

Running Head: Expansive and Contractive Learning Experiences

Expansive and Contractive Learning Experiences:
Mental Construal and Living Well

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Abstract

Humans as a species enjoy an exceptionally rich learning environment thanks to the ability to transcend our own ego-centrism and share ideas and experiences with each other. Our sociality extends the scope of our learning environments as far as our social networks reach. Overtime, that reach has been continually expanded through the development of technologies such as writing, video recording, and the internet that enable communication across greater spans of distance. In this chapter, we explore construal level (abstractness of thought) as a psychological process that allows people to adaptively learn from others in a social landscape that is evolving to include a more diverse array of near and distant others than ever before. Whereas low level construals serve to contract people's mental horizons by immersing them in the finer details of the shared content, higher level construals serve to expand people's mental horizons by focusing on the core defining aspects of the shared content that will remain stable across distance when applied to the learner's context. Through the strategic employment of varying construal levels, people are able to take full advantage of the richness of today's social learning environment.

As a species, humans enjoy an exceptionally rich learning environment thanks to the ability to communicate with and learn from one another. With each new social interaction, an individual has the potential to gain vicarious experience with contexts, situations, or events that are foreign to him or herself, but are known by another person. As a result, our sociality extends the scope of our learning environments as far as our social networks reach. Over time, that reach has been continually expanded through the development of transportation and communication technologies that serve to connect people across greater spans of distance and with a wider array of others. For example, airplanes make it possible for scholars to travel to international conferences and learn from the ideas of peers living in distant locations. Writing and the printing press make it possible for historians to learn from the experiences of people who lived in times past. More recently, advances in internet technologies and social media have enabled people to connect with and learn from more distant and diverse others than ever before. Taken together, these developments have contributed to the expansion of modern day learning environments by increasing the scope of possible social interaction and the sheer number of others from whom one can learn.

Increasing the number and diversity of interaction partners available to any given person creates more varied opportunities for learning since it exposes individuals to a wider range of ideas, experiences, and situations than they would otherwise encounter. On the one hand, interacting with a diverse group of others increases exposure to new ideas, but on the other, ideas that originate in disparate contexts may not necessarily be directly applicable to one's own context. For example, if we were learning about shelter design from someone who lives in a different environment, we might not have access to all the materials they use, but we could still learn something general about the form and structure of their designs. Because of this increase in

scope and diversity of social interactions, the ability to extract general lessons from exposure to the experiences of diverse others—i.e., to effectively navigate this expansive social landscape—is an essential skill for maintaining overall psychological well-being and life satisfaction.

In this chapter, we explore the psychological mechanisms that allow people to learn and acquire meaningful knowledge from others across such diverse and divergent contexts. In the first part of the chapter, we explore a parallel between the challenges people face today in learning from others in highly variable contexts and the challenges our species faced surviving extended periods of environmental variability. We propose that the human capacity for abstract thought is adaptive in modern times for learning across variable contexts and was adaptive evolutionarily for humans' continued survival through variable environmental conditions. In the second part of the chapter, we focus more specifically on abstraction in social learning and discuss its role in allowing people to learn from distant others occupying diverse and dissimilar contexts.

Part 1

Recent theories of hominid evolution have focused on how the degree of variability in the natural climate may have impacted which characteristics were adaptive for survival (e.g., Potts, 1998). We propose that the psychological challenge presented by communicating and learning across highly varied contexts is analogous to the selection pressures encountered by species evolving in times of marked environmental variability. Furthermore, we suggest that in both cases, the most adaptive strategy for success relies on the capacity for generalization of skills, knowledge, and adaptations.

Selection Pressures in Constant versus Variable Evolutionary Environments

According to the variability selection hypothesis (Potts, 1996, 1998), over long periods of time, different degrees of variability in a species' external environment exert different selection pressures on that species. An environment with low degrees of variability will exert selection pressures that are consistent and unidirectional across time. The most adaptive response to such constancy of conditions would be continual refinement of habitat specific characteristics over successive generations. For example, if a species evolves in an environment that remains hot over the course of many generations, the organisms that are most likely to reproduce and propagate their lineage are those possessing characteristics that are adapted to deal with heat. Ultimately, because the same characteristics are selected for over the course of many generations low variability in an evolutionary environment will tend to yield species that are highly specialized to navigate and survive in a specific context. For example, organisms living in consistently hot environments may develop a physical specialization in the form of longer appendages, because the greater surface area allows heat to escape more easily; whereas consistently cold climates may lead to increasingly shorter appendages which more easily retain heat.

On the other hand, a highly variable evolutionary environment would exert selection pressures that are variable over successive generations. In this case, adaptations that are specific to a given habitat may yield only short term benefits since the species' habitat is liable to change. A more advantageous adaptation in these conditions would be to evolve characteristics that allow for flexible responding to a variety of environments. While such adaptations may leave a given species less efficient in any one particular environment, in the long term they would allow the

species to thrive and prosper even as their external environment undergoes rapid change. In short, an evolutionary environment that remains constant over successive generations tends to promote adaptations that are highly specific and specialized, whereas a highly variable evolutionary environment promotes adaptations that are general and versatile. Returning to the example, a species that is adapting to variable climates may develop more average appendages that are neither extremely long nor extremely short. This average physical characteristic is not ideally specialized, but it will survive more readily across several types of climates.

Psychological Challenges of Social Learning Across Constant and Variable Contexts

As we have outlined, environments with different degrees of variability impose different selection pressures. We argue that there is a parallel process in social learning. We conceptualize social learning as the process of acquiring new information about the world through social interactions (see Bandura, 1977). Social interactions can consist of actors who come from similar or dissimilar contexts. The degree of similarity between the contexts of social interaction partners is an external constraint to which people need to adapt. When one's interaction partner is close to the self, an individual is gaining exposure to information acquired from another person's experience in an external environment that is likely highly consistent with one's own. In this way, learning from proximal others is analogous to a species evolving in an unchanging environment since both entail accruing experience within a constant external context. Just as the characteristics that are adaptive for one generation remain applicable and adaptive for subsequent generations in conditions of environmental constancy; much of the information gained through exposure to close others' experiences may be directly applicable and useful in one's own circumstance. Extending the analogy further, just as a constant evolutionary environment

encourages continual refinement of habitat specific characteristics, we propose that a constant learning environment encourages specialization and the development of context-specific expertise.

However, as one's interaction partners become more distant from the self, the challenge of learning from their experience is exacerbated by the fact that it is increasingly possible that their experience occurred in external settings that are highly discrepant from one's own. Hence, learning from more distant others is analogous to a species evolving in a highly variable environment -- both entail accruing experience across diverse external contexts. Just as characteristics that are adapted for any specific environment may be useless when the external environment changes; aspects of the information gained through a distant other's experience that are specific to their context will be inapplicable to the extent that their external surroundings differ from one's own. In this case, just as success in a highly variable evolutionary environment depends the evolution of general and versatile adaptations, we propose that social learning across highly variable contexts depends on the ability to extract general information that is relevant across a diverse array of contexts.

Navigating Diverse Contexts

The ability to effectively navigate diverse contexts and environmental constraints was critical in human evolution and remains critical in today's ever expanding social world. Humans' evolutionary history is marked by success and thriving during extended periods of environmental fluctuation (Potts, 1996; 1998), and in modern social life people are increasingly exposed to ideas and experiences originating in diverse and highly variable contexts. We propose that the capacity for abstract thought is a psychological adaptation that evolved in response to the

pressures of environmental variability, and that continues to be critical in modern daily life as a way to navigate increasingly diverse social contexts in today's interconnected world.

Abstraction

Any target (object, event, action, situation, etc.) can be construed at varying levels of abstraction ranging from low to high (Rosch, Mervis, Gray, Johnson, & Boys-Braem, 1976; Trope & Liberman, 2010; Vallacher & Wegner, 1987). Low level construals are concrete and contextualized as they focus on the peripheral, specific, and subordinate features of the target. Higher level construals are more abstract and decontextualized as they focus more on central, general, and superordinate features of the target. For example, a low level construal of “exercising” may identify a specific means of exercising, like “swimming”. A higher level construal of the same action may instead focus on the superordinate goal that the action is a means to, such as “being healthy” (Vallacher & Wegner, 1987). As this example illustrates, lower level construals incorporate more contextual features into their representation (e.g., being in water is likely included in one's representation of swimming) whereas higher level construals are more context independent (e.g., the goal being healthy does not connote any specific contextual setting). In general, a primary function of higher level construals is to allow people to construct mental representations of goals, events, or stimuli that are divorced from any specific context in which they may occur.

By omitting specific details that bind a given target to a particular context and focusing instead on its superordinate and central features, moving to a higher level of construal identifies a wider variety of objects or events that are equivalent for some purpose (e.g., Gilad, Trope, & Liberman, in prep; Rosch et al., 1976). For example, construing a bike as an example of a

“vehicle” represents a higher-level construal that renders the bike equivalent to any other target that fulfills the goal of transportation (e.g., a car). On the other hand, by focusing on increasingly specific details, moving to a lower level construal functions to distinguish a given target from other potentially similar targets. Construing that same bike at a lower-level such as “mountain bike” places the item in a narrower category of objects characterized by a more specific function. Overall, higher level construals encapsulate a wider variety of possible instantiations of a target than do lower level construals. That is, there are more possible manifestations of the abstract concept of “vehicle” than there are of “mountain bike”.

Abstraction as an Evolutionary Adaptation

How might the ability to engage in abstract thought have conferred a selective advantage to humans evolutionarily? As mentioned earlier, humans evolved throughout periods of high degrees of environmental instability. This inconsistency in environmental pressures over the course of many generations would have created selection pressures that encouraged the replacement of habit-specific adaptations with ones that promote flexibility in responding to a variety of environmental contexts. We argue that a key adaptation for this challenge is the capacity of abstract thought. The primary adaptive benefit of abstract thought is that it frees human cognition from any specific environmental context and allows people to establish psychological continuity across discrepant contexts. This ability to identify commonalities across divergent contexts grants humans a unique flexibility to respond to diverse environmental conditions.

To see this, imagine that there are two species competing for survival in an idealized environment. Suppose in this environment there are various sources of nutrition that are all

equally plentiful, but of which blueberries are the most nutritious. Further imagine that one species has a highly specialized cognitive system oriented around the specific goal of finding blueberries, whereas the other has a more abstract cognitive system oriented to the goal of finding food. If the environment were to remain stable, an organism with a cognitive system specifically oriented to blueberries would enjoy high levels of fitness, while the more abstract thinking “food finders” may find themselves lagging behind such specialists. However, if the environment were to change and blueberries went extinct, the blueberry finders would be at a serious disadvantage, while the food finders would easily be able to accommodate such a change, due to their capacity to hold a more abstract goal and substitute any other source of nutrition as an equivalent means. Thus, over the course of variable climates, the generalist ‘food finders’ would attain higher rates of survival.

More generally, the ability to conceive of a goal that is superordinate to the means of obtaining it would have prevented early hominids from getting locked into a specific means of accomplishing their goals, that is, into a specified behavioral pattern. In other words, thinking at higher levels of abstraction allows for the generation of goal hierarchies, which render sub-goals interchangeable in service of superordinate goals. For example, from the relatively low-level goal of eating blueberries, an abstract thinker can generate a higher-level goal of getting nutrition; this goal in turn makes the sub-goal to eat blueberries one in a set of possibilities. In contrast, the inability to recognize higher-level goals makes an organism dependent on environment constraints to dictate behavior (e.g. having an environment with blueberries), and more vulnerable to shifts in the environment.

Supporting the idea that abstraction evolved out of selection pressures created by evolving through variable conditions, Potts (1996, 1998) presented evidence showing that

several key hominid adaptations—including biological changes such as highly encephalized brains, technological developments like the creation and use of stone tools, and behavioral patterns such as increased sociality—emerged during periods of heightened environmental variability. Many of these adaptations are likely related to the basic cognitive adaptation to engage in increasing levels of abstract thought. Increased brain size and encephalization are likely to have been associated with increased cognitive processing and capacity for abstract thought (e.g. Roth & Dicke, 2005). The creation and use of tools is a hallmark of abstract thought since it implies the capability to conceive of a general, superordinate goal (e.g., kill an animal for meat) and the ability to work backwards from this goal to develop a specific means of achieving it. Finally, as we will argue below, the ability to engage in social communication and social learning is made possible by the capacity for abstract thought.

Overall, the evidence presented suggests that humans evolved the capacity for increasing levels of abstract thought in response to the selection pressures created by evolving through highly variable environmental contexts. While abstraction arose out of environmental changes that occurred gradually and over the course of thousands of years, the flexibility it affords for navigating diverse external contexts is functional within modern daily life for navigating the diverse contexts of the other people we interact and learn from in today's interconnected world. How might the ability to engage in varying levels of abstract thought facilitate social learning across an expansive social landscape?

Part 2

Construal Level Theory and Social Learning

Drawing on Construal Level Theory (CLT; Liberman & Trope, 2008; Trope & Liberman, 2010) we propose that people are able to expand their social scope to learn from increasingly distant and dissimilar others by engaging in higher levels of construal, or more abstract thought (see Kalkstein, Kleiman, Wakslak, Trope, & Liberman, 2016). The main hypothesis of CLT is that higher level construals allow people to expand their mental horizons and traverse psychological distance to consider targets that are experienced as existing outside of the egocentric here-and-now (Ledgerwood, Trope, & Liberman, 2015; Liberman & Trope, 2014). Applied to social learning, the basic idea is that by constructing mental representations of an object, event, or situation that are decontextualized and encapsulating of a variety of instantiations, higher level construals allow people to extract information from the experiences of others across greater psychological distances, and across increasingly diverse contexts, that is stable and applicable to their own circumstances.

Fundamental to the integration of CLT with social learning is the concept of psychological distance. Psychological distance is a general term to refer to all of the ways that an event, object or situation can be removed from the egocentric here-and-now (Trope & Liberman, 2010). It can be spatial (e.g., occurring in a different place), temporal (e.g., occurring in the past or the future), social (e.g., someone unfamiliar or dissimilar), or hypothetical (e.g., not occurring in reality). Since the experience of another person is always located beyond the self, social learning always requires the traversing of some psychological distance. The amount of psychological distance traversed in social learning will vary depending on who the person that one is learning from is (e.g., a close friend vs. distant stranger), and when and where the other person's experience took place (e.g., recently in proximal location vs. long ago in a faraway land). The farther removed another person's experience is along any of the four dimensions

(spatial, temporal, social, or hypothetical) from one's immediate egocentric context, the more psychologically distant it is.

Learning From Proximal and Distal Others

Within social learning, psychological distance operates as a cue to the degree of potential discrepancy between their own immediate circumstance and the context of the other person's experience. For the learner, increasing psychological proximity to another person's experience constrains the range of possibilities for what the context of that experience may have been to be more similar one's own context. The closer another person is to oneself, the more similar the context of their experience is likely to be to one's own context. In this case, the learner will be able to extract relevant and useful information from exposure to their partner's experience with relatively low level construals. For example, in learning from a neighbor how to construct a shelter, the geographic proximity and similarity of contexts in terms of resources available would allow the learner to focus on relatively specific details such as the type and quantity of material used to build the walls.

A major advantage of learning from closer others is that it affords the opportunity to gain expertise in a specific context. The development of expertise entails a mastery of the low level mechanics of how to complete an action or goal (e.g., Vallacher & Wegner, 1987). The low level mechanics of how to complete an action are often contextually bound. For example, the specific actions involved in driving a car differ depending on whether one is driving in the mountains on icy roads or is driving in a city with heavy traffic. By focusing on the lower level concrete details of a proximal other's behavior (and the consequences of those specific actions), a learner may acquire knowledge about the most effective and efficient means for navigating that specific

context. To the extent that the context of the other person's experience overlaps with one's own, construing their behavior at a lower level will facilitate the development of context specific skills and expertise. Thus, a person living in the mountains would be able to learn more specialized driving skills from another person living in the mountains than from a more distant city driver.

As the experience that one is learning from becomes more distant from the self, the learner will tend to have less information about the context of the experience. From the learner's perspective, the experience could have occurred in any of a highly variable set of contexts that includes contexts that are very different from one's own. While this does not necessarily mean that the experience occurred in highly discrepant context, this lack of information opens up the *possibility* that it occurred in a highly discrepant context. As a result, when learning from the experiences of psychologically distant others, the learner is often forced to reckon with making sense of an experience that could have occurred across a highly variable set of contexts include contexts that are very different from his or her own. To accommodate a wide range of possibilities, people learning from distant others benefit by adopting a higher level construal that captures all possible manifestations of the object or event.

Furthermore, in cases where information about the context of another person's experience is provided, thus reducing the learner's uncertainty about the nature of the context, it may still be irrelevant. For example, learning about the building materials used in igloos would not be relevant for a person learning to construct a shelter in a tropical climate. In cases where psychological distance is related to a discrepancy in the contexts of one person's experience and that of the learner, higher level construals will allow the learner to extract meaningful information from the exchange in spite of irrelevant contextual details. Thus, that same tropical learner could still benefit from learning from the igloo builder by learning about the higher level

structural properties that make an igloo a viable shelter. Overall, higher level construals are extremely functional within social learning as they allow people to extract useful information from more distant others and across more discrepant contexts.

As a result of this functional relationship between the psychological distance to a given target and its level of construal, people possess a general cognitive association between psychological distance and construal level (Trope & Liberman, 2010). The more psychologically distant a target is the higher level people will tend to construe it. While this association is likely borne out of an ecological relationship between psychological distance and availability/applicability of low level contextual features of a target, its employment in everyday experience is independent of this ecological reality. Rather, the association is overgeneralized so that even when people have the same amount of low level information available (and it is equally applicable) people will still tend to construe the target at a higher level when it is experienced as more psychologically distant. In terms of social learning, this overgeneralization hypothesis suggests that even when the amount and applicability of information provided remains the same, people will still tend to learn from others at a higher level when the source of the information feels more psychologically distant from the self.

Empirical Evidence

At the most basic level, the above logic suggests that given the same information, people should represent it and learn it at a higher level when it is acquired socially through observation of another person's experience than when it is acquired through direct experience. Because social learning entails learning from another person's experience, which is a more distant source than is one's own direct experience, people should represent information at a higher level when it is

acquired socially than through direct experience. Supporting this idea, research has shown that people learn new information at a higher level when they learn it socially than through direct experience (Kalkstein et al., 2016). Specifically, when learning to categorize novel objects into separate groups, people who learned socially were more likely to later categorize objects based on their global configuration (rather than their local components) than were participants who learned through direct experience (Study 1). This result suggests that when people expand their scope to learn from an experience that is located beyond the self, they engage in higher level construals and subsequently learn at a higher level than when they learn from their own direct experience.

Extending this further, research shows that within social learning, when people are learning from others, they tend to learn at a higher level when learning from a more psychologically distant source (Hansen, Alves, & Trope, 2016; Kalkstein et al., 2016). Importantly, this entails that people not only construe the incoming information at a higher level when it is learned from a more distant source, but that this higher level construal influences the way they internalize it and subsequently act upon that learned information. Related to ideas discussed above, one implication of this is that when learning a new skill from another person, people should attend to and subsequently emulate the specific means of accomplishing a specific task more when the person they are learning from is psychologically proximal. On the other hand, when learning from a more distant source, people should be less attuned to the means, and learn from the model more in terms of the ultimate goal of the task while adhering less rigidly to the specific means of achieving it.

To test these assertions, Hansen and colleagues (2016) designed a series of studies wherein they presented participants with a novel task that they were to learn how to complete by

watching someone else perform it. The two tasks used across this set of studies were one wherein participants had to fold a towel into the shape of a dog and another that was more simple tasks of folding paper into various shapes. People learned these tasks by watching a video of either a psychologically distant model (e.g., a video of someone from 20 years ago) or a more proximal model (e.g., a video from of someone from earlier that year) perform the task. The results of these studies showed that participants imitated the model's specific steps in completing the task more precisely when the model was psychologically proximal than when the model was more distant (see also Bandura, Ross, & Ross, 1963). When the model was distant, people tended to emulate the model more at the level of the higher order goal of the task (e.g., fold a sheet of paper into a kite) while omitting the specific steps demonstrated by the model.

The research reviewed thus far supports the idea that when learning from more psychologically distant others, people learn at a higher, more abstract, level. The direction of influence explored thus far is how the psychological distance to the person one is learning from influences the level at which the shared information is learned. However, the direction of influence can also be reversed. CLT posits that the relationship between construal level and psychological distance is bidirectional; so, not only do people tend to construe more distant targets at a higher level, but higher level construals promote the consideration of more distant targets (Liberman & Trope, 2010; Ledgerwood et al., 2015). In terms of social learning, this implies that higher level construals expand one's social horizons and encourage people to consider a more diverse array of others as potential sources of information.

Expansive and Contractive Social Scopes

Higher level construals are functional for expanding people's social horizons because

they represent objects and events in a decontextualized manner that renders them stable and applicable across diverse contexts. For example, an individual wanting to learn about higher level abstract ideas—such as basic theories within an academic discipline—could look to a wide array of others including those who are distant and dissimilar from one’s self. Put differently, higher level “why?” questions can be answered by others in more variable contexts including those from distant and dissimilar from one’s own. As a classic example, one of the world’s most popular sources for answering “why?” questions are religious texts that were written hundreds, if not thousands, of years ago. By allowing people to formulate questions that can be answered by people who occupy divergent contexts, higher level construals function to expand people’s social scope, and thus their overall learning environments.

Whereas higher level construals function to expand one’s social horizons, lower level construals serve to contract people’s mental horizons and aid immersion into one’s immediate egocentric context. By focusing on contextually bound specifics of an event or object, lower level construals orient people to proximal others occupying the same or a similar context. A common example of this in the world is the practice of apprenticeships. Typically, apprenticeships are about developing expertise in a specific domain, and typically apprenticeships involve working in close proximity with a teacher. We argue that the reason people apprentice in such close proximity to a teacher is because the concreteness of the skills they want to learn leads them to contract their mental horizons and orient them towards someone inhabiting a similar context to themselves. For example, a medical student learning to become a surgeon would be better served by physically observing a more practiced surgeon operate than they would by reading a book recounting a previous operation. Put differently, lower level “how to?” questions can be answered by a narrower range of others. Oftentimes, learning how to do

something requires careful attention to details that are not available or applicable across distant and diverse contexts. Thus, we argue that low level construals contract the scope of others that one will look to for learning because they encourage the formulation of context specific questions that are best answered by proximal others with experience in that same specific context.

Supporting the idea that higher level construals serve to expand one's social horizons while lower level construals contract them, a series of studies conducted by Kalkstein and colleagues (2016) show that when people are asked who they would choose as a model to learn from, they were more likely to select distant others when the content of what they were learning was more abstract. For example, in one study, people chose models across a relatively broad range of social distances when asked from whom they would learn if they were to learn about a general trait that they admired. In contrast, when asked to whom they would look in order to learn about a specific behavior, people expressed a strong preference for learning from proximal others. Similarly, in another study, participants expressed relatively equal interest in about *why* it is important to adopt certain healthy behaviors from an article written months ago and an article written that day. Again, in contrast, when learning about *how to* adopt that healthy behavior, people expressed a significant preference for learning from the more recent article.

It is important to clarify that while higher level construals expand people's social horizons, they do not necessarily lead people to prefer distant others to near others as sources of information. Rather, by construing the learning content in a more decontextualized way that is applicable across a wide diversity of contexts, high level construals lead people to be less biased by context. The data from the last two studies support this account by showing that higher level construals led people to express relatively equal interest in and likelihood of learning from

distant others and close others. Whereas low level construals bias people towards learning from proximal others, we suggest that high level construals expand the breadth of others that one is willing to consider learning from to include distant others *in addition to* more proximal others. From this expanded scope, it only stands to reason that people then select whoever they deem to be the best possible model, regardless of context, given whatever it is that they are trying to learn.

Overall, this research supports the idea that higher level construals are functional for allowing people to learn from others across more variable contexts including those that are distant and dissimilar from one's own. While lower level construals are functional for allowing people to learn specific information from people close to themselves within highly similar contexts, higher level construals are functional for allowing people to learn more abstract information from others people across a wide variety of contexts. Thus, in today's interconnected world, the ability to learn from others at a higher, more abstract, level grants people the flexibility to learn meaningful things from the broad variety of sources made possible by modern technology.

Communication

Social learning is often a cooperative process wherein one individual intentionally relays knowledge or information to others with the hope that it will be relevant, interesting, or useful to them in their own lives. Hence, a major factor that determines the ability for a learner to acquire meaningful information from the experiences of others in variable contexts is the ability of others to effectively communicate information gathered from their experience to their audiences. So where a learner works to extract information from another person's experience that is applicable

to herself, a communicator works to construct messages relaying the knowledge they possess that are relevant and useful given the context of their audience (see also Grice, 1975).

The same constraints that distinct contexts impose on the ability for learners to extract meaningful information from another person's experience also apply to communicators trying to convey their experience to others. For example, suppose one individual at a dinner party was designated as the guinea pig to taste test new food. The utility of this role depends on that person's ability to translate his concrete visceral tasting experience into a more abstract verbal representation (e.g., "sweet" or "bitter") that conveys information that is intelligible and useful to others. In order for a communicator to effectively share their experience with another person, she will have to adopt a higher-level construal to identify and communicate those aspects of her experience that will be relevant and applicable to the unique context of another. The more discrepant the contexts of one's audience are from one's own, the higher level the message will have to be to remain relevant to one's audience.

Supporting this idea, research has shown that people use more abstract language when communicating with more psychologically distant others than when communicating with more proximal others (e.g., Joshi, Wakslak, Raj, & Trope, 2016). Similarly, based on notion that words are more abstract representations of objects than are pictures (Amit, Algom, & Trope, 2009), related research has shown that when communicating with more distant others, people prefer to convey information through written descriptions, but when communicating with more proximal others people are more likely to choose to share information through pictures (Amit, Wakslak, & Trope, 2013). We argue that the reason people communicate at a higher level when sending messages to more distant others is that doing so ensures its applicability even when the context of one's audience is unknown. Higher level messages ensure applicability by conveying

representations that are stable across a wider variety of contexts. This idea also implies that communicators should use higher level messages when communicating to a more diverse audience. Indeed research has shown this to be case. Specifically, Joshi and Waksalak (2014) showed that people use more abstract language and communicate higher level information when addressing larger and more diverse groups than when addressing a single person or less diverse groups.

Taken together, this research shows that communicators modify the abstractness of their messages based on the perceived potential for their audience to occupy contexts that diverge from their own. The greater variability in possible external contexts for one's audience, the more abstractly communicators frame their message. In other words, when communicating to more psychologically distant, or more diverse, audiences, people construct messages centered on higher level representations of the shared information. This flexible use of different levels in communications is functional in that it allows communicators to tailor their messages to their audience in a way that promotes maximum applicability to the context of the audience.

Indeed, one of the most important factors in promoting social learning across greater spans of distance and from more diverse others is the willingness and ability for communicators to craft messages that are general enough that they remain applicable across such variable contexts. It is because people are capable of expressing their personal experiences in abstract ways that people are able to learn from the experiences of others that are distant enough that they are not directly perceptible. As an example, one of the greatest technological advancements in human history was writing. Writing relies on an abstract system of symbols that represent verbal communications which themselves are abstract representations of information and knowledge gathered through experience. By developing a system of symbols that represented words, people

were able to share their ideas with others that they would never meet in person. In this way, writing has allowed people to learn from others thousands of miles away and from people who lived thousands of years ago.

The richness and expansiveness of our learning environments is made possible by the cooperative efforts of communicators to construct abstract messages that are applicable to learners across diverse contexts and of learners to engage in higher level construals to comprehend these messages relate them to their own experience. The major function of higher-level construals is that they allow both learners and communicators to construct shared representations of the external world. Through these shared representations, people can learn from each other, acquire new information, and build on each other's knowledge.

Summary and Conclusions

In this chapter, we explored the psychological mechanisms that allow people to navigate today's complex social world and take advantage of the richness of today's social learning environment. Drawing an analogy to the selection pressures created by different degrees of variability in evolutionary environments, we argued that different degrees of variability between the external environments of another person and oneself created different opportunities and challenges for social learning. We argued that in both cases, constancy in external environments affords the opportunity for specialization in that specific context whereas variability in external environments challenges species and individuals to engage mechanisms that are more general and flexible. We further presented evidence that abstract thought evolved to meet the challenges of survival across variable external conditions and that it remains adaptive for social learning in modern times by allowing people to learn from others across distant and divergent contexts.

More specifically, within social learning, we presented evidence that people strategically employ different levels of construal in order to take advantage of the various opportunities created by learning from near and distant others. We reviewed evidence showing that when people are learning from others in circumstances highly similar to their own (typically close others), they tend to focus on more concrete specific details of the shared content in efforts to gain mastery over a specific environment. However, when people learn from others who they perceive to live in highly dissimilar contexts (e.g., distant others), we argued that they increasingly focus on the more abstract qualities of the shared information in efforts to acquire general knowledge that is stable across contexts and relevant when applied to one's own circumstance.

In this article we are building on CLT by suggesting that contextual variability places a mediating role in the link between psychological distance and higher level construals. We argue that people treat increased psychological distance to another person's experience as a cue for the potential discrepancy between the context of that experience and one's own. In turn, we propose that the potential for the experience to have occurred in a highly discrepant context is what prompts people to adopt a higher level construal when learning from more distant others. In short, because people expect the context of more psychologically distant others to be more likely to diverge from their own, they adopt a higher level construal of the learned information in efforts to render it applicable to their own circumstance. We leave it to future work to explore the role of perceived context variability in the relationship between psychological distance and construal level.

Finally, to bring the argument full circle and relate the social learning more directly to humans' evolutionary history, we join a growing viewpoint within social sciences arguing that

the ability to engage in social learning is perhaps one of humans' greatest adaptations, and is responsible for our continued success on this earth (see Boyd, Richerson, & Henrich, 2011; Henrich, 2015). Through social learning, humans enjoy a richer and more expansive learning environment than any other known species ever. Our contribution to this viewpoint is to highlight the basic cognitive mechanisms that give rise to our ability to share ideas, experiences, and thoughts with each other. Specifically, we propose that it is the ability of both learners and communicators to develop higher level shared representation of the world that enables social learning and the expansion of our learning environments as far as our social connections reach. By enabling expansive social connections, and allowing people from all over the globe and from all walks of life to come together to share ideas, the use of abstract thought in social learning is essential to developing and maintaining 'the good life'.

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