, and the *displaced* mode (D-mode) of cognition that of English speakers (e.g., Hamada 2016:147) and that such different modes of cognition form a wide range of grammatical

differences between Japanese and English (e.g., Nakamura 2009:371–372). Since they live in the East Asian frame and follow Langacker's work (i.e., viewing arrangement), it is easy to foresee that they take subjectivity$_4$/objectivity$_4$ as the basis of their analysis: that is, the interaction mode of cognition (or subjective construal) indicates the phenomenological view as in Figure 4(a), the displaced mode of cognition (or objective construal) the metacognitive mode, as in Figures 4(b-d) (Nakamura 2003, 2009). Note, however, that the concept of subjectivity$_4$/objectivity$_4$ has broader application and greater cognitive reality: while such prior researches adopt a discrete classification like an on/off switch (subjective or objective), that concept in fact forms a gradient (S⇢O), as it is psychologically reducible to the range of conscious field.

Such cultural difference in cognition is, the researchers in CL commonly assume, supported by the following linguistic fact: Japanese shows considerable leeway in whether the grammatical subject of the first pronoun (*I*) is expressed, but English does not. In their theory, the English language thus requires the wider (objective$_4$) view incorporating self (metacognition), as in Figure 4(b), in which the person is regarded as a divided self or the third person, which makes it possible to express it that way (e.g., "*I* am waiting for her to finish drinking water"). According to them, in contrast, the Japanese language does not require its speakers to take such a view and instead promotes the phenomenological (i.e., subjective$_4$) view, as in Figure 4(d), as an expression like "*(zero)* am waiting for her to finish drinking water" is normal in Japanese.

As some have already discovered, however, such a common claim in CL is incompatible with or even completely opposite to the consequences of cultural studies that we introduced above. We are thus quite skeptical about it in a couple of ways. First, they have never reported any cognitive evidence verifying such cultural differences as English speakers conceptually projecting their viewpoint to refer to self, but Japanese not doing so, suggesting that there has so far been no mental substance to these putatively different modes of cognition (just like Langacker's discussion of prominence). We think, merely as common sense, that it is not realistic at all that English speakers feel like, during their language use, casting their viewpoint outside themselves to acquire a broader view and see themselves from that point, which would require much more energy and time than the case of subjective$_4$ view (or Japanese).

Second, if it is true that, as a number of cultural psychologists have uncovered, Japanese perception/conception by default takes more care for surrounding/contextual information and for the existence of others/group than the North American mind, then it is curious that only the cognitive mode working on language is different from other mental activities, such as reasoning, motivation, and interpretation. It is thus much more convincing that the possibility of omitting "*I*" does not concern cognition—or at least is not "rooted" in the I/D-modes of cognition (cf. Nakamura 2006)—but may be attributed to the syntax nature only within the linguistic framework, in which case language is seen as independent from mind (or other kinds of cognitive functions may motivate the phenomenon). If these statements are true, then the definition of I/D-mode of cognition also loses a certain cognitive background and falls into circular logic, being unable as a result to explain the following various (concretely, 23) linguistic contrasts in grammar (including the word

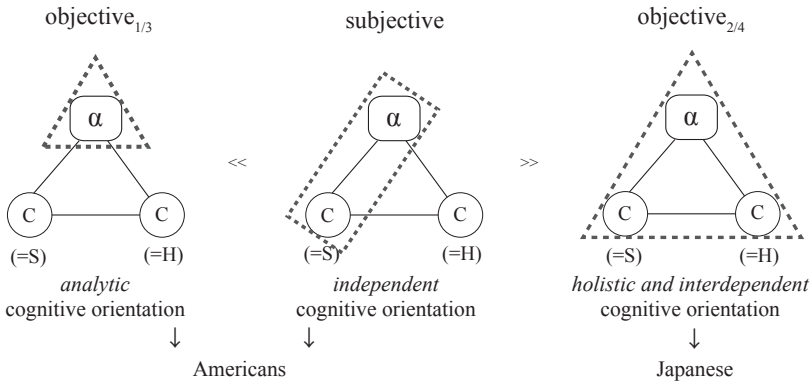



**Figure 5.** The opposite directions in triadic relations.

order SOV vs. SVO) (see Nakamura 2009:Sec.4).

Here a question might arise: What kinds of linguistic phenomena are motivated by cultural differences of cognition, and which by linguistic applications? For example, it is unsurprising that in Japan, where East Asian logic is well established, linguistic studies of **intersubjectivity** have been actively conducted. Although studies couched in terms of subjectivity$_2$/objectivity$_2$ are relatively few, intersubjective markers (above all, *sentence-final particles*) in Japanese are significant for communication and have been the focus of attention among an increasing number of linguists: it is more frequent and typical to say "Tom is cool, *isn't he*" than just to say "Tom is cool" in Japanese. Unlike the putative linguistic phenomena motivated by I/D-modes of cognition, that linguistic distinction is substantially supported by the findings of empirical cultural studies.

*The working hypothesis*

Moreover, the present research will cast light on (the meaning-making process of) **adjectival expressions** (e.g., *good/bad*, *long/short*, and *high/low*), for which it would nevertheless be possible to discern some cultural difference at play—the variation in subjectivity/objectivity (deduced here from cultural studies) must be particularly prevalent among wide swathes of language. Basically, expressing an adjective includes making a value-judgment (i.e., mental assignment of a value to an object), which would thus be quite susceptible to those cultural values. That is, the act of expression by default involves a subjective state where *one person evaluates an object*, yet each distinct cultural value is hypothesized to cause different kinds of objectivization (see Figure 5), resulting in an inherent distinction in adjectival meaning between languages:

(H-1) Japanese adjectives in a communicative situation are apt to incorporate a hearer's value assessment in their meaning. (S-H inseparability)

(H-2) The adjectival meaning in English, on the other hand, consists only of the speaker's judgment (egocentricity), OR does not include any person's experience at all (S-O separation).

## 3. Study 1: The Price Evaluation Task in Japan and the U.S.

Such hypotheses should sooner or later be tested by psychological experiments, because any sense of subjectivity/objectivity constitute a concept that is not complete within the domain of language but is deeply associated with the realm of human cognition; there is no subjectivity/objectivity of language *per se*. It is needless to say, however, that each experiment will not cover all of a hypothesis at once but prepares a special situation to measure a particular variable and collectively demonstrates the hypothesis. The present study focuses on **competitor** as comprising the basis of adjective meaning (see Sugaya 2015) and investigates what kinds of competitor each individual or culture feels like choosing during the expression of adjectives.

*"The coffee in Rome is expensive"*

Fascinatingly, Kennedy (2007) presented this sentence to indicate the context-type variation of adjectival expressions, and considered it as triggering two distinct interpretations: (i) comparison with other Italian cities (e.g., Milan, Venice, and Parma) [=objective$_1$] and (ii) comparison with a more distinct place, with which the speaker is closely related [=subjective$_{1/2}$]. Furthermore, it would be necessary to posit another type of construal for Japanese: (iii) comparison to distinct places with which the speaker and the hearer(s) are closely concerned [=objective$_2$]. This selection thus produces a completely different outcome, the assessment depending on the values of such competitors. For the following discussion, additionally, let me define certain other terms of adjective semantics: the sentence requires that the coffee in Rome as *target* (the object to be judged) exceed the *norm* (the minimum value to judge) on the *scale* of price (low-·→high) (cf. Sugaya 2015: Sec.3 for more detail).

*General overview of the current experiment*

Based on the previous working hypotheses, our hypotheses are that in projecting an adjective for evaluation, (H-1') Japanese speakers would bring competitors in an objective$_2$ way, but (H-2') English speakers would do it either subjectively$_{1/2}$ or objectively$_1$, when compared to one another. In order to test these hypotheses, we created a set of linguistic contexts and prepared related cartoon pictures to make a situation understood more easily. We asked Japanese and American participants to attach a value (in terms of expensiveness) to a product created only for this study (to which a new name is given) in five different contexts. This price evaluation task (PET) was designed to clarify which type of competitors the participants retrieve to assess the price of the product in each context. The results of statistical analysis (mainly, ANOVA) indicate that in their own evaluation, Japanese are more apt than Americans to infer and take into account the competitors that the hearer has in mind, whereas Americans are inclined to consistently evaluate the object in a subjective$_{1/2}$ way.

### 3.1 Method

*Participants*

Twenty native speakers of Japanese (9 women and 11 men) (age: $M = 41.15$, $SD = 9.62$) living in Japan and 18 native speakers of English (3 women and 15 men) (age: $M = 35.11$, $SD = 10.20$) living in the U.S. were enrolled in the study via the web to participate in the experiment and then received 60 yen for Japanese or 50 cent for Americans as a reward for participation.

*Materials*

For the sake of clarity and control, we created sentences that contextualized an original situation and used corresponding cartoon pictures that helped participants understand the sentences. The task of presenting all the instructions, stimuli, and questions was conducted by Qualtrics® software,[2] a free data-gathering service on the web. This task may thus be carried out with some types of electronic devices (PC, tablet, or smartphone) but all the participants actually performed this experiment on their own PCs. Lastly, all sentences (instructions or stimuli) were written either in Japanese or in English: after we created the English version of the contexts and had a couple of English native speakers proofread all of them, we, a few Japanese native speakers, translated them into the Japanese language to make the Japanese counterpart.

*Procedure*

The current task went through the following process (largely divided into three parts): all the participants were asked (i) to read the instruction and answer six basic questions about themselves, (ii) to read and understand the sentences explaining the situation (50 seconds), and (iii) to respond to the same question under different conditions (Section A–E) (no time pressure). As for (i), at first, participants were told that the objective of the study was to investigate the relation of economic behavior with linguistic expressions and then were required to provide information on their gender, age, native language, and residence.

Next, concerning (ii), two paragraphs of sentences describing the circumstances (see Appendix A for the entire text) were presented for a maximum of fifty seconds, whereupon the participants were instructed to imagine that they were workers concerned with a medical device, totally unfamiliar to anyone, named "VTRAC" within the task, and informed of the price of the product in other countries step by step. In particular, after they learned the value of the product in his/her own country (Japan or the U.S.), which ranged between $1,500 and $2,000, the first set of text made them aware of the price in two neighboring countries ($1,300 and $1,700)—*China* and *South Korea* for Japanese or *Canada* and *Mexico* for Americans. The other paragraph, moreover, told them the prices of the same product in some European countries: that is, $4,500 in *Italy*, $5,200 in *Spain*, $6,500 in *France*, $6,800 in *German*, and $4,300 in *the U.K*. Note that each paragraph included some irrelevant information as a dummy (cf. Appendix A).

**Table 1.** The variety of contexts in each section.

| | Section A | Section B | Section C | Section D | Section E |
|---|---|---|---|---|---|
| Hearer | a co-worker | a co-worker | many co-workers | a *Vietnamese* friend | a *French* friend |
| Place (in) | an airplane | a restaurant | a company | a cafe | a restaurant |
| Situation | flight back | dinner | meeting | conversation | conversation |

Finally, respecting (iii), based on the preceding text, the participants were required to rate the price of the device in Italy (i.e., $4,500) in five different situations (Sections A–E): in each section, they were asked both (I) to choose one of the following five options—"the price of VTRAC in Italy is [(1) very low/(2) low/(3) normal/(4) high/(5) very high]"—and then (II) to slide the pointer of a scale from 0 to 100 (meaning *cheap*⇢*expensive*). The differences among those contexts is briefly described in Table 1: Section A offered the situation of talking with a colleague sharing experiences in an airplane coming back to one's home country; Section B involved a condition of communication with a close coworker at dinner; Section C involved speaking to a large group of coworkers in a company meeting; and Sections D and E involved conversations with foreign friends from *Vietnam* and *France*, respectively (the product price in Vietnam was given as $600).

### 3.2 Results

Since the two types of variables measured in the current task—(I) the five distinct options (1, 2, 3, 4, 5) and (II) the visual analog scale (VAS) ranging between 0 and 100—have the same consequences, we present only the former data for simplicity of comprehension. Remember that our hypothesis was that Japanese speakers would tend to make an objective$_2$ judgment, or include others' views in their evaluation (objectivity$_4$), but English speakers would be inclined to make a subjective or objective$_1$ assessment, not projecting their own viewpoint but focusing on the object when expressing their assessment with adjectives (objectivity$_3$). It is thus necessary now to determine whether the data justify this hypothesis.

Before we analyze the data, note that Sections A to C are concerned with the subjective$_1$–objective$_1$ scale and Sections D and E with objectivity$_2$. As for the former sections, if an individual in the respective section regards the target as expensive, it means that s/he compares it with the price in his/her own country (on average, $1500 < $4500): otherwise, the competitors are the values of other European countries ($5,700 > $4,500). The participants who can separate the target from the subject (i.e., self) would make a lower evaluation (i.e., cheap). The latter sections are more obvious: these sections measured the degree of inclusion of the value-judgment made by the Vietnamese friend with the price much lower than the target ($600 < $4,500) or that by the French one with the significantly higher price ($6,500 > $4,500).

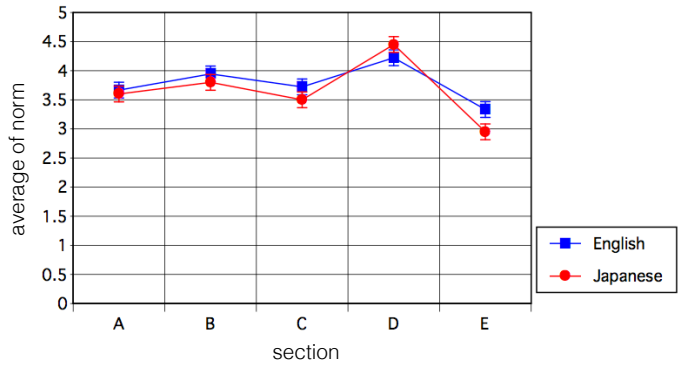



**Figure 6.** Results of Study 1: the average of response in each section.

The average for each section is indicated in Figure 6. In general, we first note that Japanese and Americans showed the same ups and downs through all the sections, although there was a difference in degree. Both groups are thus influenced to a certain extent, when it comes to Section D–E, by the hearer's experience or value-judgment inferred by participants. Examining the degree more closely, however, we found that the averages for situations A–C were 3.63 for the Japanese and 3.78 for the Americans, with no significant difference. According to one-way repeated measures ANOVA and post hoc tests (Tukey method), however, there was a significant difference in A–D/E, B–D/E, and D–E for the Japanese ($df$ = 19, $p$ < .01) and D–E for the Americans ($df$ = 17, $p$ < .01). These results suggest that (i) both Japanese and English speakers tend to subjectively retrieve memory for competitors, and (ii) Japanese speakers are apt to consider hearers' knowledge and situations, more than Americans do, in their respective evaluations.

### 3.3 Discussion

The current experiment was based on Kennedy (2007) but speakers of both languages, surprisingly, did not prefer the objective$_1$ judgment: under the given circumstances, the subject was inseparable from the object even for Americans. The above result nonetheless supposes the idea that Japanese include information about other persons' evaluations, whereas American English speakers focus narrowly on the product, ignoring information about others. In the task, the American conception was relatively unaffected by variations in the price (higher or lower) involving a close friend. In contrast, Japanese evaluations fluctuated more and were more dependent on the other in a communicative situation requesting subjects to rate the product, so they were better at incorporating the hearer's thought/view in their conception. Obviously, the results of Study 1 are thus perfectly congruent with the hypotheses (H-1) and (H-2).

## 4. Study 2: The Height Evaluation Task for Japanese and English speakers

The other study examined the same hypotheses, (H-1) and (H-2), using a different method than the prior task in two major respects: (i) the domain of judgment is *height* and (ii) the competitors are *visually* presented. As with (i), whereas the PET required a relatively subjective judgment of *expensive/cheap* based on the linguistic context, this task will ask the participants to make a visual and more objective evaluation, the adjective used here being *tall/short*. Regarding (ii), we thus showed several (eight) different height of objects (a cabinet) as stimuli and then had the participants judge each of them in terms of tallness in various (eight) different situations (an inner room). To measure subjectivity/objectivity in any sense here (in particular, the third and fourth meaning), we included the image of persons including the judge or self (see Figure 7). According to the hypotheses, it was predicted that the Japanese would take greater note of the others' conceptions than Americans, when evaluating the heights of objects as well.

### 4.1 Method

*Participants*

A total of 57 persons—24 Americans (10 male and 14 female) (age: $M$ = 36.25, $SD$ = 10.26) and 33 Japanese (22 male and 11 female) (age: $M$ = 42.12, $SD$ = 11.80)—received 50 cents or 60 yen as a reward for participating in the present web survey. All of the American participants spoke English as their first language and lived in the U.S. In the Japanese sample, similarly, all of the participants reported themselves to be Japanese native speakers and Japanese citizens living in Japan.

*Materials*

Study 2 adopted cartoon images as stimuli for height judgment, as in Figure 7, because of its clearness and ease of manipulation. First, we drew pictures of cabinets of eight different sizes: the smallest is 40 mm tall, with the heights of the other images increasing in increments of 10 mm, and thus the maximum height is 110 mm—note, however, that their size was rescaled according to the screen size of the PC without changing the proportions. As a second step, we arranged the background of those objects by adding a variety of objects (which might affect the response) inside the room. Section A was, as shown, the *default* case with only a cabinet (the target), a small picture, and a light. In addition, a refrigerator or another cabinet of the same form was put on the floor in Sections B and C, respectively. In Section D, moreover, a human image painted in black was added that the participants were informed to be him/herself. From Section E to H, accordingly, one or three friends (taller or shorter) talking with him/her are included in the room: according to culture, we changed the color of hair, skin, eyes, and clothes.

As a result, the current task prepared 96 images—in detail, 4 (situations: Section A to D) ×

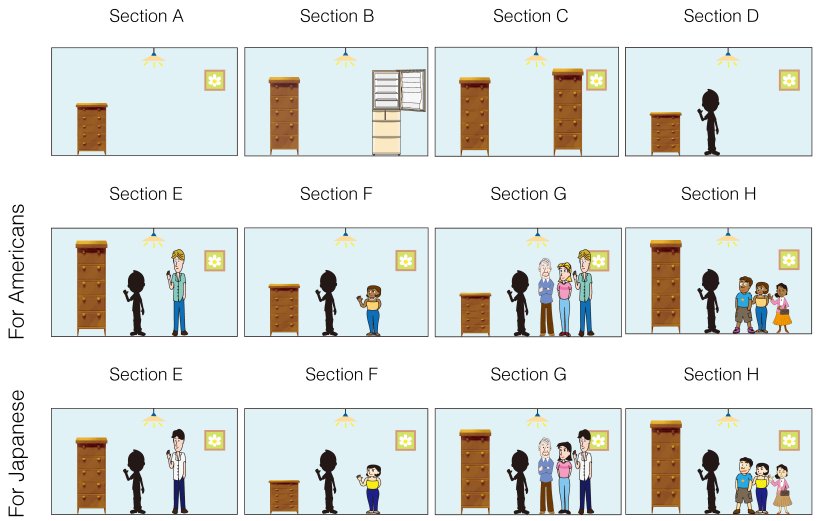



**Figure 7.** Examples of the height evaluation test (HET).

8 (sizes of cabinets) + 2 (cultures of the respondents: Japanese vs. Americans) × 4 (situations: Section E to H) × 8 (sizes of cabinets). In each section, the images were randomly presented by Inquisit software version 4.9.0, which registered not only the responses but also their times (RTs).

*Procedure*

In the experiment, the participants began by offering personal information on age, gender, the first language, screen size, and area of residence, and then proceeded to the main part, starting from Section A to Section H. All of these sections underwent the same procedure as follows: (i) eight pictures, each including a cabinet with a different height, were randomly shown for two seconds each—in sum, 16 seconds; (ii) these pictures were presented at random again, but for each picture the participants were required to respond to the question "Do you say that this cabinet is tall?" as quickly as possible with a key [z] (meaning "yes") or [x] (meaning "no"), in which case they had no time limit. In total, they were asked to respond to 64 questions—8 (room situations) × 8 (sizes of cabinets).

## 4.2 Results

*Computing the norm in each section*

To compare the effects of these contexts, we first of all estimated the average of the norm in each section using logistic regression analyses to compute the coefficient and median, the result of which is presented in Figure 8 (see Appendix B for all of the histograms). Because the context in Section D is the basis of the following sections (Section E to H), the deviations from that norm,

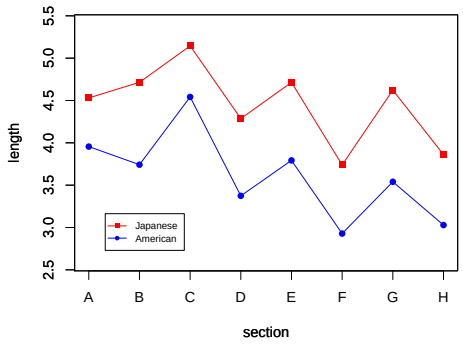



**Figure 8.** The average norms in Study 2.

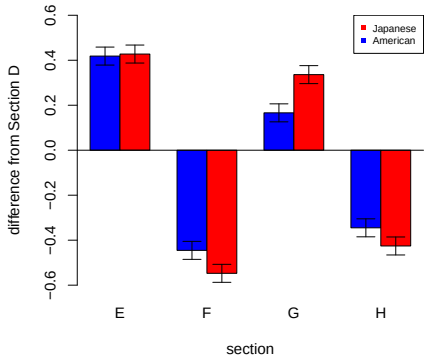



**Figure 9.** The differences from Section D.

indicated in Figure 9, denote the purer contextual effects: in any section, the degree of difference exhibits the impact of the existence of (one or three) hearers or their expected evaluation upon the speaker/participant's judgment. Figure 9 indicates that, as far as appearances go, Japanese participants were more susceptible to every context than Americans, meaning that they tended to incorporate the hearers' judgments in their own assessment of objects. The Wilcoxon rank-sum test with continuity correction found that in actuality the cultural contrast (Japanese-American) of the differences between Section G and H was statistically significant ($p < .01$).

*Difference in response time*

Two interesting features were observed in RT. Overall, first, the Japanese participants took more time ($M$ = 1584.1 ms) to make a response than Americans did ($M$ = 1285.1 ms)—a Mann-Whitney-Wilcoxon test (as well as a parametric $t$-test) showed a significant difference between them ($p < .001$), RTs less than 100 ms and more than 10 seconds being regarded as outliers. This distinction implies that the Japanese tended to view and read more information from the contexts of the target, which was fully consistent with results of cultural studies introduced earlier. As may be noted from Appendix B, second, value-judgments around the norm in each section (Japanese or Americans) required them to take more time (indicated by the peak in the graph). We could thereby infer the norm of value-judgment as another method. If it is true that the top point refers to the norm, it can be seen that in general the Japanese participants had the higher norm on the scale (the same result as Figure 8), from the fact that the vertices of the Japanese graphs were inclined a bit greater (more to the right) than the American ones.

## 4.3 General discussion

The current task was designed based on our personal experience of the water cooler in the libraries in Japan and the U.S., as introduced in Section 2.2: simply put, Japanese students showed

more meticulous consideration for those waiting in line after them than the American students did. Based on this, we posited the hypotheses that (i) the American participants would tend to make a subjective or objective$_{1/3}$ evaluation and (ii) the Japanese ones would be likelier to make an objective$_{2/4}$ judgment. As is the case with the previous study (PET), the results of this experiment confirmed these hypotheses as follows: (a) the *subjective* situation in Section D had a great impact both on Japanese and on Americans, compared to the previous situations (Section A to C); and (b) the objective$_{2/4}$ circumstances (Section E–H) had a greater influence on the Japanese participants during value-judgment than their American counterparts.

Interestingly, these two studies are perfectly coherent in their results, despite the different types of contexts (competitors presented) and different adjectives being used in the respective tasks. Remarkably, even the American participants were not inclined to make a judgment analytic and separated from themselves in either experiment. Under the current definition of subjectivity/objectivity, at least in an evaluative situation, the Japanese mind tends to make an *objective* construal/perception and the American a *subjective* construal/perception.

## 5. Conclusion

The current paper rejects the discussion in the literature of Japanese CL and assumed an alternative: see (H-1) and (H-2). Our theory, coherence with other cultural studies, which was demonstrated by this twofold psychological experiment, contradicted the (misleading) assumption that the Japanese mind would show a tendency for an interactive mode of cognition, or subjective construal/perception, while English speakers, during a language scene, would displace self from a situation or take an objective construal/perception. If these views rely on cognition or mentality as a basis for linguistic theorizing, the psychological basis should first be consolidated in order not to fall into circular logic: the assumption of cognition induced from the linguistic data should not be used to explain the linguistic data.

To enhance our hypotheses (built on studies in CP), we thus conducted two types of tasks for Japanese and English speakers to investigate the subjectivity/objectivity of adjectival meanings and their cultural differences. As a result, both tasks suggested that the Japanese speakers relied on objectivization$_{2/4}$ for value-judgments and the English speakers preferred to make a subjective evaluation. Although our data are limited to these narrow and particular linguistic phenomena (so that we need to run an additional experiment), it is possible to say that they verified our hypotheses.

As a final remark, we note that the scope of the present paper is much broader than just a linguistic discussion, since any sense of subjectivity/objectivity (or change of state between them) is the cognitive basis and the schematic relationship between a subject (i.e., self) and an (outward) object. Let us mention two negative consequences of objectivization. First, objectivization could lead to bias: Imagine that you come up with the idea "[you think] Jim is a bad man" but you or the hearer might, through objectivization$_{1/2}$, regard it as a universal or socially normal fact (Jim = bad) and deeply store it in the heart—and then one of you might abuse him, either intention-

ally or unintentionally. Second, in the Japanese context, objectivization$_{2/4}$ would have mutually constituted the unique culture of *hazi* (shame), *wa* (harmony), and *omoiyari* (compassion), which foreigners might see as a beautiful custom, but the psychological pressure of "commonality" has long exhausted Japanese people, as has been seen as a large social problem there.

## Acknowledgements

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## Notes

[1] This is the term in Cognitive Grammar, meaning the person who subjectively makes a concept, the other labels being *judge*, *speaker*, and *subject* in this paper (Langacker 1987, 2008).

[2] Version 2016 of Qualtrics. Copyright© 2016 Qualtrics. Qualtrics and all other Qualtrics product or service names are registered trademarks or trademarks of Qualtrics, Provo, UT, USA. (http://www.qualtrics.com)

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## Appendix A: The situational context from Study 1 (PET).

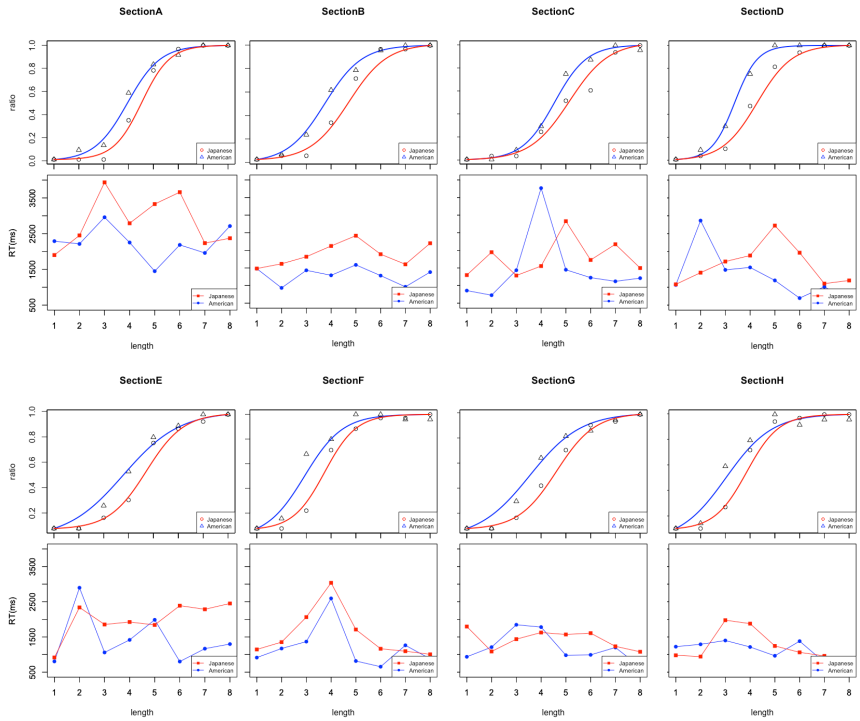
**Imagine the following situation: (you can proceed in 25 seconds)**

**You are a worker at a company that mainly produces a medical machine "VTRAC." In your country, the U.S., it is usually $1,500 or $2,000 for even better quality. You have visited the close countries (Canada and Mexico) to be aware of their prices, demand, and quality of VTRACs. In canada, they are sold for approximately $1300 and it is produced in greater amount than in the U.S. On the other hand, Mexico basically does not use the machine and the price is around $1,700. And now, you are asked to search the value and quality of VTRAC in European countries: Italy, Spain, France, German, and the U.K. with your co-worker Mike Leonard.**

**(continued): (you can proceed in 25 seconds)**

**At first, you fly to Rome, Italy. In the following day, you visit the famous specialized store for medical machines. You find a VTRAC and the price is $4,500. You ask the sales clerk about the price of VTRAC in Italy. He provides the information you that the price is normal, not excessive. And you realize that this medical machine seems to perform better than in the U.S. On the next day, you go to Madrid, Spain and visit a special shop and survey the price of VTRAC in this country. It is about $5,200, more expensive than in Italy. Moreover, in the following week, you go to France and German and visit the same type of store, and you find them at $6,500 in France and $6,800 in German. Lastly, you arrive at the U.K. and search the prices of VTRAC. They are $4,300, which is less than in Italy. As a result, you can see that although the quantity and demand of VTRAC are various, the average price of it are $4,500 in Italy, $5,200 in Spain, $6,500 in France, $6,800 in German, and $4,300 in the U.K.**

## Appendix B: The histogram and RT from Study 2 (HET).



# 客観化の認知プロセスに関する文化的差異
## —形容詞表現に影響を及ぼす価値観の日英比較—

菅谷 友亮

文化心理学は基本的な認知プロセスでも文化・社会的影響を強く受ける事を実証した。客観化とは主観から客観への変化で主体と客体の関係性が変化する事を表す。その抽象性の高さの為に非常に汎用的である。当然、主観性や客観性は言語に関連し認知言語学では重要なテーマとして扱われ日本の認知言語学で日英対照研究が盛んになされる。本研究では概念を明確化する為に主観と客観またはそれらの間の変化を 4 つに分類した上で、文化心理学の成果を基に西洋的な客観化プロセスが 2 種類、東アジア的な客観化プロセスが 2 種類あると仮説を立てた。心理学・認知的側面からのアプローチの為、従来の認知言語学の仮説とは整合せず批判的である。以上の仮説を評価又は形容詞表現に関して具体化し 2 つの実験で実証した。1 つ目が言語文脈により比較対象を呈示した価格の高さに関しての評価、二つ目が視覚文脈により比較対象を呈示した物体の高さに関しての評価の課題である。双方に於いて、日本語話者は聞き手や第 3 者の評価を自分の評価に含め、英語話者は周りの影響を受けず自律的に評価した（但し、両者とも主体と客体を切り離して判断する事はなかった)。一般的に言えば、本実験結果は「東アジア文化はより包括的な見方で他者との関係により判断しようとし、西洋文化は局所に集中し自律的な判断を試みる」という文化心理学の研究仮説を言語学的にも支持する結果となった。