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Construal-Level Theory of Psychological Distance

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Abstract

People are capable of thinking about the future, the past, remote locations, another person's perspective, and counterfactual alternatives. Without denying the uniqueness of each process, it is proposed that they constitute different forms of traversing psychological distance. Psychological distance is egocentric: Its reference point is the self in the here and now, and the different ways in which an object might be removed from that point—in time, in space, in social distance, and in hypotheticality—constitute different distance dimensions. Transcending the self in the here and now entails mental construal, and the farther removed an object is from direct experience, the higher (more abstract) the level of construal of that object. Supporting this analysis, research shows (a) that the various distances are cognitively related to each other, (b) that they similarly influence and are influenced by level of mental construal, and (c) that they similarly affect prediction, preference, and action.

Keywords

mental construal; abstraction; mental travel; psychological distance

People directly experience only the here and now. It is impossible to experience the past and the future, other places, other people, and alternatives to reality. And yet, memories, plans, predictions, hopes, and counterfactual alternatives populate our minds, influence our emotions, and guide our choice and action. How do we transcend the here and now to include distal entities? How do we plan for the distant future, understand other people's point of view, and take into account hypothetical alternatives to reality? Construal level theory (CLT) proposes that we do so by forming abstract mental construals of distal objects. Thus, although we cannot experience what is not present, we can make predictions about the future, remember the past, imagine other people's reactions, and speculate about what might have been. Predictions, memories, and speculations are all mental constructions, distinct from direct experience. They serve to transcend the immediate situation and represent psychologically distant objects. Psychological distance is a subjective experience that something is close or far away from the self, here, and now. Psychological distance is thus egocentric: Its reference point is the self, here and now, and the different ways in which an object might be removed from that point—in time, space, social distance, and hypotheticality—constitute different distance dimensions.

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According to CLT, then, people traverse different psychological distances by using similar mental construal processes. Because the various distances have the same egocentric reference point, they should all be cognitively related to each other and similarly affect and be affected by level of construal. As psychological distance increases, construals would become more abstract, and as level of abstraction increases, so too would the psychological distances people envisage. Construal levels thus expand and contract one's mental horizon. The different distances should also similarly influence prediction, evaluation, and action, inasmuch as these outcomes are mediated by construal. The present article builds upon our earlier work on temporal construal theory, which focused in particular on the way that temporal distance from future events influences representation and judgment (Liberman & Trope, 1998; Trope & Liberman, 2003). Going beyond this earlier theory, we now treat temporal construal theory as a special case of a general theory of psychological distance. At the core of the proposed theory is a functional approach to construal levels, according to which mental construal processes serve to traverse psychological distances and switch between proximal and distal perspectives on objects. We describe the properties of the mental construal processes that enable them to fulfill this function and further explicate our approach by relating it to extant theories of how people respond to distant objects. Some of these ideas were presented in earlier literature reviews and book chapters (Liberman & Trope, 2008; Liberman, Trope, & Stephan, 2007; Trope, Liberman, & Wakslak, 2007). The present article presents a more advanced and comprehensive formulation of the theory and examination of related theories and research.

The article consists of three main parts. In the first part, we present the basic assumptions of CLT. We explain what we mean by construal levels and why they are related to psychological distance (Section I) and examine the cognitive relationships among the four dimensions of psychological distance (Section II) and their bidirectional relationship to level of construal (Section III). In the second part, we turn to the construal-mediated consequences of psychological distance for prediction, preference, and self-regulation (Sections IV–VI). In the third part, we address open questions about psychological distance and discuss new directions for future research (Sections VII–IX).

Basic Assumptions of CLT

In the following three sections, we examine the basic assumptions of CLT regarding psychological distance, construal level, and the relationship between the two.

I. What Is Level of Construal, and Why Is It Related to Psychological Distance?

On the basis of theories of categorization (Rosch, 1975), concept formation (Medin & Smith, 1984), and action identification (Vallacher & Wegner, 1987), we view high-level construals as relatively abstract, coherent, and superordinate mental representations, compared with low-level construals. Moving from a concrete representation of an object to a more abstract representation involves retaining central features and omitting features that by the very act of abstraction are deemed incidental. For example, by moving from representing an object as a "cellular phone" to representing it as "a communication device," we omit information about size; moving from representing an activity as "playing ball" to representing it as "having fun," we omit the ball. Concrete representations typically lend themselves to multiple abstractions. For example, a cellular phone could be construed also as a "small object," and "playing ball" could be construed as "exercising." An abstract representation is selected according to its relevance to one's goals. Thus, if one's goal is to contact a friend, then "a communication device" is relevant, but size is not. From the perspective of that goal, the cell phone could be replaced by (i.e., would be conceptually close to) a desktop computer with an Internet connection. If, however, one's goal is to pickpocket a valuable object, then size is a relevant attribute, and function is of less

relevance. Given this goal, the cell phone could be replaced by (i.e., would be conceptually close to) a wallet. Like irrelevant details, details that are inconsistent with the chosen abstract representation are omitted from the representation or assimilated into it. For example, the detail that the ball game is slow would be omitted or modified once the activity is represented as "exercising." Because abstract representations necessarily impose one of many alternative interpretations, and because irrelevant or inconsistent details are omitted or assimilated to it, these representations tend to be simpler, less ambiguous, more coherent, more schematic, and more prototypical than concrete representations (Fiske & Taylor, 1991, p. 98; E. R. Smith, 1998). It is important to note, however, that higher level construals are not simply more impoverished or vague than lower level construals. They often convey additional information about the value of the stimulus and its relations to other stimuli. For example, "having fun" entails many characteristics that are not an obvious part of "playing ball outside" (e.g., valence) and places the activity within a broader context by specifying its relations to other concepts (e.g., a party). Thus, the process of abstraction involves not only a loss of specific, idiosyncratic, and incidental information, but also ascription of new meaning deduced from stored knowledge and organized in structured representations.

There are multiple levels of abstractness, as one could construct increasingly more inclusive categories of objects (e.g., poodle, dog, a mammal). Actions form hierarchies, too, as goals could be translated into more abstract, superordinate goals (Carver & Scheier, 2000; Miller, Galanter, & Pribram, 1960; Vallacher & Wegner, 1987). In such hierarchies, each action (e.g., study for an exam) has a superordinate, abstract level, which answers the question of why the action is performed (e.g., do well) and a subordinate, concrete level, which provides the details of how the action is to be performed (e.g., read a textbook). Higher levels of abstractness contain less concrete details about the specific type of action performed, the objects it involves, and its immediate context and more information about the general meaning and the valence of the action (Semin & Fiedler, 1988; Trope, 1986, 1989).

On the basis of this conceptualization, we posit two related criteria that can be used to distinguish which features of an item or an event are more high level and which are more low level (i.e., which features will be increasingly captured at a higher vs. lower level of construal). The first criterion reflects centrality: Changing a high-level feature has a greater impact on the meaning of an object than does changing a low-level feature. For example, a lecture would change more when the speaker is changed than when the room is changed, suggesting that the speaker is a higher level feature of the lecture than the room is. The second criterion reflects subordination: The meaning of low-level features depends on high-level features more than vice versa. For example, when learning about a forthcoming guest lecture, location would become important only if the topic is interesting. The topic of the lecture, on the other hand, would be important regardless of the location's convenience. In this sense, details about location are subordinated to details about topic, and thus constitute a lower level of construal.

Construal and distance—CLT contends that people use increasingly higher levels of construal to represent an object as the psychological distance from the object increases. This is because high-level construals are more likely than low-level construals to remain unchanged as one gets closer to an object or farther away from it. For example, the higher level goal to contact a friend is more stable over time than the more concrete goal to send her an e-mail, because an Internet connection might be unavailable when one is actually trying to contact the friend. From a temporally distant perspective, it is therefore more useful to construe this action in terms of the high-level goal rather than the low-level goal. The same holds true for the other distances. Thus, abstract categories tend to change less across social distance. For example, more people use communication devices than cell phones, and therefore, the former construal is more useful for relating to socially distant individuals.

Even maintaining perceptual constancy across spatial distance requires abstraction. Identifying an object in near and distant locations as being the same requires forming an abstract concept (e.g., a chair) that omits incidental features (e.g., perspective-specific appearances and contextual variations, such as the way a chair's shade falls upon the floor and its retinal size) and retains essential, relatively invariant features (e.g., its overall shape and proportions). The use of high-level, abstract construals to represent psychologically distal objects is thus indispensable for effective functioning in many domains: for developing object constancy, orienting in space, planning the future, learning from the past, relating to and understanding other people, and for considering alternative outcomes and courses of action.

Consider now the reverse direction of influence, namely, the effect of level of construal on distance. Because high-level construals are more general, they bring to mind more distal instantiations of objects. For example, "having fun," compared with "playing basketball outside," may bring to mind activities in the more distant future and past, in more remote locations, in hypothetical situations, and with more socially distant others. Similarly, construing another person's behavior in terms of a personality trait (a high-level construct) involves considering that person's behavior in the past and future, in other places, and in hypothetical situations. More generally, forming and comprehending abstract concepts enable people to mentally transcend the currently experienced object in time and space, integrating other social perspectives, and considering novel and hypothetical examples. In this sense, the different levels of construal serve to expand and contract one's mental horizons and thus mentally traverse psychological distances.

It is critical that, although we believe that these functional relationships underlie the association between construal and distance, we propose that the effects of distance on construal and of construal on distance are overgeneralized, making them persist even when the initial reasons that gave rise to the association are no longer present. That is, a large distance from an object would activate a high-level construal of the object even when low-level details are not particularly likely to change over distance, and high level of construal of an object would produce a sense of distance from the object even when such construal does not afford retrieval of particularly distal exemplars of the object. For example, students may know the room in which a guest lecture will take place well in advance and be quite certain that it will not change. Nevertheless, CLT predicts that these students will ignore the quality of the lecture room (a low-level detail) when it is temporally distant, when it takes place in a remote location, when it is planned for another person, and when it is unlikely to take place.

Finally, it is worth emphasizing that although psychological distance and construal levels are related, they are not the same. Psychological distance refers to the perception of *when* an event occurs, *where* it occurs, to *whom* it occurs, and *whether* it occurs. Construal levels refer to the perception of *what* will occur: the processes that give rise to the representation of the event itself. Thus, psychological distance from an event should be more closely related to the spatiotemporal distance of the event from the self than to its inherent properties, whereas the construal of the event should be more closely related to its inherent properties than to its spatiotemporal distance from the self.

Below, we develop more fully the assumption that the different psychological distances are interrelated (Section II) and that each distance affects and is affected by level of construal (Section III).

II. Psychological Distances Are Interrelated

We contend that the propensity to complete the sentence "a long time ago, in a ____ place" with "far away" rather than with "nearby" reflects not only a literary convention but also an

automatic tendency of the mind. Indeed, people use spatial metaphors to represent time in everyday language and reasoning (Boroditsky, 2007). In social psychology, spatial distance is often used to measure social distance. For example, choosing a more distant seat from another person is taken to reflect social distancing from that person (e.g., Macrae, Bodenhausen, Milne, & Jetten, 1994; Mooney, Cohn, & Swift, 1992). More generally, if a common dimension of psychological distance underlies the various distance dimensions we have enumerated, then these distance dimensions should be mentally associated. For example, remote locations should bring to mind the distant rather than the near future, other people rather than oneself, and unlikely rather than likely events.

In an investigation of this hypothesis, Bar-Anan, Liberman, Trope, and Algom (2007) used a picture–word Stroop task (Stroop, 1935) to examine the cognitive interrelations among psychological distances. Participants viewed landscape photographs containing an arrow that was pointing to either a proximal or a distal point in the landscape (see Figure 1). Each arrow contained a word denoting either psychological proximity (e.g., “tomorrow,” “we,” “sure”) or psychological distance (e.g., “year,” “others,” “maybe”). Participants’ task was to respond by pressing one of two keys as quickly and as accurately as possible. In one version of the task, they had to indicate whether the arrow pointed to a proximal or distal location. In another version, they had to identify the word printed in the arrow. In both versions, participants responded faster to distance-congruent stimuli (in which a spatially distant arrow contained a word that denoted temporal distance, social distance, or low likelihood, or a spatially proximal arrow contained a word that denoted temporal proximity, social proximity, or high likelihood) than to distance-incongruent stimuli (in which a spatially distal arrow contained a word denoting proximity, or a spatially proximal arrow contained a word denoting distance).

These findings suggest that spatial distance, temporal distance, social distance, and hypotheticality have a common meaning and that people access this common meaning automatically, even when it is not directly related to their current goals. We think that the common meaning is psychological distance and that it is automatically assessed because of its important implications for the perceiver. For example, on a rainy day, it matters whether an umbrella one notices belongs to a friend or to a stranger (social distance); in the jungle, it is important whether a tiger is real or imaginary (hypotheticality); in making a financial investment, it is important whether a recession is anticipated in the near or distant future (temporal distance), here or somewhere else (spatial distance). Yet, unlike valence, distance is not an inherent aspect of the semantic meaning of objects. Umbrellas, tigers, and recessions are inherently good or bad, but they are not inherently proximal or distal. It is perhaps for this reason that distance has not been included among the basic dimensions of meaning: evaluation, potency, and activity (Osgood & Suci, 1955).

The idea that distance dimensions are automatically associated further suggests that the distance of a stimulus on one dimension may affect its perceived distance on other dimensions. In this spirit, research by Stephan, Liberman, and Trope (2010) has investigated how social distance affects and is affected by spatial distance and temporal distance. This line of research was based on past work showing that polite language signifies and creates interpersonal distance: People address strangers more politely than they address friends, and the use of polite, formal language creates a sense of distance (Brown & Levinson, 1987). Consistent with this analysis, Stephan et al. found that the use of normative, polite language rather than colloquial, less polite language led participants to believe that the target of the communication was spatially and temporally more distant. For example, using normative rather than colloquial language to address a person (e.g., “My brother is taking our family car, so the rest of us will stay at home” vs. “… will be stuck at home”) led participants to

infer that the addressee was in a more remote location and that the conversation referred to an event in the more distant future.

Another set of studies by Stephan et al. (2010) found evidence for the reverse direction of influence, namely, an effect of spatial and temporal distance from the target of communication on the use of polite language. In one study, participants wrote instructions for a person who was expected to read them either in the near future or the distant future (e.g., participants wrote sightseeing suggestions for a tourist that was supposed to arrive on the following day or a year later). The results showed that participants preferred to phrase instructions more politely when they were addressed to the distant future than to near future tourist. Similar findings were found with addressing a spatially proximal versus distal stranger. Williams and Bargh (2008, Study 4) showed, in a similar vein, that participants who were primed with spatial distance (relative to proximity) by marking close (vs. distant) points on a Cartesian plan subsequently reported greater social distances between themselves and members of their family and their hometown.

Finally, Wakslak and Trope (2008) showed that hypotheticality also affects the perception of other distances, such that people expect unlikely events (which, in terms of CLT are distant on the dimension of hypotheticality), compared with likely events, to occur in situations that are relatively more distant in time, space, and social distance. For example, a rare cat blood type was expected to be found in cats in spatially remote rather than nearby places, whereas a common cat blood type was expected in a near rather than a remote location. Presumably, people map probability onto other distance dimensions and therefore expect improbable events to happen to distant others in distant places and times.

Discussion—Recent research shows that the different psychological distance dimensions are associated and suggests that psychological distance is an aspect of meaning, common to spatial distance, temporal distance, social distance, and hypotheticality. This research further shows that cues of distance on one dimension affect the perceived distance of objects on other dimensions. For example, the spatial distance from an event may depend not only on its location relative to that of the perceiver but also on whether it is expected in the near or distant future, whether it occurred recently or a long time ago, whether it is expected to be experienced by oneself or another person, and whether it is probable or improbable. In this respect, the different psychological distances may be to some extent interchangeable (see Pronin, Olivola, & Kennedy, 2008).

Our research has only started to explore the relationships among the various distance dimensions. Below we consider further questions about more complex relationships among the psychological distances than those we have identified thus far.

The psychophysics of distance: How do objective distances in time, space, social target, and hypotheticality map onto generalized psychological distance? It seems reasonable to expect a relatively high sensitivity to changes in objective distance from the self here and now at the proximal end of the continuum. As distance increases, changes in objective distance might produce smaller corresponding changes in psychological distance. As vividly illustrated by Steinberg's painting View of the World from the 9th Avenue, the distance between 9th Avenue and 10th Avenue in Manhattan seems to Steinberg greater than the distance between New York City and Chicago. In other words, consistent with the Weber-Fechner law, psychological distance from an object might follow a concave, logarithmic function rather than a linear function. Recent research by Zauberman, Kim, Malkoc, and Bettman (2009) provides evidence showing that such a function fits subjective estimates of temporal distance from future events. Likewise, research on estimates of spatial distance uncovered increased sensitivity around an egocentric reference point (e.g., Holyoak & Mah,

1982). Investigating the functions that relate temporal distance, prospective and retrospective, as well as other distances, to psychological distance remains an important direction for future research.

Another important but unexplored question is how different distances combine to affect psychological distance. One interesting possibility is that the Weber-Fechner law may apply across different psychological distance dimensions. That is, changes in distance of an object from the self on one dimension would have a greater impact on psychological distance when that object is proximal on another dimension than when it is distant on that other dimension. For example, the same changes in spatial distance of an object from the self might have a stronger impact on the psychological distance of that object when the changes are expected in the near future rather than in the distant future. To use Steinberg's drawing, this artist might think of a meeting as coming up sooner if he plans to have the meeting in Manhattan than in Chicago.

Are the relationships among near objects and distant objects equally strong?: According to CLT, different objects are mentally associated to the extent that they are psychologically equidistant from the self. In principle, the associations among proximal objects could be as strong as those among distal objects. However, because psychological distance is egocentric, anchored at the self here and now, objects at the proximal end may have more in common than those that are removed from that end. There is only one me and many others, and therefore, the things that are me and mine are more similar to each other than the things that are not me and mine. Only one place in space is "here," but there are many places that are far away, and therefore, things that are here are more related to each other than things that are far away. Similarly, there is likely less variation among real events than possible events. The greater commonality among proximal objects than distal objects might give rise to stronger interrelationships among the former than the latter.

Differences among distances: Although we suggest that different types of distance are related, we do not wish to suggest that they are the same. It is possible that some distance dimensions are more basic or influential than others. For example, Boroditsky has recently proposed that spatial distance is primary and that temporal distance is understood as an analogy to it (Boroditsky, 2000, 2001; Boroditsky & Ramscar, 2002). In support of this proposal, she showed that thinking about space before answering questions about time influenced the participants' responses, but thinking about time before answering questions about space did not affect participants' responses (Boroditsky, 2000, Experiments 2 and 3). In another series of studies, she presented participants with lines on a computer screen and showed that judgments of exposure duration were affected by the lines' length whereas judged length was not affected by duration of exposure (Casasanto & Boroditsky, 2008). Spatial distance may be more basic than temporal distance or other distances in that it is learned earlier, more clearly detected, less ambiguous, or easier to communicate about. It is possible, however, that the distinction between self and not-self, which underlies social distance and perspective taking (e.g., Pronin, 2008), might be a core psychological distance that exerts a particularly strong influence on the activation and perception of other distances. Perhaps hypotheticality, the distinction between real and imagined objects and between probable and improbable events, is least prominent and acquired at an older age, compared to other distance dimensions.

The various distance dimensions may differ in other respects. Time is unidimensional and uncontrollable. We incessantly travel from the past to the future and have no control over time. Spatial distance has three dimensions, is relatively stable, and can be controlled by moving closer or farther away from things at wish. Social distance is only partly controllable (e.g., we can try to get closer to a person but success is not entirely dependent on our

actions). Hypotheticality is also only partly controllable, because we cannot always change the probabilities of events. Another important difference among the distances is their relation to valence. Whereas social distance decreases positivity (e.g., in groups are perceived as more positive than out groups), temporal distance typically increases positivity (people are more positive about the more distant future). Exploring the psychological consequences of these differences in controllability, dimensionality, and valence is a fruitful direction for future research.

III. Psychological Distance and Level of Construal

The basic premise of CLT is that distance is linked to level of mental construal, such that more distant objects will be construed at a higher level, and high-level construal will bring to mind more distant objects. It may seem intuitive that from a distance we see the forest, and as we get closer, we see the trees. It may also seem intuitive that, to see the forest rather than individual trees, we need to step back. These effects should apply, however, not only to spatial distance but also to other distances, and not only to visual input, where it might seem a natural constraint of our perceptual system, but also to conceptual abstraction. We do not literally see either tomorrow or next year. Yet we may think about tomorrow in terms of trees and about next year in terms of the forest. We do not literally take a step back to forget the daily hassles and consider our life in general. Yet, when thinking of the general aspects of our life rather than about daily details, we may find ourselves looking farther into space.

Evidence for these associations between distance and construal has been found at the level of both implicit associations and explicit judgments and decisions. Bar-Anan, Liberman, and Trope (2006), for example, examined the associations between level of construal and psychological distance using an Implicit Association Test. Similar to other assessments of implicit associations using this test (see Greenwald, McGhee, & Schwartz, 1998), participants in these studies were presented with stimuli from four categories: stimuli pertaining to high-level construal (e.g., category names such as “drinks”), stimuli pertaining to low-level construal (e.g., exemplar names such as “coke”), stimuli pertaining to low psychological distance (e.g., the word “ours” or the word “friend” for the social distance), and stimuli pertaining to high psychological distance (e.g., the word “theirs” or the word “stranger”). In CLT-congruent trials, high-level stimuli were paired with distant stimuli and low-level stimuli were paired with proximal stimuli, whereas on CLT-incongruent trials, high-level stimuli were paired with proximal stimuli and low-level stimuli were paired with distal stimuli. With all four dimensions of psychological distance—temporal distance, spatial distance, social distance, and hypotheticality—the participants were faster with congruent than with incongruent pairings, indicating that participants implicitly associate psychological distance with high-level construal and psychological proximity with low-level construal. This set of studies suggests that the association between psychological distance and construal level can be activated automatically without conscious deliberation.

Beyond mere association, the reciprocal effects of distance on construal and of construal on distance have important implications for perception, categorization, action identification, and person perception. In the following, we discuss those implications.

Visual Perception—The distinction between the (high-level) gestalt and (low-level) constituent details, such as the proverbial distinction between the trees and the forest, readily applies to visual perception. In a widely used task (Navon, 1977), participants are presented with global letters that are made of local letters (e.g., a large *L* made of 20 small *H*s), and are asked to indicate whether a target letter appears on the screen (e.g., “Is there an *H* on the screen?”). The target letter can match a global letter or a local letter. Would psychological distance facilitate attending to global letters (e.g., the “forest”) and impair attending to local

letters (e.g., the “trees”)? Would attending to global letters, as opposed to local letters, enhance perceived distance? Liberman and Förster’s (2009 Liberman and Förster’s (in press) studies suggest affirmative answers to both questions. In one of the studies (Liberman & Förster, in press), they primed participants with temporal distance or temporal proximity by making them write essays about their lives tomorrow or their lives on a day a year later and imagine taking an attention test on that day. Navon’s (1977) task was then presented. Relative to a control group, in which participants did not write an essay, temporal distance facilitated processing of global letters and impaired processing of local letters, whereas temporal proximity produced the opposite effect. Similar effects were found for priming of spatial distance and social distance.

To examine the reverse direction of influence, namely, that of global perception on estimated psychological distance, Liberman and Förster (2009) procedurally primed participants with either global or local perceptual processing, using a variation of Navon’s (1977) task. In the global priming condition, the target letters were always global, and in the local priming condition, the target letters were always local, whereas in the control condition, the targets were global in half of the trials and local in the other half. Relative to the control condition, global processing led to greater estimates of temporal distance, spatial distance, social distance, and hypotheticality. Local processing had the opposite effect. For example, participants who were primed with global processing estimated temporal distance to a dental visit as longer and spatial distance between themselves and a designated point in the room as larger than participants primed with local processing. In a related vein, Wakslak and Trope (2009) found that priming global processing (vs. local processing) through the Navon task led participants to assign lower probability to a variety of everyday life occurrences.

It is important to note that, given that psychological distance is egocentric, as CLT contends, if the distance between two objects is not mentally represented as social distance from oneself, temporal distance from now, or spatial distance from here, it should not necessarily depend on level of construal. Consistent with this prediction, in Liberman and Förster’s (2009) studies, primed level of construal affected estimated spatial distance between the participant and a sticker in the room, but it did not affect the estimated spatial distance between the experimenter and a marked desk in the room. Likewise, level of construal did not affect estimates of temporal distance that were not anchored on now (e.g., “How much time *after receiving an invitation* would you go to the dentist?”).

High-level construal of visual information often entails abstraction of coherent images from fragmented visual input. An example is the Gestalt Completion Task (see Figure 2; Street, 1931; see also Ekstrom, French, Harman, & Dermen, 1976), where performance depends on detecting the global pattern and where attending to details interferes with performance. In a series of studies, participants completed what they believed to be sample items of the Gestalt Completion Task, supposedly as a practice version before they perform the actual task. Participants’ performance improved when they anticipated working on the actual task in the more distant future (Förster, Friedman, & Liberman, 2004), when they thought the actual task was less likely to take place (Wakslak, Trope, Liberman, & Alony, 2006), and when social distance was enhanced by priming of high social status (P. K. Smith & Trope, 2006). A psychologically distant perspective thus seems to enable people to better see the gestalt.

Whereas distance improves the ability to perceive the gestalt in a visual array, it should have the opposite effect when the task requires attention to details. Distance should therefore have a detrimental effect on the ability to identify a missing low-level, local element within a coherent whole (e.g., a missing hand on a watch, a missing handle on a drawer chest). Wakslak et al. (2006) used the picture completion subtest of the Wechsler Intelligence Scale

for Children (Wechsler, 1991) to test this prediction. As expected, participants did worse on sample items of this task when they believed they were less likely to later complete it.

Pictures and Words—Pictures are concrete representations that bear physical resemblance to the referent objects, whereas words are abstract representations that carry the essence of that object (Amit, Algom, & Trope, 2009; Amit, Algom, Trope, & Liberman, 2008). Words therefore comprise a higher level of construal than do pictures. Supporting this assumption, Amit, Algom, and Trope (2009) found that participants classified items into more groups when the items were presented in pictures than when they were presented in words. In another study, they presented spatially, temporally, or socially near or distant items in either a pictorial or verbal format (see Figure 3). Participants' task was speeded identification of the object. For example, in an experiment on spatial distance, words or pictures were presented against a background that created an illusion of depth. As expected, participants responded faster to pictures of objects when they were made to seem spatially near than spatially distant, but they responded faster to words denoting those objects when they were made to seem spatially distant than spatially near. To manipulate temporal distance, they used words and pictures of modern objects and ancient objects (e.g., a cart and a car), and to manipulate social distance they used words and pictures of domestic and foreign objects (e.g., a coin of domestic and foreign currency). Responses were faster when pictures represented psychologically proximal objects and words represented psychologically distal objects than vice versa. It seems, then, that processing is most efficient when there is a congruency between the portrayed distance and the presentation medium. Moreover, using similar stimuli in free recall experiments, Amit, Trope, and Algom (2009) demonstrated better memory for proximal than for distal stimuli when the targets were represented in pictures but that it was better for distal than for proximal stimuli when the targets were represented in words. These findings were obtained with temporal, spatial, and social distances.

Categorization—If the distant future is represented more abstractly, then individuals should use broader categories to classify objects for distant situations than for proximal situations. In support of this prediction, research has shown that people group objects into fewer, broader categories when they imagine the objects in a distant future scenario than a near future scenario (Liberman, Sagristano, & Trope, 2002, Study 1) or in an unlikely scenario than a likely scenario (Wakslak et al., 2006). Consistent with research on categorization, research on segmentation of ongoing events has found that people chunk behavior sequences into broader segments when the behavior is distal rather than proximal. For example, Henderson, Fujita, Trope, and Liberman (2006) asked New York University participants to partition an ongoing behavioral sequence into as many sections as they deemed appropriate. Participants viewed an animated film developed by Heider and Simmel (1944) that shows two triangles and a circle moving against and around each other and were told that the film depicted the action of three teenagers around a cabin at a well-known summer camp. In the spatially near condition, the camp was said to be located on the East Coast; in the spatially distant condition, the camp was said to be located on the West Coast. As expected, participants created fewer, broader sections out of the video when they believed the campers it depicted were in a spatially distant, as opposed to a spatially near, location. Similar effects were found for events that were described as less likely versus more likely (Wakslak et al., 2006).

Do narrow, specific categories promote a sense of psychological proximity? A recent series of studies by Wakslak and Trope (2009) manipulated level of categorization in several distinct ways and found the predicted effect on event likelihoods. In one study, construal level was primed by asking participants to generate either superordinate categories or subordinate exemplars of 40 objects (e.g., table, sport, book). Next, participants completed a

supposedly unrelated questionnaire where they made a series of probability judgments. As expected, participants who had been primed to have a high-level construal mindset indicated that the events were less likely to occur compared to those who had been primed to have a low-level construal mindset. In another study, participants compared either alignable or unalignable objects. In the alignable condition, participants compared two digital cameras, with information provided about the same seven features for each camera (e.g., battery life, digital zoom). In the nonalignable condition, participants were provided with information about seven different features for each camera (e.g., battery life for the digital camera; focus for the traditional camera). It was assumed that individuals who are asked to compare alternatives with nonalignable features would seek to make the attributes comparable by representing the alternatives at increasingly higher levels of abstraction (see M. D. Johnson, 1984; Malkoc, Zauberman, & Bettman, 2008). As expected, participants cued to think more abstractly (by having compared products with nonalignable attributes) judged an event involving the products as being less likely to occur than those cued to think more concretely (by having compared products with alignable attributes).

Action Identification—Actions, like objects, may be construed in high-level terms, which link them to a superordinate purpose (why one performs them), or in low-level terms, which link them to subordinate means (how one performs them). Here, too, greater psychological distance promotes higher levels of construal (Liberman & Trope, 1998). In one of the studies, participants tended to describe more distant future activities (e.g., studying) in high-level terms (e.g., “doing well in school”) rather than in low-level terms (e.g., “reading a textbook”). Similar effects emerged when actions were to take place in a spatially distant location (Fujita, Henderson, Eng, Trope, & Liberman, 2006), when the actions were framed as unlikely to actually take place (Wakslak et al., 2006), and when the actor was dissimilar to the perceiver (Liviatan, Trope, & Liberman, 2008).

If high-level construals serve to represent psychologically distant events, then activating high-level construals should lead people to think of events in psychologically more distant situations. Indeed, research shows that thinking about an activity in high-level, “why” terms rather than low-level, “how” terms leads people to think of the activity as taking place in more distant points in time (Liberman, Trope, Macrae, & Sherman, 2007; McCrae, Liberman, Trope, & Sherman, 2008) and of the actor as more socially distant (Stephan et al., 2010).

Action-identification theory (Vallacher & Wegner, 1989) specifies how to determine the superordinate and subordinate levels of categorizing a given action. Semin and Fiedler’s (1988) Linguistic Categorization Model assesses the abstractness of the action itself. At the most concrete level are descriptive action verbs (“lift,” “take”), which are typically directly observable. Interpretative action verbs (“pretend,” “help”) are more abstract, as they involve interpretation and require some knowledge of a context larger than the immediately perceived. State verbs (“prefer,” “understand”) are still more abstract, and adjectives (“helpful,” “aggressive”) are the most abstract category. The Linguistic Categorization Model is therefore a useful tool for examining the relationships between psychological distance and abstractness of action construal. Indeed, various kinds of distance have been found to affect abstractness of language. For example, people were found to use more abstract language when describing another person’s actions than their own actions (Semin & Fiedler, 1989; see also Fiedler, Semin, Finkenauer, & Berkel, 1995), when describing spatially distant interactions than spatially near interactions (Fujita, Henderson, et al., 2006), and when instructed to address another person politely than in colloquial language (Stephan et al., 2010).

Would the reverse direction of influence hold? That is, would linguistic abstractness affect perceived psychological distance? Semin and Smith (1999, Studies 2 and 3) studied the effect of linguistic abstractness on the temporal distance of recalled events. They provided participants with retrieval cues of varying abstractness and examined the temporal distance of the events they recalled. For example, participants were asked to recall either an occasion on which they helped somebody (i.e., concrete retrieval cue) or an occasion on which they displayed a trait of helpfulness (i.e., abstract retrieval cue). As predicted, an abstract retrieval cue prompted older memories than memories that were prompted by a concrete retrieval cue.

Person Perception—A large body of person-perception research has shown that people are biased toward attributing others' behavior to the corresponding personal dispositions, even when the behavior is situationally constrained (see Gilbert & Malone, 1995; E. E. Jones, 1979). In terms of CLT, this bias, called the *correspondence bias*, reflects a tendency toward a high-level construal of behavior in terms of abstract, decontextualized dispositions (see Fiedler et al., 1995; Semin & Fiedler, 1988; Semin & Smith, 1999). Distance should therefore enhance the correspondence bias. Furthermore, representing a person abstractly in terms of his or her dispositions would create a sense of distance. Naturally, social psychologists researched extensively the relations between social distance and dispositional inference. We first briefly review this literature and then describe comparable effects of other psychological distances.

Social distance: Considerable evidence for differences in construal between self and other comes from research on the actor–observer effect in attribution (E. E. Jones & Nisbett, 1972; for a review, see Gilbert, 1998). This research shows that a person's view of his or her behavior emphasizes the role of concrete situational factors that operate at the moment of action (e.g., "I stepped on your toe because the bus was crowded"), whereas his or her view of other people emphasizes the causal role of stable, general dispositional properties of the actor ("he stepped on my toe because he is clumsy"). Self–other differences might be explained as reflecting differences in knowledge (people know more about themselves and the variability of their behavior over situations than about others) and differences in the salience of behaviors versus situations (the latter is more salient from one's own perspective, the former from the observer's perspective). Would similar differences in construal emerge when knowledge is identical for near and distal social targets? Research relating abstractness of memories to the perspective in which they are recalled seems to offer an affirmative answer. It has been shown, for example, that personal memories of behaviors that were recalled from a third-person perspective (e.g., "try to remember your first day at school, as if you are now watching the kid you were") rather than from a first-person perspective ("try to remember your first day at school, as if you are a kid again") tended to use dispositional (as opposed to situational) terms (Frank & Gilovich, 1989; Nigro & Neisser, 1983). In a similar vein, Libby and Eibach (2002, Study 4) found that imagining performing an activity (e.g., rock climbing, playing drums) from a third-person perspective produced less vivid and rich reports of the activity than imagining the same activity from a first-person perspective. In terms of CLT, this means that a third-person perspective, which imposes more distance than a first-person perspective, induces a higher level of construal. Indeed, Pronin and Ross (2006) showed that taking a third person perspective rather a first-person perspective on one's own behavior promoted attribution of the behavior to personality traits rather than to specific situational factors.

Temporal distance and spatial distance: Correspondent inference, the tendency to use high-level dispositional attributions, seems to increase not only with social distance but also with temporal distance. Over time, observers' attributions of an actor's behaviors become

more dispositional and less situational (Frank & Gilovich, 1989; see also Funder & Van Ness, 1983; Moore, Sherrod, Liu, & Underwood, 1979; Nigro & Neisser, 1983; Peterson, 1980; but see Burger, 1986). These findings are consistent with memory consolidation, namely, the tendency for concrete details to fade more rapidly than general abstractions, thus making memories of the distant past more abstract than memories of the recent past (Bartlett, 1932; Wyer & Srull, 1986). However, assuming that memory is an active, reconstructive process, CLT proposes that increasing past temporal distance is associated not only with a loss of specific details but also with an increased use of high-level, schematic construals (Ross, 1989). Consistent with this proposal, McDonald and Hirt (1997) showed that, over time, student participants not only forgot a fellow student's grades but also were more likely to infer the grades from that student's general ability, resulting in a more coherent (and dispositional) impression of the target person over time.

More recently, research has examined dispositional inferences from near future and distant future behavior (Nussbaum, Trope, & Liberman, 2003, Study 1) and from spatially close or spatially distant behavior (Henderson, Fujita, et al., 2006, Study 2). These studies found that student participants drew stronger corresponding attitude inferences from situationally constrained behavior when the behavior was expected in the distant future (vs. near future) or when it was believed to have occurred in a spatially remote location (vs. a near location). These findings demonstrate that the correspondence bias, the tendency to underweight low-level, situational constraints on observed behavior, increases with psychological distance from the behavior.

Past research has shown that perceivers often form spontaneous trait inferences (STIs) when they observe trait-implying behaviors of other people. For example, upon reading the sentence, "The secretary solved the mystery halfway through the book," people spontaneously inferred the trait "clever" (Winter & Uleman, 1984). Can temporal or spatial distance affect the extent to which abstract traits are spontaneously inferred at an early stage of information processing? Rim, Uleman, and Trope (2008) addressed this question in a series of studies that used rate of false recognition of implied (but not present) traits as a measure of STI. They found that New York University participants led to believe that actors were in a distant location (Florence, Italy), compared with a proximal location (Manhattan, New York), formed more STIs, even though behavioral information about targets was held constant across the two conditions. The same effect was found using temporal distance: Participants who were led to believe that actors were from the relatively distant past (year 1997), compared with the more recent past (year 2007), formed more STIs.

Self-inferences: Distance may affect not only the inferences we draw about others but also the inferences we draw about ourselves. Pronin and Ross's (2006) research shows that people more likely view their future and past selves than their present selves in terms of general personality traits. In a related study, Wakslak, Nussbaum, Liberman, and Trope (2008) asked participants to imagine themselves in different situations either in the near future or in the distant future and to indicate the extent to which their behavior in those situations would reflect each of the Big Five personality traits. It was found that in the distant future, compared with the near future, participants expected to exhibit their traits more consistently across situations. Another study by Wakslak et al. showed that participants were faster in judging whether general personality traits describe the way they would be in the distant future than the near future. These findings suggest that the distant future self is represented more in terms of general, decontextualized traits than the near future self. People seem to have a clearer view of their personality characteristics when taking a temporally distant perspective rather than a temporally proximal perspective on the self. Indeed, using Linville's (1985, 1987) and Donahue, Robins, Roberts, and John's (1993) measures of self-complexity, Wakslak et al. found that self-descriptions were more

structured and less complex when they referred to a distant future self than to a near future self.

It would be interesting to examine in future research the effects of other distances on the self-concept. For example, would thinking of oneself in an unlikely situation or in a remote spatial location make one see oneself in a more coherent, schematic way? Is it possible that this effect also occurs while traveling (or even while planning traveling)? Does imagining the perspective of another person, especially an unfamiliar person, increase perceived self-integrity? In general, the construal of the self, which is often more concrete than the construal of others, may be highly abstract and high level when the self is viewed from a distanced perspective, in remote times, places, imaginary situations, and from a third-person perspective.

Discussion—Extensive research has verified that as psychological distance increases, construals become more abstract, and as level of construal increases, so too do perceptions of psychological distance. Much of past research has studied individual distance dimensions and types of construal within disparate theories. Without denying the uniqueness of the different distances and types of construal, CLT provides a unifying framework that integrates these disparate lines of research. It suggests that high-level construals and low-level construals serve different cognitive functions. High-level construals have evolved to represent distal objects because, with distance, one needs to conserve the essential, invariant properties of the referent object. In contrast, low-level construals preserve the object in minute detail for immediate use. High-level construals serve to transcend the here and now, whereas low-level construals instantiate the present.

In the following, we expand our examination of construal levels by relating them to prospection and mental simulation, inferences of distance, and to heuristic low-effort processing.

Prospection and mental simulation: The present view is consistent with recent functional approaches to memory and cognition (Barsalou, 1999; Buckner & Carroll, 2007; Schacter & Addis, 2007; Suddendorf & Corballis, 2007). These approaches suggest that a major function of episodic memory is prospection, namely, anticipating the future rather than merely reproducing the past. The theories of constructive simulation (Schacter & Addis, 2007) and embodied cognition (Barsalou, 1999; Niedenthal, Barsalou, Winkielman, Krauth-Gruber, & Ric, 2005; Winkielman, Niedenthal, & Oberman, 2008) specifically suggest that episodic memory enables prospection through a constructive process of mentally simulating future episodes. Such simulations are analogical and multimodal and serve to guide choice and action with respect to the future (Barsalou, 2008).

CLT adds to this view in several respects. First, it is possible that simulations vary in level of construal, ranging from multimodal simulations that are rich in contextual detail and resemble the kind of analogical representation identified by embodied cognition researchers to general simulations that retain common elements and omit incidental detail. CLT predicts that the latter, higher level simulations are more likely to be used with increasing distance of the past episodes from which simulations are constructed and of the future target situation to which the simulation is applied. For example, a simulation of a future meeting with a friend is likely to be more abstract (i.e., contain less detail on the tone of her voice and the look of the room in which the meeting would take place) to the extent that it is constructed from meetings held with that friend in the relatively distant past or distant locations and to the extent that the meeting with the friend is expected in the relatively distant future or location. Second, it is possible that as distance increases, prospection is increasingly more likely to be based on amodal symbolic representations. For example, a representation of a more distant

future meeting with a friend that works in a high-tech company may refer more to semantic knowledge about layoffs in the high-tech industry and include less detail related to perceptual properties, such as the tone of her voice. The research showing that people switch from pictorial to linguistic representations of objects as distance from the object increases is consistent with this possibility (Amit, Algom, & Trope, 2009). Third, symbolic representations might also differ in abstraction, ranging from broad abstractions (she is a woman) to more narrowly applied knowledge (she is a single mother to four and a high-tech manager who is afraid to lose her job). Fourth, as the research reviewed here suggests, these changes in the nature of mental representation of objects might be induced not only by prospective temporal distance from the object but also by spatial, social, and hypotheticality distances. In sum, according to CLT both analogical simulations and symbolic representations might vary in level of construal. Distance may determine whether an analogical or symbolic representation is constructed and the level of abstractness at which it will be constructed.

Inferring distance from construal level: We argued that because high-level construals are broad, they bring to mind more distant instantiations of objects, and because low-level construals are narrow, they bring to mind more proximal instantiations of objects. It is also possible for construal level to affect the psychological distance of objects through metacognitive inferences (N. Schwartz & Clore, 1996). People may interpret their low-level construal of an object as indicating that the object is close and their high-level construal of an object as indicating that the object is distant. This metacognitive inference of distance from construal level might involve a more complex attributional calculus when one or more other distances are known. Specifically, the construal-based inference that an object is distant on any given dimension will be discounted when the object is known to be distant on another dimension. Correspondingly, the construal-based inference that an object is distant on any given dimension will be augmented when the object is known to be proximal on another dimension. For example, one would attribute a detailed construal of a meeting with a friend to a relatively close relationship with that friend when the meeting is known to take place in the distant future rather than the near future. Thus, direct implicit associations among different distance dimensions generally result in positive relationships among those dimensions. However, when inferring distance from construal, adjusting the inference of distance on one dimension for distance on other dimensions may result in a negative relationship among those distances.

Heuristic and shallow processing: Could the relationship between distance and construal be accounted for by assuming that people are less motivated to make an accurate judgment regarding relatively distant objects? Does the shift toward higher level construals with increasing distance reflect a shift toward low-effort heuristic processing (see Petty & Cacioppo, 1984)? We think that extracting the general meaning and invariant characteristics of objects is not necessarily more or less effortful than fleshing out the minute details of the objects. For example, generating a superordinate category for the concept *soda* (e.g., *drinks*) does not necessarily differ in these respects from generating exemplars of the concept (e.g., *Diet Coke*). Indeed, our research has not found any systematic relationship between the effects of distance on construal and measures of involvement or accuracy motivation (e.g., P. K. Smith & Trope, 2006; Wakslak et al., 2006). Three additional sets of findings argue against the idea that distance-driven high-level construals necessarily reflect uneffortful, heuristic processing. First, this idea cannot account for performance findings showing that judgments about distal objects (compared with judgments about proximal objects) are more accurate when a correct response requires high-level construals of the objects (e.g., identifying a pattern) and are less accurate only when the correct response requires low-level construals (e.g., detecting a missing detail; e.g., Liberman & Förster, in press; Wakslak et al., 2006). Second, low involvement and uneffortful processing of distant (vs. proximal)

objects may account for the underutilization of low-level information about distant objects, but it cannot account for the underutilization of high-level information about proximal objects (e.g., Liberman & Trope, 1998; Nussbaum, Liberman, & Trope, 2006).

Third, Fujita, Eyal, Chaiken, Trope, and Liberman (2008) directly addressed the issue of heuristic processing by examining sensitivity to argument strength, a commonly used test of heuristic processing (Chaiken, Giner-Sorolla, & Chen, 1996; Petty & Cacioppo, 1984). Fujita et al. presented participants with either strong or weak arguments from a wildlife conservation organization that either referred to a superordinate category (e.g., orcas in Puget Sound) of an attitude object or subordinate, specific exemplar (e.g., Simon, an orca in Puget Sound) of the attitude object. The results showed that when the arguments referred to a high-level category, attitudes were more sensitive to argument strength when the attitude object was temporally distant than near. However, when the arguments referred to a subordinate exemplar, the reverse was true; That is, attitudes were more sensitive to argument strength in the near than distal condition. Involvement might account for the findings obtained with arguments referring to low-level construal of the attitude object but not those obtained with arguments referring to high-level construal of the attitude object. Finally, using the number of thoughts generated about an attitude object as a measure of systematic processing, Ledgerwood, Trope, and Chaiken (2008) found that the number of thoughts was unaffected by temporal distance from the attitude object. We return to the issue of depth of processing in the sections on prediction and evaluation.

Construal-Mediated Effects of Psychological Distance—What are the implications of the link between distance and construal for prediction, evaluation, and self regulation? In the following three sections, we address this question.

IV. Psychological Distance and Prediction

As argued above, the very function of high-level construals is to enable people to mentally transcend the here and now by forming a representation consisting of the invariant features of the available information and projecting those representations onto distal situations. Predictions of future experiences would therefore be more schematic than the actual experiences, giving rise to a variety of prediction biases that stem from underweighting contextual and incidental features (Gilbert & Wilson, 2007; Kahneman, Krueger, Schkade, Schwarz, & Stone, 2006; Wilson & Gilbert, 2003). For example, people tend to predict that they will react more extremely to positive events (e.g., getting tenure) and negative events (e.g., a rejected paper) than they actually do. This misprediction stems from underweighting the effect of diluting low-level contextual circumstances (Wilson, Wheatley, Meyers, Gilbert, & Axsom, 2000). According to CLT, these biases should be accentuated by distance, because predicting more distal events should direct attention to even more invariant, schematic features of those events and away from low-level situational details. In the following, we examine the implications of this idea for lay prediction of research findings, predictions about one's own performance, and the effect of global trends and local deviations on extrapolation.[1]

Theories Versus Noise in Scientific Prediction—In scientific prediction, high-level construals reflect the theory, which fosters confidence, whereas lower level construals include noise, which might undermine confidence. A study by Nussbaum et al. (2006, Study 1) examined the confidence of advanced psychology students in replicating classic findings in psychology in either the near future or the distant future. For example, participants

[1]Much of the research on prediction biases compares predictions and actual outcomes. CLT research, however, compares predictions of distal versus proximal outcomes.

imagined entering a class at the university, either the next day or a year later (depending on the experimental condition), handing the students a list of words to memorize, and then testing how well they remember it after moving some of the students to a different room. Participants estimated how likely it is that those tested in the same room would outperform, on average, those that were moved to a different room, thus replicating the encoding specificity effect. Participants were more confident that they would replicate this effect when they imagined conducting the experiment in the distant future than in the near future, especially when reminded of the theory underlying prediction. The same pattern of results was obtained with other classic findings in social, cognitive, and developmental psychology.

Knowledge Versus Task Format in Predicting Performance—Nussbaum et al. (2006) have also examined confidence in predictions about one's own performance. One of the studies assessed participants' confidence in predicting their performance on a general knowledge quiz expected to take place either on the same day or 2 months later (Nussbaum et al., 2006, Studies 3 and 4). The questions were the same, but in either a relatively easy or hard question format, which we assumed is a low-level aspect of the quiz, compared with the content the quiz focuses on. Specifically, the quiz consisted of either multiple-choice questions (relatively easy format) or open-ended questions (relatively hard format). In another study, the quiz consisted of questions with either two response alternatives (relatively easy) or four response alternatives (relatively hard). The results showed that the more difficult question format appropriately reduced confidence in near future performance but failed to reduce confidence in distant future performance. We think that this was the case because question format was a low-level aspect of the task. The results also showed that participants' beliefs about their knowledge in each domain predicted how confident they were in predicting their performance in that domain in the distant future better than in the near future. We think that this was the case because such beliefs concern the essence of the quiz as a test of knowledge and thus constitute a high-level construal of the quiz.

Extrapolating From Global Trends Versus Local Deviations—In a study that investigated the effect of spatial distance on the tendency to base predictions on global rather than local information (Henderson et al., 2006), New York University participants viewed a series of graphs depicting information from the years 1999–2004 (e.g., average number of photocopies per student). The information was said to pertain to the New York University campus in Manhattan (spatially near condition) or to the New York University campus in Florence, Italy (spatially distant condition). Each graph showed either an upward or downward trend, with the final year (2004) always deviating from that global trend. Participants estimated the likelihood that the year 2005 would be consistent with the general trend or with the more recent local deviation. In terms of CLT, global trends convey a high-level construal, whereas deviations, being local exceptions, should receive more weight in low-level construals. As expected, spatial distance enhanced the tendency to predict on the basis of the global trend rather than the local deviation.

Discussion—Spatial and temporal distances increase the impact of high-level information (e.g., theories, self-beliefs, general trends) and decrease the impact of low-level information (e.g., irregular outcomes, specific situational and task characteristics) on prediction. Thus, two complementary processes may contribute to the unwarrantedly higher confidence levels associated with predictions about psychologically distant events: underweighting of the uncertainty associated with low-level information and overweighting of the certainty associated with high-level information. Although we may know less about distant than near situations, our greater reliance on high-level construals in predicting the more distant situations may lead us to make more confident predictions about distant than near situations.

Past research has shown that individuals tend to be more optimistic about distant future than near future outcomes (Gilovich, Kerr, & Medvec, 1993; T. R. Mitchell, Thompson, Peterson, & Cronc, 1997; Nisan, 1972). According to CLT, greater optimism is a likely but not necessary result of temporal distance. That is, greater temporal distance promotes optimism only when high-level construals imply a relatively high likelihood of desired outcomes. When low-level construals imply a high likelihood of desired outcomes, optimism may not increase and may actually decrease with greater temporal distance. Indeed, Nussbaum et al.'s (2006) studies on predicting one's performance showed that temporal distance led to more optimistic predictions when the question format was difficult but not when it was easy. Thus, underweighting a low-level aspect of outcomes (question format) increased optimism or decreased optimism depending on whether that aspect implied a high likelihood or low likelihood of success.

Distance from an outcome might also reduce personal involvement, thus giving rise to shallow processing and less cautious predictions (see e.g., Petty & Cacioppo, 1984). Again, the critical difference between this view and CLT is that the latter assumes that distance reduces the use of low-level information, not high-level information. Accordingly, confidence increases with distance from an outcome only when the confidence stems from high-level construal of the outcome. The Henderson et al. (2006) and Nussbaum et al. (2006) studies described previously support this prediction.

V. Psychological Distance, Evaluation, and Choice

We make choices and set preferences with respect to our construals of objects rather than the objects themselves. When we choose a car, we do not decide on the car itself but rather on our construal of the car. When we decide on a diet, we do so because the construal of its outcomes seems attractive to us. We argue that construals depend not only on the actual attributes of the objects but also on the object's psychological distance. We therefore predict that all distances should similarly affect evaluation and preferences inasmuch as they all promote higher level construals.

A common assumption in psychology and behavioral economics is that the value of an outcome is discounted as temporal distance from the outcome increases (see, e.g., Ainslie, 1975; Loewenstein & Prelec, 1992; Rachlin, Brown, & Cross, 2000). CLT proposes, however, that temporal distance shifts the overall attractiveness of an outcome closer to its high-level construal value than to its low-level construal value. When the low-level value of an outcome is more positive than its high-level value, the outcome should be more attractive in the near future, thus showing time discounting. However, when the high-level value of an outcome is more positive, the outcome should be more positive in the distant future, thus showing time augmentation (see Liberman & Trope, 2003, and Trope & Liberman, 2003, for more extensive discussions). In the following, we apply this principle to central versus peripheral features, feasibility versus desirability concerns, arguments in favor versus against an action, alignable versus unalignable attributes as sources of value, and attributes versus alternatives in choice matrices.

Central Versus Peripheral Features—According to CLT, central, goal-related features of outcomes constitute high-level construal of outcomes, whereas peripheral, relatively goal-irrelevant features of outcomes constitute low-level construal of outcomes. Distancing an outcome should therefore increase the weight of central features relative to peripheral features. Trope and Liberman (2000) found support for this prediction in studies on evaluations of objects and events containing both a primary and secondary aspect. In one study, for instance, participants imagined buying a radio set either the next day or 1 year later, to listen to morning programs. In one version, participants read that the sound quality

of the radio set was good, but that the clock that was incidentally included was relatively useless. In another version, participants read that the sound quality of the radio set was poor, but that the clock aspect was quite useful. As expected, thinking about the radio set in the more distant future increased satisfaction when the sound quality was good and the clock poor, but decreased satisfaction when the sound quality was poor and the clock good, indicating that time delay increased the weight of central features and decreased the weight of peripheral features (for related findings in persuasion contexts, see Fujita et al., 2008).

Conceptually similar findings were obtained with social distance, operationalized as interpersonal similarity (Liviatan, Trope, & Liberman, 2008) and social power (P. K. Smith & Trope, 2006). For example, in one study (Liviatan et al., 2008, Study 4), participants evaluated an essay of either high or low quality (a central, high-level aspect of value) allegedly written by a student that performed well or poorly on an unrelated physics exam (a peripheral, low-level aspect of value). Some participants were led to believe that the writer was similar to themselves, whereas others were led to believe that the writer was dissimilar to them. The weight of the peripheral information about the physics ability (relative to that of the essay quality) was greater in participants' evaluations of the essay written by the similar student than by the dissimilar student.

It is interesting that research which compared the decisions people make for themselves to the advice they give to others obtained similar findings. Kray and Gonzalez (1999) and Kray (2000) compared participants' own choices with the advice they gave to socially close and distant others. They found that in advising others, especially socially remote others, participants tended to give more weight to a single attribute which they designated as the most important and less weight to other, more peripheral attributes. For example, when advising another person about choosing between two jobs, participants gave more weight to personal satisfaction (which they viewed as the most important dimension) and less weight to salary and location (the less important dimensions) than when choosing for themselves (Kray, 2000, Study 2). In two other studies, Kray found that this preferential weighting of important attributes was stronger in advising a distant social target (a student in another department) than a closer target (a student in one's own class). Moreover, as advisers, participants rated central attributes as highly important and peripheral ones as unimportant, whereas as deciders they rated the various attributes as relatively similar in importance. It is worth noting that participants reported greater responsibility and potential regret, and generated a larger number of decision-relevant attributes when making decisions for others than for themselves. As Kray pointed out, it therefore seems unlikely that participants simply invested less effort in advising others than in deciding for themselves. In our terms, these findings demonstrate choosing according to more central, high-level aspects for socially distant than social close others.

Feasibility Versus Desirability—Desirability concerns involve the value of the action's end state (a high-level construal feature), whereas feasibility concerns involve the means used to reach the end state (a low-level construal feature). Therefore, desirability concerns should receive greater weight over feasibility concerns as psychological distance increases. Consistent with this prediction, it was found that as temporal distance from an activity (e.g., attending a guest lecture) increased, the attractiveness of the activity depended more on its desirability (e.g., how interesting the lecture was) and less on its feasibility (e.g., how convenient the timing of the lecture was; Liberman & Trope, 1998). Similar results have been found for other distance dimensions, including hypotheticality and social distance (e.g., Liviatan et al., 2008; Todorov, Goren, & Trope, 2007; see review by Liberman et al., 2007).

Arguments in Favor of and Against an Action—In deciding whether to undertake an action, cons are subordinate to pros. This is because the subjective importance of cons

depends on whether or not pros are present more than the subjective importance of pros depends on whether or not cons are present. For example, if we know that a medical treatment has some health benefit, we would inquire about its potential side effects before making a decision. But if the treatment has no benefits, we would decide against taking it without further inquiry about its side effects. In contrast, we would inquire whether a medical treatment has health benefits whether or not it has side effects. Thus, the importance of side effects depends on whether the treatment is known to have benefits, but the importance of benefits is independent of whether the treatment is known to have side effects.

If cons are subordinate to pros, then pros should become more salient as temporal distance from the action increases, whereas cons should become less salient as temporal distance from the action increases. To test this prediction, Eyal, Liberman, Trope, and Walther (2004) asked participants to generate arguments in favor and against new (i.e., nonroutine) near future or distant future actions, such as introducing a new exam procedure (e.g., switching to open-ended questions instead of multiple-choice questions; Study 2), social policies (e.g., restricting private cars in the city center; Study 3), and a variety of personal and interpersonal behaviors (e.g., approaching a fellow student and offering to write an assignment together; Studies 4–6). As predicted, in all the studies, participants generated more pros and fewer cons as temporal distance from the actions increased.

In an extension of these findings, Herzog, Hansen, and Wänke (2007) suggested that if pros are more salient as temporal distance increases and cons are more salient as temporal distance decreases, then an increase in temporal distance should make it easier to generate pros and more difficult to generate cons. Further, because attitudes tend to be more in line with content when the retrieval is experienced as easy (Wänke & Bless, 2000), the ease of retrieval associated with generating pros and cons of near and distant future activities should influence attitudes toward those activities, even when the number of arguments is held constant. In a test of these ideas, participants read about a proposed action that was to happen in the near or distant future and were instructed to write down either four pros or four cons regarding the activity. As expected, participants (a) found it easier to generate pros and more difficult to generate cons when the issue concerned the distant rather than near future and (b) had more favorable attitudes toward the action when it was to occur in the distant future.

Alternatives and Attributes in Choice Matrices—Choice and enactment of a course of action is often based on information people search for about the available alternatives. Decision theoretic work has distinguished between searching within attributes, across alternatives and searching within alternatives, across attributes (Tversky, 1972). In a typical study, participants are presented with a matrix of information in which rows represent alternatives (e.g., different apartments), columns represent attributes (e.g., price, location, noise), and cells include the standing of each alternative on the corresponding attribute. Participants search this matrix by exposing the information in each cell, one at a time (see Payne, Bettman, & Johnson, 1988, for a review of this paradigm). We think that searching attributes within alternatives reflects a lower level construal of the choice situation than searching alternatives within attributes. This is because attributes are instantiated in specific objects and when detached from specific objects they become abstractions. Attributes are general, whereas objects are unique and variable manifestations of specific combinations of attributes. We thus expect that within-alternative search would characterize processing of proximal decision situations, whereas within-attribute search would characterize processing of distal decision situations.

Borovoi, Liberman, and Trope (2010) recently tested this prediction. In a study on temporal distance, participants considered a choice for either the near future (e.g., choosing an

apartment to rent in the next 2 weeks) or the distant future (e.g., choosing an apartment to rent a year later). In a study on social distance, participants considered a choice either for themselves or for another student. As expected, there were more within-alternative steps and less within-attribute steps when making decisions for psychologically proximal situations than for psychologically distal situations. It is important to note that in both studies, participants opened an equal number of cells and invested a similar amount of time in both distance conditions, indicating that they were not less motivated in the distal condition than in the near condition. It seems then that when making choices for proximal rather than distal situations, people are more likely to organize information within alternatives rather than within attributes.

Alignable Versus Nonalignable Attributes—As noted earlier, comparing nonalignable objects (with information provided about different attributes for each object) requires higher level construal than comparing alignable objects (with information provided about the same attributes for each object), because making nonalignable objects comparable requires representing them in terms of more abstract attributes. On the basis of this argument, Malkoc, Zauberman, and Ulu (2005) reasoned that decisions that have distant future consequences (relative to near future consequences) would involve an increased consideration of nonalignable attributes. In a test of this prediction, participants evaluated two brands of potato chips and selected one brand to receive either at the end of the session (near future) or at the end of the semester (distant future). The two brands were designed based on pretesting to be equally attractive overall; one of the options, however, was designed to be better on its alignable attributes, whereas the other brand was better on its nonalignable attributes. As expected, temporal distance shifted both evaluations and choice toward the nonalignable better option over the alignable better option, indicating an increased reliance on nonalignable attributes when making decisions with distant future consequences.

Discussion—Considerable evidence suggests that the value of outcomes is discounted or augmented over psychological distance depending on how it is distributed between high-level and low-level aspects of the outcomes. People seem to appreciate proximal outcomes for their low-level aspects and distal outcomes for their high-level aspects. Although they often know less about distant than near outcomes, their evaluation of the distant outcomes might be more extreme when high-level construal of the outcomes have strong evaluative implications. These findings are consistent with CLT and the more general view that valuation is a constructive process (see e.g., Payne, Bettman, & Johnson, 1993; Shafir, Simonson, & Tversky, 1993; Weber et al., 2007).

It is important to point out that the effect of distance on the value of outcomes is distinct from its effect on the controllability of the outcomes (Liberman & Trope, 2003). Psychological distance from outcomes often reduces the extent to which the outcomes are contingent upon one’s action. For example, people typically have less control over others than themselves, over strangers than friends or relatives, and over events that occur in spatially remote than near locations. Moreover, because the number of ways of attaining an outcome often diminishes with proximity to the outcome, one’s immediate action is less critical for a psychologically distant outcome to occur. For example, a long time before an exam, failing to study may be compensated by studying more intensely later, but a short time before the exam, when only a few hours remain, such possibility no longer exists. Similarly, failing to help a stranger may be compensated by help from another stranger, but failing to help a close friend is less likely to be compensated by someone else, because people typically have fewer close friends than strangers.

By making outcome less contingent on one's action, greater psychological distance may decrease the motivation to engage in that action. Students may be less motivated to study for a distant exam than for a close exam because failure to study is easier to compensate for at a distance, or people may be less motivated to help a stranger than a close friend, because in the former case, their failure to help is more likely to be compensated by others. These changes in motivation do not reflect changes in value (e.g., the value of success on an exam may not increase closer to it). However, in many situations, measures of value might be contaminated with motivation and therefore show discounting over psychological distance. This could be one of the reasons for the widespread belief in economics and the behavioral sciences that value is discounted over time and psychological distance.

VI. Psychological Distance, Behavioral Intentions, and Self-Regulation

Like predictions and evaluations, behavioral intentions and self-regulation should be increasingly based on high-level construal aspects as psychological distance increases. In the following, we examine the implications of this idea for values and ideologies, self-control, and negotiation.

Values as High-Level Behavioral Guides—Values are commonly viewed as abstract structures that provide continuity and meaning under changing environmental circumstances (Feather, 1995), as stable meaning-producing superordinate cognitive structures (Rohan, 2000), and as trans-situational guides for action (S. H. Schwartz & Bilsky, 1987). On the basis of CLT, we propose that values, because of their relatively abstract and decontextualized nature, will be more readily applied to and guide intentions for psychologically distant situations. Evidence for this proposal has been recently obtained by Eyal, Sagristano, Trope, Liberman, and Chaiken (2009). One study used S. H. Schwartz's (1992) value questionnaire to assess the importance participants assigned to a wide range of values (e.g., power, benevolence, hedonism) and then asked participants to imagine 30 behaviors (e.g., "rest as much as I can") and to indicate the likelihood of performing each behavior either in the near future or in the distant future. Eyal et al. correlated the rated importance of each value and the mean likelihood of performing the behaviors corresponding to that value. As expected, these correlations were higher when the behaviors were planned for the distant rather than the near future, suggesting that people's values are better reflected in their intentions for the distant future than in their intentions for the immediate future or their actual behavior. For example, being high (vs. low) in hedonism might mean planning hedonic activities for the distant future, but not necessarily for the upcoming week. It is interesting that Eyal et al. (2009) also found that although values predicted participants' intentions for the distant future, feasibility concerns were more predictive of their intentions for the near future. For example, the number of hours participants volunteered in the distant future condition was predicted by their benevolence values but not by the convenience of the timing. In contrast, the number of hours participants volunteered in the near future condition was not predicted by their benevolence values and instead depended on the convenience of the timing.

Extending this line of thought, Eyal, Liberman, and Trope (2008) argued that people judge immoral acts as more offensive and moral acts as more virtuous when the acts are psychologically distant than near. They showed that transgressions against core values that are deemed harmless because of extenuating circumstances (e.g., eating one's dead dog) were judged more severely when imagined from a more distant temporal or social perspective. Conversely, moral acts which might have had ulterior motives (e.g., adopting a disabled child when a government pays high adoption pensions) are judged more positively from temporal distance. The findings suggest that moral criteria are more likely to guide people's judgments of distant rather than proximal behaviors.

Ideology and Incidental Social Influence—Our attitudes shift, often outside of our awareness, in response to other people in our local social context, including communication partners, significant others, and even total strangers (Baldwin & Holmes, 1987; Davis & Rusbult, 2001; Higgins & Rholes, 1978; Kawakami, Dovidio, & Dijksterhuis, 2003; Lowery, Hardin, & Sinclair, 2001). CLT predicts that when an attitude object is psychologically near, evaluations will be attuned to a particular social context and therefore more likely to be affected by incidental attitudes of others in the social situation rather than by one's ideology. Conversely, when the attitude object is psychologically distant, it will be abstracted away from its local context, and evaluation will therefore be less affected by the incidental attitudes of salient others and, instead, reflect one's ideology.

A series of studies by Ledgerwood et al. (2008) tested the hypothesis that attitudes will align with those of another person in the local social context more when psychological distance is low (vs. high). Using an anticipated interaction paradigm, participants read about a policy that would increase the deportation of illegal immigrants starting either next week (near future) or next year (distant future) and learned that their discussion partner was either in favor of or against deporting illegal immigrants. They then privately reported how likely they would be to vote in favor of the policy. Participants' voting intentions shifted toward the interaction partner's attitude when the policy was set to be implemented in the near future but not when it was to be implemented in the distant future. However, voting intentions more strongly reflected participants' previously assessed ideological values when the policy was to be implemented in the distant (vs. near) future. Specifically, the more participants valued preserving the societal status quo, the more they supported a distant future policy that would enforce the deportation of illegal immigrants.

Self-Control—Situations that require self-control involve a conflict between two opposing motivations (e.g., a desire to go out with friends and a need to study for an exam). Fujita, Trope, Liberman, and Levin-Sagi (2006) proposed an analysis of self-control conflicts as conflicts between behavioral implications of high-level construal (i.e., valence attached to primary, central, goal-relevant, superordinate considerations) and behavioral implications of low-level construal (i.e., valence attached to secondary, incidental, goal-irrelevant, subordinated, features). Failure of self-control, according to this proposal, is succumbing to the motivation implied by the low-level value. For example, if studying for an exam is related to more superordinate goals than going out with friends, then the latter behavior would represent a failure of self-control. Consistent with this analysis, a series of studies by Fujita et al. demonstrated that higher level construal increased self-control. In one study, participants first completed a task in which they indicated either why or how they would maintain good physical health. This task was designed to induce a high-level or low-level construal mindset, respectively (see Freitas, Gollwitzer, & Trope, 2004). Participants were then asked to hold a handgrip while connected to bogus electrodes, ostensibly as part of a psychophysiological assessment of personality. Participants were told that the longer they held the handgrip, the more diagnostic was the information obtained from the apparatus. Thus, the situation presented a conflict between a desire to get diagnostic, self-relevant information (high-level value) and the inconvenience of holding the handgrip (low-level value). The results indicated, as predicted, that participants in the high-level construal condition held the handgrip longer than those in the low-level construal condition.

Just like higher level of construal, greater temporal, spatial, or social distance from a situation that poses a self-control dilemma should also enhance self-control. Indeed, research on intertemporal preference reversals has shown that people are better able to commit to self-control a long time in advance than a short time in advance (e.g., Ainslie & Haslam, 1992). A study conducted by Freitas, Salovey, and Liberman (2001) specifically showed that people were better able to forgo flattering but useless feedback for the sake of unpleasant but

useful feedback when the feedback was delayed than when it was imminent. Similarly, research on children's delay of gratification has shown that greater temporal and spatial distance from a tempting object enhances self-control (Metcalfe & Mischel, 1999; Mischel, Shoda, & Rodriguez, 1989). CLT would further predict that we are more likely to advise another person to exercise self-control than to make a similar decision for ourselves, and that deciding on self-control is easier when it is premised on less likely events. For example, we could predict that deciding to start a diet upon getting an A in an exam would be facilitated to the extent that getting an A is less likely. In general, psychologically distancing oneself from a situation might promote people's ability to exercise self-control in that situation (see Kross & Mischel, in press).

Negotiation—As with values, issues within an interpersonal negotiation can differ in their centrality and worth. If a pair of negotiators can trade off their lowest and highest priority issues (e.g., give in on secondary issues in exchange for getting what they want on high-priority issues, a process called logrolling), they are more likely to succeed in "expanding the pie," maximizing both individual and joint outcomes. Because negotiators should be expected to focus more on central concerns and less on peripheral concerns as distance increases, we would expect to see more logrolling agreements in a distant future than near future context. Examining this idea within the context of a live negotiation, Henderson, Trope, and Carnevale (2006) found that whereas 91% of dyads with a temporally distant perspective reached a full logrolling agreement, only 50% of dyads with a temporally near perspective did so. The enhanced reciprocal concessions made by dyads with the temporally distant perspective culminated in better negotiated individual and joint outcomes. Moreover, research on the role of construal levels in the negotiation process has shown that negotiators who construed issues abstractly rather than concretely were more likely to discover integrative agreements (Henderson & Trope, 2009). For example, having negotiators think abstractly about issues (by having them generate *general* descriptions) rather than concretely about issues (by having them generate *specific* descriptions) increased negotiators' logrolling and individual and joint outcomes.

These findings have implications for how negotiators handle conflicts over minor versus major issues and specific interests versus broad values and ideological differences in situations that do not allow for tradeoffs (Druckman & Broome, 1991; Harinck & De Dreu, 2004). Specifically, CLT suggests that the resolution of minor issues and specific interests should be hindered when individuals adopt a psychological proximal perspective or a lower level construal and facilitated by having a more distal perspective and abstract construal. Conversely, the resolution of conflict over major issues, values, and ideological differences should be hindered when individuals adopt a psychologically distant perspective or a higher level construal and facilitated by a less abstract construal and a psychologically proximal perspective.

Discussion—The research reviewed in this section suggests that adopting a distal versus proximal perspective changes the way people make behavioral plans, resolve value conflicts, negotiate with others, and cope with self-control problems. The choices people make for psychologically distant situations are guided by their general attitudes, core values, and ideologies. As people get psychologically closer to the situation, their choices are increasingly influenced by more specific attitudes, secondary values, and incidental social influences. It seems, then, that from a distant perspective, global concerns are prioritized and unequivocally pursued, whereas from a proximal perspective, those priorities are weakened and even reversed as local concerns become more prominent. People may have less information about distant situations. Nevertheless, they often act as if they know better what to do or what they should have done when they remove themselves from the situation and take a distant rather than proximal perspective on it.

Implications and Extensions—To recapitulate, the research we have reviewed thus far suggests that psychological distance triggers high-level construals, which focus on the central and enduring features of an object while screening out incidental and peripheral details. These high-level construals promote attunement to what is consistent about an object across multiple contexts, allowing individuals to transcend the particularities of the present situation and act according to their global concerns. Conversely, psychological proximity triggers low-level construals, which include the concrete and contextualized aspects of an object. These in turn are attuned to the current context, immersing individuals in the immediate situation and enabling them to flexibly respond to local concerns.

In this final part of the article, we explore new directions for research on more speculative implications and extensions of CLT. These include psychological phenomena that might map onto different levels of construal (Section VII) and phenomena that might map onto different psychological distances (Section VIII). We conclude with a discussion of psychological distance in the brain (Section IX).

VII. Construal-Related Extensions

We have shown that the distinction between different levels of construal is applicable to many psychological phenomena (e.g., gestalts vs. details, trait vs. situation attributions, pros vs. cons). In this section, we suggest that two more distinctions might map onto high- versus low-level of construal: assimilation versus contrast and high- versus low-level emotions.

Assimilation and Contrast—When perceiving two stimuli in relation to each other (compared with perceiving the same stimuli separately), a perceiver may assimilate the two stimuli to each other, thereby perceiving each of the stimuli as more similar to the other stimulus, or contrast them away from each other, thereby perceiving each of the stimuli as more distinct from the other stimulus (Parducci, Perrett, & Marsh, 1969; Schwarz & Bless, 1992, 2007). For example, when considering a paper of a student in relation to the best paper in class (vs. considering it in isolation), the focal paper may be assimilated to the excellent paper and thus seem better, or it may be contrasted away and thus seem worse. In view of the opposite effects of assimilation versus contrast, the question of what makes each of them more likely becomes crucial (Mussweiler, 2001; Schwarz & Bless, 2007; Stapel, 2007).

Most germane to the present framework are Schwarz and Bless's (1992, 2007) inclusion/exclusion model and Förster, Liberman, and Kuschel's (2008) global/local model of assimilation versus contrast. According to these models, because global, high-level construals are more inclusive, using those construals is likely to result in including two stimuli in the same category and an assimilation effect. Using low-level construals, however, is likely to result in categorizing the two stimuli in separate categories and a contrast effect. Consistent with this view, it has been found that priming of high-level construal and greater temporal distance enhances assimilation and reduces contrast. For example, in one of the studies, (Förster et al., 2008, Study 4), participants compared their athletic skills with either a moderately high standard or a moderately low standard and then rated their expected athletic performance in an athletic competition that would take place the next day (proximal temporal perspective) or a year from then (a distal temporal perspective). In the control condition, time was not specified. The results showed that a distant time perspective enhanced assimilation (i.e., produced a high self-rating after comparison to a high standard and a low self-rating after comparison to a low standard), whereas a proximal time perspective enhanced contrast (i.e., produced a low self-rating after comparison to a high standard and a high self-rating after comparison to a low standard).

Borovoi et al. (2008) reasoned that if distance enhances assimilation, then it would also enhance the positive effect that attractive but unattainable alternatives might have on

evaluations of the choice set. Consistent with this prediction, they showed that adding a very attractive job that was no longer available to a set of job offers increased the attractiveness of the entire set of job offers when the jobs were expected in the distant future rather than the near future. It seems that the attractiveness of available options is assimilated to that of attractive but unattainable possibilities when thinking about the relatively distant future.

Affect—It is commonly assumed that psychological distance from an object diminishes the intensity of affective responses to that object. People typically react more strongly to events that are closer to them in time and space, to events that happen to themselves than to others, and to events that are real rather than hypothetical. However, building on appraisal theories of emotion (see, e.g., Beer & Keltner, 2004; Clore, Ortony, & Foss, 1987; Ortony & Turner, 1990; Tangney & Fischer, 1995; Tracy & Robins, 2007), CLT suggests that it might be useful to distinguish between emotions that may ensue from a low-level construal of an emotion-eliciting event and emotions that ensue from a high-level construal of the event. For example, love might be based on a more general and abstract representation of the target person than lust (Förster, Özelsel, & Epstude, in press). It is interesting that some emotions involve, by their very definition, taking a distant perspective. For example, guilt and shame require taking a socially distant perspective, as they include considering the situation from the perspective of another social agent (Beer & Keltner, 2004), whereas sadness does not require taking such a socially distant perspective. Anxiety involves consideration of a potential, distal danger (for mice, anxiety is often induced by a smell of a cat), whereas fear is a reaction to an immediately present danger (e.g., for mice, the presence of a cat; Gray, 2000). Likewise, counterfactual emotions (e.g., regret) involve consideration of hypothetical alternatives to reality. According to CLT, emotions that involve taking a distant perspective require relatively abstract, high-level construal of the emotion-eliciting situation.

It would be interesting to examine whether, indeed, some emotional experiences are more abstract than others. For example, would thinking of guilt and anxiety prime people to think in higher level terms in a subsequent, unrelated task? Once the classification of emotions to high level versus low level is established, CLT would predict that higher level emotions would decay less steeply and may even intensify over distance. Eyal and Fishbach (2008) recently accrued evidence in support of this hypothesis. They showed, for example, that pride decays over time less than happiness. Because of their distance transcending qualities, abstract emotions seem to assist in self-control more than concrete emotions. For example, Eyal and Fishbach showed that among dieters, priming participants with pride rather than happiness resulted in higher choice of a carrot (a self-control choice) rather than a chocolate bar (a self-control failure).

CLT would further suggest that even the same emotion may be high or low-level, depending on whether it reflects high or low-level construals of the object. For example, in a funeral, sadness about the transience of life and compassion are central and thus constitute high-level emotions, but happiness upon seeing old friends is peripheral and thus constitutes a low-level, peripheral emotion. In a birthday party, however, the centrality of these emotions reverses. We would predict that in this respect too, secondary emotions would diminish over distance more than primary emotions. For example, the positive value that may be added to a funeral by the prospect of meeting friends would be more apparent when the funeral is closer in time and space, when we anticipate going ourselves rather than think about somebody else and when attending the funeral is likely rather than unlikely.

VIII. Distance-Related Extensions

Social Distance

Social power: Social power may engender a sense of distance from others. Indeed, individuals who have power see themselves as less similar to and thus more distant from other people than individuals who have less power (e.g., Hogg, 2001; Hogg & Reid, 2001; Lee & Tiedens, 2001; Snyder & Fromkin, 1980). This perception might be due to the fact that groups, organizations, and societies ordinarily have a pyramidal structure with fewer individuals occupying high-power positions than low-power positions. There is therefore greater similarity in the positions held by individuals with low power than by individuals with high power.

If social power makes people feel distant from others, then it should also predispose them to construe information abstractly, focus on the central aspects of situations, disregard secondary aspects, and establish clear priorities. Several lines of research are consistent with these predictions. For example, Overbeck and Park (2001) observed that high-power participants were better at distinguishing between central and peripheral information, a hallmark of abstract processing. Guinote, Judd, and Brauer (2002) found that assigning participants to high-power positions promoted the use of abstract language. A series of studies by P. K. Smith and Trope (2006) examined the effect of power priming on a range of construal-level phenomena. Their findings show that power primed participants (a) were better able to abstract visual stimuli in an embedded figures task and Gestalt completion task, (b) were better at detecting covariation in a series of data, and (c) made more superordinate categorizations. Finally, Magee, Milliken, and Lurie (in press) have recently found that the level of abstraction in verbatim reactions to the September 11, 2001 attack was higher for individuals with high social power, compared to those with low social power.

These findings suggest that the distal perspective activated by the possession of social power promotes going beyond the information given, detecting the underlying structure, and abstracting from it superordinate, central features. Power-related construal may expand people's mental horizons, enabling them to transcend the immediate circumstances and take into account the past, future, a broad range of people, and unlikely possibilities. Recent research by P. K. Smith, Wigboldus, and Dijksterhuis (2008) suggests that the relationship between power and construal level might be bidirectional. Their findings show that thinking abstractly enhances individuals' sense of their own power. Are there analogous effects of level of construal on the way we perceive others? Do we think of individuals as suitable for power positions, or as actually holding such positions, when they articulate and enact high-level construals of the situation? Do our inferences and preferences as to the power individuals possess depend on whether they can articulate plans that transcend the present and extend to the distant future, remote places, diverse groups, and unusual circumstances? These questions await future research.

Ownership and transactions: The endowment effect suggests that when individuals are asked to sell an object they own, they ask for a significantly higher price than buyers tend to offer (Thaler, 1980). For example, in a typical endowment study, half of the participants receive a mug and are asked to set a price at which they would be willing to sell the mug to the other half of the participants, who in the meantime set the price at which they would be willing to buy the mug (e.g., Kahneman, Knetsch, & Thaler, 1990). Results of numerous such experiments and field studies show that average selling prices are two to three times higher than average buying prices. Given that the benefit of having the mug and, hence, its objective value, should not change with random ownership, these results present a perplexing phenomenon. The most widely accepted explanation of the endowment effect is loss aversion (Bar-Hillel & Neter, 1996; Kahneman et al., 1990; but see also Liberman,

Idson, Camacho, & Higgins, 1999) that goes back to prospect theory (Kahneman & Tversky, 1979). Prospect theory suggests that individuals' perception of losses and gains differ, such that the subjective pain of a loss is more intense than the subjective pleasure of a gain of similar objective value. According to a prospect theory approach to the endowment effect, selling an object is perceived as a loss, compared with the seller's reference point of having the object; buying, in contrast, is perceived as a gain, compared with the buyer's reference point of not having an object. Because individuals are loss averse, they therefore tend to evaluate objects they consider selling more positively than they do objects they consider buying.

Adopting a CLT approach to the endowment effect, Irmak, Wakslak, and Trope (2009) argued that sellers adopt a distant perspective on an object they are considering selling, thinking about the object from the perspective of the distant other to which the object will be moving; whereas buyers consider the object from a more proximal perspective, considering how they personally view this nearing object. As a result, sellers will construe the object on a high level, and selling prices will largely be influenced by the object's high-level features (and less by its low-level features). In contrast, buyers will construe the object on a lower level, and buying prices will therefore be influenced by the object's low-level features. In other words, we argue that sellers and buyers think about the object differently from one another, focusing, and thus basing their pricing decisions, on different types of object features, which, in turn, may lead to systematic differences in selling and buying prices.

A series of studies by Irmak et al. (2009) provides initial support for this analysis. First, they showed that sellers indeed tended to think about an object in terms of its value for the buyer (indicating a distal perspective), whereas buyers tended to think about the object in terms of its value for themselves (indicating a proximal perspective). Second, sellers, compared with buyers, were more likely to construe actions related to those objects in high-level, ends-related terms rather than low-level, means-related terms. Third, selling prices were higher than buying prices for objects whose attractiveness derived from high-level construal features, but this was not the case for objects whose attractiveness derived from low-level construal features. For example, selling prices were higher than buying prices when the object was superior on the desirability dimension and inferior in the feasibility dimension, but not vice versa, and when the primary (goal-relevant) aspects of the object were superior and the secondary (goal-irrelevant) aspects of the object were inferior, but not vice versa. These findings demonstrate that sellers and buyers derive value from different aspects of the object. Sellers take a psychologically distal perspective and thus extract value from the high-level, primary aspects of the object, whereas buyers assume a psychologically proximal perspective and their perception of value is influenced less by primary aspects of the object and more by its secondary aspects.

Other Distances

Proximal versus distal senses: We view the four psychological distance dimensions as being anchored on a single starting point (zero-distance point): me, here, and now. This view may be oversimplified, however, as some direct experiences may be more proximal than others. More specifically, the five senses—sight, hearing, smell, touch, and taste—may be mapped along spatial distance according to the maximum physical distance of the sensed object. An object has to be in one's mouth to be tasted, it has to be within one's reach to be touched, it may be farther away to be smelled, and it can be still farther away to be heard or seen. The distant senses, sight and hearing, enable people to extend the scope of perception far beyond the range of the near senses, which are limited to the person's immediate environment (Boring, Langfeld, & Weld, 1939; see also Rodaway, 1994).

Do proximal senses produce a psychologically closer experience than distal senses? If they do, then the antecedents and consequences of psychological distance should apply to stimuli that are perceived with proximal versus distal senses, such that proximal senses would be associated with low-level construal and psychological proximity, whereas distal senses would be associated with high-level construal and psychological distance. For example, sharing an experience of tasting something with another person might produce more social closeness to that person than sharing an experience of looking at something. Similarly, touching a product might make a consumer give more weight to its feasibility properties and less weight to its desirability properties than only looking at that product.

Novelty: Novel events are unfamiliar and often (but not always) subjectively improbable. Novel objects may therefore be perceived as more psychologically distant. The question, then, is whether novelty affects construal and construal-mediated outcomes in the same way as psychological distance does. Addressing this question, Förster, Liberman, and Shapira (2009) found that when stimuli were presented as novel they were construed at a higher level than when they were presented as old. Novelty and familiarity were manipulated by either framing a task as new versus familiar or by asking participants to reflect upon novel versus familiar events prior to the task (i.e., procedural priming). The studies showed that relative to the control, no priming or no framing group, novelty priming or framing enhanced global perception, broad categorization, and high-level action identifications. Familiarity priming or framing had the opposite effect. Another study showed that presenting a product as novel (e.g., “a novel model of a cellular phone”) versus old (e.g., “Version 3 of an existing model of a cellular phone”) made participants assign greater weight to the products’ high-level, desirability features and less weight to their low-level, feasibility features.

It would be interesting to examine in future studies the effect of novelty on other construal-mediated outcomes, such as creativity and self-control. Because creativity has been shown to be related to high-level construal (Förster et al., 2004), we might predict that presenting a task as novel (vs. old) would enhance creative performance. It is also possible that because high-level construal is conducive to self-control (see Fujita, Trope, et al., 2006), presenting self-control programs (e.g., dieting or smoking cessation programs) as novel (vs. old) would promote success in those programs.

Generalizing from experience: Our responses to a new object are often based on generalizations from a familiar, previously experienced object. The generalization may result from the co-occurrence or some resemblance between the familiar object and the new object. Of special interest are generalizations, often called projections, from ourselves to new people who become associated with us. By definition, the self is more proximal than another person. Therefore, we are likely to form low-level construals of ourselves, while generalizing our high-level construals of ourselves to others. High-level construals of the self are more likely to drive responses to others, whereas low-level construals of the self are more likely to drive responses to self. As a result, the more people value their high-level self characteristics relative to their low-level self characteristics, the more likely are they to form favorable impressions of unfamiliar others. Again, the bias toward projecting one’s high-level characteristics rather than low-level characteristics onto another person is likely to be augmented with greater psychological distance from that person.

IX. Psychological Distance in the Brain

Do psychological distances and their links to construal level correspond to the structure and functions of the brain? A growing body of research suggests that they do. For example, recent research suggests that a common brain network involving the prefrontal cortex and

the medial temporal lobe is implicated in prospection, retrospection, and taking another person's perspective (e.g., Buckner & Carroll, 2007; J. P. Mitchell, Macrae, & Banaji, 2006; Schacter & Addis, 2007; Suddendorf & Corballis, 2007). In particular, different subregions of the medial prefrontal cortex (mPFC) have been associated with psychological processes that vary in their levels of abstraction. In their review on this subject, Amodio and Frith (2006) noted that representations of low-level goals and actions tend to be associated with activity in more posterior and ventral regions of the mPFC, whereas more complex and hierarchically organized representations are typically associated with more anterior and dorsal regions. On the basis of anatomical studies of connectivity in this region, Amodio and Frith (2006) proposed that activity in the mPFC corresponds to two different axes associated with the degree of abstraction (running posterior to anterior) and to action (running ventral to dorsal). In a related vein, J. P. Mitchell et al. (2006) found that processing information about a similar other engages the ventral region of the mPFC, whereas processing information about a dissimilar other engages more dorsal subregions of the mPFC. Moreover, recent research by Mitchel, Ames, and Gilbert (2008) observed an association in the brain between social distance and temporal distance. Specifically, the ventral mPFC was implicated in processing information about similar others and the present self, whereas the dorsal mPFC was implicated in processing information about dissimilar others and the future self.

More generally, there is research showing that the brain is hierarchically organized, with higher points in the cortical hierarchy representing increasingly more abstract aspects of stimuli (Grill-Spector & Malach, 2004; Lieberman, Gaunt, Gilbert, & Trope, 2002). For example, progressively anterior and dorsal subregions of the prefrontal cortex have been found to be associated with more abstract representations (Badre, 2008; Koechlin & Summerfield, 2007; Ramnani, & Owen, 2004). This organization of information in the brain might be related to distance from stimuli, such that activation systematically progresses to higher points in the hierarchy as psychological distance from the stimuli increases. In sum, there may be a "construal axis" in brain systems that maps onto a "distance axis." Brain systems that process high-construal information may be biased toward distal information, and brain systems that process low construal information may be biased toward proximal information.

Conclusion

In reality, the different distance dimensions are separable. The fact that something happened long ago does not necessarily mean that it took place far away, that it occurred to a stranger, or that it is improbable. Nevertheless, as the research reviewed here demonstrates, there is marked commonality in the way people respond to the different distance dimensions. CLT proposes that the commonality stems from the fact that responding to an event that is increasingly distant on any of those dimensions requires relying more on mental construal and less on direct experience of the event. The findings we reviewed in the present article substantiate this claim in showing that (a) the various distances are cognitively related to each other, such that thinking of an event as distant on one dimension leads one to thinking about it as distant on other dimensions, (b) the various distances influence and are influenced by level of mental construal, and (c) the various distances are, to some extent, interchangeable in their effects on prediction, preference, and self-control. Past psychological research has typically investigated the different distance dimensions within disparate theoretical frameworks and methodologies. The research reviewed here suggests that psychological distance, as conceptualized here, captures a fundamental aspect of meaning common to all distances and may provide a unifying framework for understanding a wide range of seemingly unrelated psychological phenomena.

Finally, taking an even broader perspective on psychological distance, it is worth noting that both collective and personal human development are associated with traversing increasingly greater distances. The turning points of human evolution include developing tools, which required planning for the future; making function-specific tools, which required considering hypothetical alternatives; developing consciousness, which enabled the recognition of distance and perspective taking; developing language, which enabled forming larger and more complex social groups and relations; and domestication of animals and plants, which required an extended temporal perspective (Flinn, Geary, & Ward, 2005). Human history is associated with expanding horizons: traversing greater spatial distances (e.g., discovering new continents, space travel), forming larger social groups (families vs. cities vs. states vs. global institutions), planning and investing in the more distant future, and reaching farther back into the past. Human development in the first years of life involves acquiring the ability to plan for the more distant future, consider possibilities that are nonpresent, relate to and take the perspective of more distant people (from self-centeredness to acknowledging others, from immediate social environment to larger social groups; Suddendorf & Corballis, 2007). Although the areas of evolution, history, and child development have different time scales, research in these domains seems to converge on the notion that transcending the present requires and is enabled by the human capacity for abstract mental representation. We hope that the present research on psychological distance, its relationship to level of construal, and its consequences for thought, feeling, and action advances our understanding of how individuals and groups transcend the here and now.

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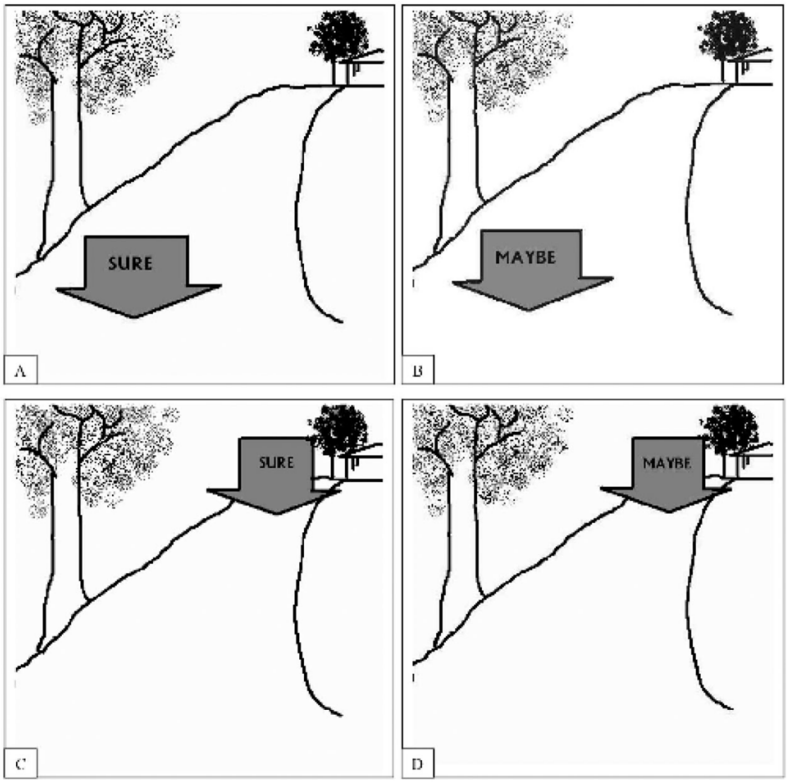

Figure 1.
Example of the four Spatial Location × Word Meaning combinations in Bar-Anan, Liberman, Trope, and Algom (2007). The illustration demonstrates words related to hypotheticality.

Figure 2.
Sample items from the Street Gestalt Completion Test (Street, 1931), provided courtesy of Teachers College, Columbia University. Identifying the pictures (from top right to bottom left: a boat, a rider on a horse, a rabbit, a baby) requires visual abstraction.

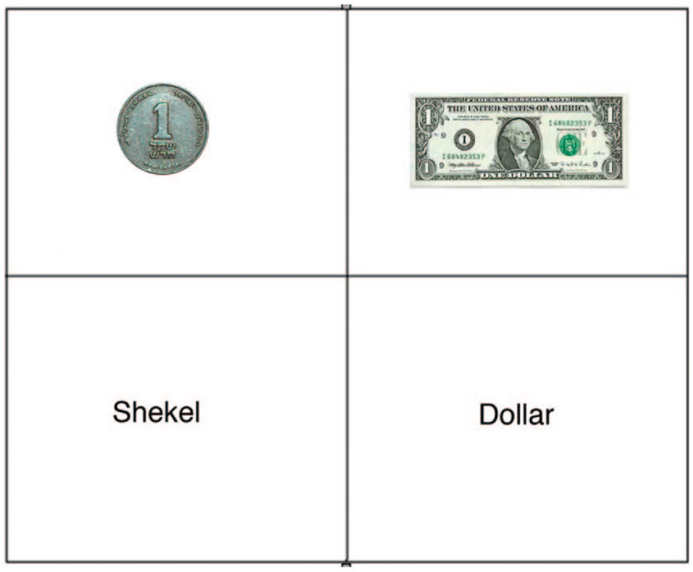

Figure 3.
Example of four Social Distance × Medium (picture vs. word) combinations in Amit, Algom, and Trope (2009). For the Israeli participants in this study, a shekel was socially proximal, and a dollar was distal.