Chapter 8
Constructiveness in the History of Psychology: Frederic Bartlett from Past to Future

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> *To understand and value current practice [in psychology] it is necessary to know something of the past, but never by it to be wholly ruled.—Bartlett, 1961, p. 393*

8.1 Introduction

There is a human tension between conservation of the past and construction of the new in both individuals and social groups. In the process of living forward, human beings both modify old patterns and construct genuinely new forms to meet the challenges of a complex and changing environment. Major innovations typically arise from contacts with groups having different social organization and cultural forms. For example, original scientists like the British psychologist Frederic Bartlett were influenced by several disciplines and had the foresight to weld together distinct streams of ideas. Change in scientific disciplines is guided by contemporary conventions of practice and thinking, but it also involves the selective borrowing from the more distant past in order to develop new ideas. This has helped psychologists to understand and value current practice as well as critique and move beyond it. This second use of the past has more in common with cultural contact with foreign groups than with the flexible conservation of conventions from the immediate past. Like visiting a foreign country, this way of engaging the past can help us to take distance from our conventional ways of doing things. In this chapter, Bartlett's work and legacy will be explored to help us approach human beings as much more than simply reacting to or caused by various external influences. Instead,

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they will be conceptualized as agents constrained by their past and present environment, but also capable of moving beyond them.

This chapter aims to consolidate the ideas put forward in my book, *The Constructive Mind* (Wagoner, 2017), by outlining the key features of Bartlett's constructive approach and the historical reconstruction of his ideas over time. In this way, the title of the chapter has a double meaning: analyzing the concept of constructiveness through the history of psychology and showing how psychology itself demonstrates constructiveness in this history. The chapter first analyzes how the notion of "construction" provides an integrative framework to investigate human action on and between individual and group levels. Although Bartlett (1932) argued these levels should not be confused (e.g., by applying the concept of memory to the group), he often used models developed for one level as an analogy to understand the other. After having outlined Bartlett's integrative constructive approach, this chapter applies his analysis of the reconstruction of cultural forms to the fate of his own ideas. This historical analysis provides a case to illustrate how ideas and practices move, change, are integrated, forgotten, and rediscovered. In this way, the study of how culture is transmitted, maintained, and transformed can be applied equally to scientific communities and to other groups in society. The interdisciplinary contact and exchange Bartlett emphasized in relation to scientific development is needed to construct a psychology for the third millennium. Bartlett's own synthesis of biological, anthropological, sociological, and psychological ideas provides an instructive example of an integrative approach to knowledge construction.

8.2 A General Theory of Constructiveness

Constructiveness involves a flexible adaptation to new circumstances, rather than a response that exactly reproduces what was done in the past. What is needed for human life is a usable past. This is because "the external environment […] partially changes and in part persists, so that it demands a variable adjustment, yet never permits an entirely new start" (Bartlett, 1932, p. 224). Bartlett applied this principle to different levels of organization from bodily skills to group processes. Although he is clear that new properties emerge at higher levels, he frequently used analogies from one level to understand another, such as the analogy he made between "cultural patterns" and "schemata." This is apparent from Bartlett's (1932) unstable terminology to refer to these concepts: his preferred names for schema were "active developing patterns" and "organized settings," while he also used "group schemata" to discuss what he had earlier called "cultural patterns." In what follows, I will explore some of the parallels between his theorizing of individual and group processes in relation to the notion of constructiveness. More elaborate distinctions between levels of organization can easily be made,[1] but for our purposes, the simple

[1] The notion of levels of organization can be distinguished and elaborated in many different ways—for example, genetic, neural, behavior, and environment (Gottlieb, 1992); intrapersonal, interpersonal,

distinction is sufficient to explore the different sides of Bartlett's constructive approach. I will highlight five points of comparison between the two levels that bring constructiveness to the fore: (1) readiness to receive, (2) dominance of the past over the present, (3) stability through plasticity, (4) radical reconstruction, and (5) de- and re-contextualization.

A person is not equally ready to receive all impressions. What is experienced is a function of the person's attitude, interests, personal history, and group membership. These factors constitute a person's active orientation to the world, aspects of which change from moment to moment, while others endure through one's lifetime. This is highly functional in that not all details of a situation are equally relevant to ones action. Bartlett was especially critical of Ebbinghaus' (1885/1913) method because it assumed a subject that passively received impressions. The Würzburg School carried out a variation of Ebbinghaus' study, where nonsense syllables of different colors, letters, and arrangements were presented to subjects, who were instructed to observe a particular feature. Although there was a sensory experience of all stimulus aspects, subjects remained oblivious to those aspects that were unrelated to the task instructions (Ogden, 1951). Throughout his career, Bartlett emphasized what a person brings to an action or experience in his studies, rather than assuming the stimulus itself determines the response. Likewise, groups do not notice or adopt every new element of culture they encounter in other groups; this requires making the connection to an existing setting. Only those cultural elements for which there is some active interest or perceived utility for the group enter into it. As such, new technologies are frequently adopted while forms of social organization are particularly resistant to outside influence. History is replete with examples of cultural contact without transmission: groups without large administrative structures found little interest in adopting or recreating systems of writing (Diamond, 1997) nor did Japanese painters adopt the new perspective painting developed during the Renaissance though they knew about it. In short, groups like individuals need to be ready for some material if they are to attend to it.

This active orientation to the world is set up through the individual's or group's history. This is why the past tends to dominate over the present. Bartlett (1932) famously argued that all psychological processes involve "an effort after meaning," whereby something given in the present is connected to a "setting," "scheme," or "schema," which he understood, following Head's (1920) work in neurology, as an organized mass of previous experience. Schemata thus provide the basis through which action and experience take form, like a figure emerging from a background: they are a person's accumulated history flexibly carried into new situations. In his experiments on perceiving, subjects saw a briefly displayed image in accordance with conventional expectations of what it should look like. When inkblots are shown in his imagining experiment, subjects were reminded of entirely different things as a function of their previous experience. And in his "everyday thinking" experiments, subjects tended to ignore most of the evidence present and instead arrive at a solution

positional, and ideological (Doise, 1986); and micro-, onto-, and sociogenesis (Duveen & Lloyd, 1990; Saito, 2000; Valsiner, 2007).

based on some conventional generalization taken over from their social group or by personal recall. Because of the past's influence on the present, Bartlett said the experimentalist remains to a great extent a clinician: "he is forced to realize that the study of any well developed psychological function is possible only in the light of consideration of its history" (Bartlett, 1932, p. 15). In more recent research, this has been investigated as part of a case study or idiographic approach (Salvatore & Valsiner, 2010). Similarly, in relation to the life of groups, Bartlett pointed out how a group's existing frame of reference provides a setting and explanation for new elements that enter into it. The group will not incorporate what cannot be given a place within its existing cultural patterns. The same principle holds true of propaganda produced by a ruling party for the public, although sometimes this can be prepared for by education. In *Psychology and Primitive Culture*, Bartlett (1923) emphasized the conservative nature of "primitive" groups; they tend to hold on to traditional ways of acting and interpreting the world. This is mainly because of the minimal differentiation within the group and lack of contacts with other groups. Even when change is compulsory, as was the case with forced conversion to Christianity, natives have been found offering Christian paraphernalia to their overthrown deities, thus retaining their traditions at a deeper level (Bartlett, 1925).

Thus, both schemata and cultural patterns impose a stable but flexible framework on the novelty of the present. In this way, there is continuity in change, stability through plasticity. Schemata are described as active and developing; they are the constantly updated standard against which any new response is made. The fact that a continuous standard exists ensures continuity, while the fact it is developing in response to present conditions ensures change. Bartlett famously gave an example from tennis: "When I make the stroke I do not, as a matter of fact, produce something absolutely new, and I never merely repeat something old" (Bartlett, 1932, p. 202). The new response is channeled through the person's accumulated past experience and in meeting new conditions revises it. In his repeated reproduction experiments, where a story is to be recalled after increasing time intervals, Bartlett noted: "The most general characteristic of the whole of this group of experiments was the persistence, for any given subject, of the 'form' of his first reproduction" (Bartlett, 1932, p. 83). It is in the initial perception and reproduction that the material is put into relation with a person's schemata; this connection is difficult to break even when people are allowed to reread the original (Kay, 1955). The brilliance of Bartlett's repeated and serial reproduction methods is that they enable the researcher to explore continuity and change through a series of reproductions. Change and stability are here seen as interdependent opposites: it is precisely through the flexible application of a stable framework that continuity through time is ensured (see also Collins, 2006). In *Remembering*, Bartlett began to speak of this characteristic as "constructive" in contrast to theories that saw memory as a static register of the past. However, in his earlier book, *Psychology and Primitive Culture*, he had used the term "conservation" to describe how groups assimilate novelty to their existing cultural patterns, so that change is only slight. A group is able to persevere in its traditions by flexibly adapting them to meet new needs: "it is because the group is selectively conservative that it is also plastic" (Bartlett, 1923, pp. 151–152).

In short, both individuals and groups create continuity for themselves by adapting the old to new circumstances. There is change and reconstruction here but not of a radical nature; that requires an additional mechanism.

Bartlett implicitly discussed two forms of construction or reconstruction. In the first changes are introduced through assimilation, simplification, and retention of apparently unimportant details (Bartlett, 1932, Chap. 16). This describes the conservation through plasticity discussed above. Bartlett illustrates this process both through his own experiments and with anthropological reports on the transformation of decorative art, cultural artifacts, and social practices as they move from one group to another. However, a more radical reconstructive process can also occur, which he called "turning around upon ones' schemata" in relation to individual processes and "social constructiveness" in relation to social groups. Bartlett is clear that imagining, remembering, and thinking in the full human sense are a conscious and self-reflective act, rather than the rudimentary work of schemata. This understanding of construction tends to be missed in contemporary discussions that see schemata as a distorting influence on memory and thereby ignore the reflective use of multiple schemata in remembering and also thinking (see below). In the process of remembering, a person constructively weaves together influences from a number of sources. Bartlett (1935, p. 224) gives the example of journalist recounting a cricket match: "To describe the batting of one man he finds it necessary to refer to a sonata of Beethoven; the bowling of another reminds him of a piece of beautifully wrought rhythmic prose written by Cardinal Newman."[2] It is in this process of "turning around" that human agency emerges. Similarly, Bartlett highlighted that groups not only assimilate cultural elements into a familiar cultural framework but are also capable of developing genuinely new forms by welding "together elements of culture coming from diverse sources and having historically, perhaps, very diverse significance" (Bartlett, 1932, p. 275). This occurs because groups have both a past and a future orientation or "prospect." The fact that a group has a "prospect" creates conditions for "social constructiveness" (Bartlett, 1928). In *Psychology and Primitive Culture*, Bartlett gave the example of the emergence of a new religious cult through the weaving together of a number of distinct cultural groups' artifacts and ideas; in *Remembering*, he described sports teams as "socially constructive" in their ability to creatively integrate new influences; and in *Thinking*, he discussed innovative scientific groups that borrow from numerous sources in order to better understand some phenomenon, as happened with the investigation of infective agents in medicine. More recently, Bloor (2000) has followed Bartlett in using the term "social constructiveness" to analyze efforts during World War I to develop radar detection systems, which illustrate different national thinking styles.

In the more radical kind of reconstruction, parts of one setting must be picked out and placed in another without losing their identity. This process involves the de-contextualizing and re-contextualizing of material. At the individual level, Bartlett (1932) argued that this is done through the functioning of images. As his experiments aptly showed, images are not fixed entities but living and constantly

[2] The quotation clearly reveals Bartlett's own social class.

changing with our interests. They arise when streams of interest conflict which introduces a rupture into our ongoing activities and trigger a process of self-reflection. The function of images is to allow us to "pick out" bits from schemata and thereby increase our variability of response: "a man can take out of its setting something that happened a year ago, reinstate it with much if not all of its individuality unimpaired, combine it with something that happened yesterday, and use them to help him solve a problem which he is confronted to-day" (Bartlett, 1932, p. 219). With regard to social groups, cultural elements are picked out of one group and brought into another. This happens under various conditions of cultural contact: one important factor is whether there is a power asymmetry between the groups in question. When one group is dominant over another, this tends to foster an all-or-nothing adoption of the dominant group's culture (Bartlett, 1923). Similarly, a submissive auditor and dominant audience in remembering tend to lead to literal recall, as opposed to a more selective and constructive form (see Bartlett, 1932, p. 265ff). Thus, whereas symmetrical relations between groups enable a free exchange of distinct cultural elements, asymmetrical relations create conditions for whole bundles of cultural elements to be transmitted together. Bartlett's mentor, Rivers, articulated this theory of cultural dynamics using a physiological model of two types of sensibility: a more primitive all-or-nothing sensitivity that only registered blunt pressure on the skin and a localized sensitivity that repressed the former (see Rivers & Head, 1908). Subgroups will typically develop around newly adopted distinct foreign cultural elements, re-contextualizing them in relation to other material. At both individual and group levels, the mixing of material promotes flexibility within a world filled with variability and constant change.

Although there are conceptual parallels between individual and group levels—schemata and cultural patterns—neither one is reducible to the other. On the one hand, properties of social groups (their norms, values, and traditions) cannot be reduced to the sum of individual members within them. Certain behaviors do not occur outside of a social group's framework. On the other hand, the individual is not an automaton within the group. One can say that a person's character is shaped by the social group but not determined by it (Nadel, 1937). As a result of their unique history and combination of different schemata, an individual's experience has a *personal* quality. To say that individual and group processes cannot be reduced to the other, however, is not to say that they are independent of each other. In many ways, they overlap and support one another. Bartlett's notion that mind is a social formation and yet irreducible to social processes comes close to other social-cultural theorists such as Vygotsky, Mead, and Janet (Rosa, 1996; for a history of this idea, see also Valsiner & van der Veer, 2000). Bartlett's work is particularly insightful in that he offers us both a socially situated psychological theory and a psychologically informed theory of cultural dynamics. The two inform each other in Bartlett's thinking to such a degree that one cannot adequately interpret the one without the other. Thus Bartlett's approach should not be classed as *either* cognitive *or* sociocultural (see also Costall, 1992); it should by now be clear that it spans this divide.

8.3 Bartlett in Reconstruction

Having outlined some basic principles of Bartlett's constructivist theory, our focus shifts to the different ways his ideas have been reconstructed by others. In this effort, Bartlett's analytic framework provides us with powerful tools to explore how ideas move and transform in science. As he showed, cultural items are selectively borrowed and reconstructed based on the conventions and the prospect of the receipt group. The most successful and well-known channel through which his ideas have been propagated has been cognitive psychology, but this is by no means the only route. There have been many different and often conflicting representations of Bartlett, based on diverse theoretical orientations (e.g., anthropological, cognitive, social, ecological, discursive, and cultural). Different researchers have selected particular dominant details from Bartlett's work, based on their own background, and reconstructed the whole around those points of interest, omitting what did not fit and rationalizing the rest, as Bartlett's (1932) experiments also aptly showed. This section describes "three waves" of heightened interest in Bartlett's work (see also Johnston, 2001), highlighting how constructiveness was understood in each. The first wave is characterized by empirically testing different aspects of Bartlett's approach to remembering. The second wave takes place during the cognitive revolution, at which point much attention was aimed at reinterpreting the concept of schema. And the third wave, of which this book is a part, is focused on revitalizing the social and cultural aspects of Bartlett's work and integrating them with cognition.

The earliest elaborations of Bartlett's ideas were highly focused on social and cultural factors in remembering (e.g., Bateson, 1936; Maxwell, 1936; Nadel, 1937; Northway, 1936). These studies illustrated how social groups and customs condition the recall of individuals in terms of both content and style or "the matter and manner of recall" in Bartlett's (1932) terms. For example, Nadel (1937) showed that a story was remembered in terms of *rationalized meaning* in the Yoruba tribe and *an enumeration of details* among the Nupe tribe. The direction of qualitative changes introduced into some material in remembering is largely a function of social interest and cultural patterns. In other words, the focus is on how different groups give meaning to the material to be remembered. Constructiveness can be seen in how individuals and groups make use of some material. This called for a qualitative analysis that revealed different "preferred persistent group tendencies." Many experiments in the 1940s to mid-1950s continued in this line of analysis. Allport and Postman (1947) highlighted how rumors are transmitted and transformed to confirm conventional social prejudices, a line of investigation that has been more recently been continued by Kashima (2000). Well into the 1950s, Talland (1956) was looking at "cultural differences in serial reproduction," the title of his article. Despite all the studies dealing with the issue of cultural dynamics, there are surprisingly few references to Bartlett's early book, *Psychology and Primitive Culture*. After the 1930s, this work seems to have been largely forgotten, at least until the third wave of interest in Bartlett (see below). It is also noteworthy that Allport and Postman (1947), Talland (1956), and several others at this time incorporated gestalt

terms and ideas into their Bartlettian studies, borrowing especially from Wulf's (1922) classic work on the reproduction of simple visual forms (Wagoner, in press). In this period, there is a genuine integration of two streams of research, illustrating Bartlett's idea of "social constructiveness."

In the 1950s, the character of replication studies began to shift from the analysis of how social factors lead to different directions of qualitative change in recall to a focus on individual recall as a primarily cognitive process. At this time, psychology experienced a shift in the meaning of an experiment from an open exploration of a qualitative phenomenon to a manipulation of an independent variable while holding all others constant (see also Winston & Blais, 1996). The latter notion of an experiment became popular partly because it allowed for a statistical analysis of scores that fitted the administrative ethos of prediction and control of populations (Danziger, 1990). This approach was already on the rise when Bartlett published *Remembering*, and it was criticized by him there for not specifying the relationship between variables or how they operated within a single person. By contrast, the older, more open, and flexible style of experimentation he adopted made systematic interventions into a phenomenon in order to probe it through concrete and contextualized cases, thereby remaining experientially close to the phenomenon of interest. Bartlett used this approach to study remembering through his varied experimental setup (e.g., method of description, method of repeated reproduction, etc.), comparison with studies on other processes (e.g., perceiving and imaging), use of a wide range of material (e.g., different stories, images, argumentative texts), testing recall after different time intervals, and complementing subjects' reproductions with their verbal reports.

With the restricted notion of an experiment, researchers sought to obtain definitive answers regarding the truth or falsity of a given aspect of Bartlett's theory of remembering, understood as a cognitive process. The terminology for describing qualitative changes in reproductions in these replications was at first quite varied, often incorporating key terms from gestalt psychology (a development that had already begun in the 1940s with Tresselt and Spragg (1941) and Allport and Postman (1947)). But over time, these and other terms become subsumed under the umbrella "distortion" (Wagoner, in press). The most decisive turning point in this history was a study by Gauld and Stephenson (1967) that concluded that memory reconstruction was a result of Bartlett's task instructions rather than inherent in memory itself. Their assumptions about the phenomena could not be more different than Bartlett's. First, they assumed memory to be a context-free faculty and, second, that "construction" meant "distortion" and "error." In the 1990s, many memory researchers continued with similar assumptions (viz., focusing on memory distortion) and remembered only Gauld and Stephenson's (1967) failed replication. In this history, we see how Bartlett's experiments were assimilated to a different framework and how additions such as the notion of "distortion" transformed the meaning of the whole. Until this day, Bartlett is remembered within much of psychology for showing that "distortions" and "errors" increase in memory over time. Although this is not entirely wrong, it was not Bartlett's aim and ignores his own description of what

makes remembering constructive, in which accurate memories were also understood as constructed (Ost & Costall, 2002).

In the same year that Gauld and Stephenson (1967) effectively put an end to replications until the 1990s, Neisser (1967) published *Cognitive Psychology*, which outlined a new field of study focused on how the mind works with information. Bartlett was the chosen ancestor for this approach:

> The present approach is more closely related to that of Bartlett (1932, 1958) than to any other contemporary psychologist, while its roots are at least as old as the "act psychology" of the nineteenth century. The central assertion is that seeing, hearing, and remembering are all acts of *construction*, which may make more or less use of stimulus information depending on circumstances. The constructive processes are assumed to have two stages, of which the first is fast, crude, holistic, and parallel, while the second is deliberate, attentive, detailed, and sequential. (Neisser, 1967, p. 10; original emphasis)

It is noteworthy that Neisser mentions both *Remembering* and *Thinking* but apparently did not take notice of *Psychology and Primitive Culture*. There is nonetheless much that is certainly correct in the quote—for example, the roots of Bartlett's approach in act psychology (of Brentano and those that followed him), the centrality of "construction," and his description of its two stages, which parallel the two kinds of construction in Bartlett's work that were outlined above. What is more problematic is his use of the computer metaphor to describe mind and "construction" processes. This metaphor had in fact first taken hold in Britain where behaviorism had never obtained a foothold. Bartlett's own laboratory helped bring about this understanding of the person as a computer in studies of human-machine interactions. Not only did humans interact with complex machines but soon they were understood in terms of machines. Bartlett (1958) himself argued it was inappropriate and remained committed to a bio-functional perspective. When the machine or computer metaphor was applied back to Bartlett's approach, "meaning" got replaced with "information" (Bruner, 1990).[3] As such, Bartlett's key phrase, "effort after meaning," is never mentioned in Neisser's book. Instead, the book is explicitly about what happens to information as it travels from the senses through various mental systems. It is only in the last chapter that Neisser addresses the "higher mental processes" (viz., memory and thinking), focusing his discussion on Bartlett's critique of the trace theory of memory or what Neisser (1967, p. 280ff) called "the reappearance hypothesis." Construction in his account becomes little more than a recombination of elements according to an already existing plan, thus leaving little room for human innovation.[4]

As cognitive psychology grew, Neisser's keyword, "construction," as a general description of what the mind does, would itself be replaced with "information

[3] In *Thinking*, Bartlett (1958) even began to occasionally use the term "information" as synonym for "evidence."

[4] Neisser (1976) himself later recanted his early cognitive position and went on to develop a more ecological approach. His later notion of "episode," the representation of a series of events rather than a single event or "episode," is reminiscent of Bartlett's concept of schema (Neisser, 1982; see also Takagi & Mori, in press).

processing." A more limited notion of construction would continue in the study of memory research but mostly as a synonym of distortion. The word "processing" implies working with finite information found "out there" rather than constructively going beyond it. In other words, construction becomes a de facto recombination of elements. Within this expanding approach, it became popular to discuss theoretical mental entities that occurred between stimulus and response and inputs and outputs. The concept of schema fits this part wonderfully by explaining all kinds of memory distortions. Oldfield (1954), a former student of Bartlett's, was the first to translate schema into the language of information storage on a computer. However, he emphasized the constant recoding of elements (to economize storage) occurring to the plan provided by a schema, whereas later schema theories (including frames, scripts, and story schema) saw schema as static structures with nodes into which elements fit or were forgotten. For example, Mandler and Johnson (1977) found that stories like *War of the Ghosts* deviated considerably from the universal story grammar and as such many elements of it were omitted in recall. There is little room for the more active notions of agency and radical reconstruction, because the question of how a person might reflect on and manipulate schema was largely ignored. Moreover, because the structure was presumed to be static, no one felt the need to do *repeated* reproduction experiments until much later (see Bergman & Roediger, 1999). A more dynamic notion of schema has more recently been developed in cognitive psychology with the parallel processing approach (McClelland, 1995).

One of the first thinkers to reenergize the social and cultural dimensions of Bartlett's work was Serge Moscovici. His theory of social representations explicitly aimed to counterbalance the individualistic focus that had become characteristic of much social psychology. Social representations are systems of values, ideas, and practices that provide an orientation to acting on the world and a means of communicating among members of a community. Although Moscovici (1976/2008) explicitly names Durkheim as the ancestor of the theory, several commentators (e.g., Farr, 1996; Jahoda, 1988; Saito, 2000; Valsiner & van der Veer, 2000) have pointed out the closer affinity to Bartlett, whom Moscovici was reading when developing his approach. In contrast to Durkheim's relatively stable collective representations, Moscovici stressed that social representations are dynamic and plastic structures that thus need to be studied in their *transformation* as they move from one social group to another, as Bartlett (1923, 1932) had done. Moreover, both thinkers situate human action and experience within complex systems of culture that are historically developed but treated as natural; in this way, human beings are constantly rehearsing or reenacting their traditions while remaining largely oblivious that they are doing so.

Moscovici's theory is also one of the few approaches to bring together ideas from throughout Bartlett's career (another is Michael Cole's cultural psychology, see below). From *Psychology and Primitive Culture*, Moscovici borrowed Bartlett's insight that "Lévy-Bruhl compares primitive man to Kant" (Moscovici, 2000, p. 248) and thereby ignores the diversity of thinking found in contemporary society. Remembering, and particularly the notion of "conventionalization," helped

Moscovici to articulate the key processes of "objectification" (whereby abstract ideas are projected into the world and treated as if they were real) and "anchoring" (which makes "the unfamiliar familiar"—a phrase he takes from Bartlett, 1932). Finally, the notion of "everyday thinking" borrowed from *Thinking* (1958) was key to formulating the idea of common sense or social thought, which needs to be assessed within its own logic and functions. Moscovici's statement, "Social thinking owes more to convention and memory than to reason" (1984, p. 26), is exactly in line with Bartlett's (1958) characterization. Social representation theory thus reconfigured the different aspects of Bartlett's work to answer the specific question of how science is transformed into common sense. More recently, Bangerter (1997) has also argued that the method of serial reproduction provides a fitting tool to study this process.

Moscovici's work did little to diffuse Bartlett's legacy to a general audience of researchers. It was only in the 1980s that we find a wider rediscovery of the distinctly social aspects of Bartlett's work. Anthropologist Mary Douglas (1980, 1986) drew attention to the important insight of *Psychology and Primitive Culture* that humans are social beings and must be studied as such (e.g., Bartlett's unit of analysis was the "individual-in-a-given-social-group"). In particular, she highlighted Bartlett's (1923) idea that the conflict of tendencies in a group is often resolved by relegating each to its own sphere of expression. Although she earlier drew on the concept of schema (Douglas, 1960/1984, p. 36), *Remembering* was for her a retrograde step in that it backed away from the stronger social position of *Psychology and Primitive Culture*: "The author of the best book on remembering forgot his own first convictions" (Douglas, 1980, p. 19). This is not an entirely fair assessment, as the second half of *Remembering* explores social psychological issues, such as how social factors condition recall. These social dimensions of remembering have been powerfully developed in discursive psychology and cultural psychology.

Discursive psychologists Edwards and Middleton (1986) highlighted the neglected aspects of Bartlett's famous book, such as "feeling and attitude," "cross-modal remembering," and, most importantly for them, "conversation." For example, they pointed out the "task-oriented dialogues" Bartlett (1932) carried out with his participants. However, they also argued that Bartlett experiments were "not really social enough" (Middleton & Edwards, 1990a, p. 24). The circulation of a story through a group, as studied by the method of serial reproduction, usually happens through the medium of conversation; remembering is done by question and answer with others. The discursive approach thus shifted the analytic focus from internal cognitive processes to the contextual and pragmatic aspects of conversation. Rather than looking at input and outputs, their analysis compares "two outputs at different times, serving different communicative purposes, and requiring the same sort of analysis" (Middleton & Edwards, 1990b, p. 43). For example, they compared differences between remembering a film in an experimental context and conversation going on post-experiment (by leaving the tape-recorder running after the experiment was over). They found, in the experimental context, that remembering is oriented to sequentially ordering and connecting events, whereas post-experiment the participants focus on remembering their evaluation of the film and emotional

reaction to it. In the same book, Shotter (1990) furthered the discursive approach by comparing Bartlett's theory of remembering and Wittgenstein's notion of language as a form of life, and more recently Beals (1998) has done something similar in relation to Bakhtin's dialogical theory.

Cultural psychology's revival of Bartlett's work could be said to begin with Michael Cole and his colleagues' study of recall among Kpelle rice farms (see Cole & Gray, 1972). They found little evidence for the rote recall that Bartlett's theory might have predicted nor for chunking of items to be remembered around categories (e.g., tools or clothing). Chunking can be seen as a sign of high-level schematic organization as opposed to low-level rote recall. These experiments in some ways followed the new conventions of an experiment described above, where one statistically compares different groups on a standard task, while keeping all other factors constant. However, they go well beyond the typical two-group comparisons of cross-cultural psychology to probe various contextual factors that might contribute to differences in recall between Kpelle and Americans. Cole et al. (1978) strengthened the argument for the need to study psychological processes in real life situations rather than a neutral laboratory, using Bartlett's (1958) notion of "everyday thinking." Much later, Cole (1996) further developed the notion of cultural context to mean "that which weaves together" rather than "that which surrounds." In other words, instead of acting as an external factor that "influences" psychological processes, social practices, cultural artifacts, and others are seen as directly participating in and constituting them. This comes close to Bartlett's notions of conventions and schema (which Cole acknowledges) as well as a number of other sociocultural interpretations of schema that followed (e.g., McVee et al., 2005). More recently, James Wertsch (2002) has extended the schema concept in a cultural direction with his notion of "schematic narrative templates," which are deep-seated cultural tools that mediate a person's memory of the past. Like Cole (1996), his concept situates schema within a specific group's evolving traditions. The narrative and meaning-making dimensions of Bartlett's work have also been the focus of Jerome Bruner's (1990, 1996, 2002) recent work.

Although one could criticize cognitive psychology three decades ago for neglecting the social and cultural, this is not the case today. A number of emerging trends have aimed to approach psychological processes as integrated and embedded within wider systems of people, objects, and social practices. Furthermore, cognitive psychology and neuroscience are now arguing that imagination and memory are two sides of the same process by which an organism anticipates and plans for the future (e.g., see Schacter et al., 2007). This comes very close to Bartlett's description of "remembering as an imaginative reconstruction" that increases variability of response. Schacter (2012) has also drawn attention to the neglected notion of "turning around upon schema," which for Bartlett occurs whenever the situation demands more than a fully learned response. While construction is understood as functional, there is still a tendency here to emphasize how it leads to "distortion" and "error." Again, this is not in itself wrong but one sided; it limits the possibilities for exploring the reasons and nature of change in remembering (Cambell, 2006). True and false memories are constructed on the basis of the same mechanisms and are expe-

rienced as being the same. If distortion and accuracy are going to continue to be key codes, they will have to be used in a much more nuanced, layered, and context-dependent way than is typical today.

Since the 1990s, new trends in the social sciences have shifted the focus from a look at remembering and thinking as individual cognitive processing to seeing them as integrated with networks of social practices, material artifacts, and other people. In other words, the resources of remembering and thinking are *distributed* across the brain, body, and world (see, e.g., Sutton et al., 2010). This work connects up well with Bartlett's theorizing of the role material artifacts have in sustaining conventions, which themselves set the ground for psychological processes (see Cole & Cole, 2000), as well as how forms of social relationship shape remembering. It also points to the fact that remembering serves many other functions than creating accurate representations of the past, such as motivating action, guiding innovation, and social bonding (see social representations and discursive psychology above). In all this, there seems to be a converging consensus that we can understand neither culture without cognition nor cognition without culture. The recent explosion of research inspired by Bartlett's work attests to its potential in shedding new light on a range of issues surrounding constructiveness in psychological and group processes.

8.4 Conclusion: Reconstructions Yet to Come

Bartlett will inevitably continue to be reconstructed in the future, through the different theoretical and methodological orientations of researchers. Exactly how and what directions this reconstruction will take is not wholly predictable. What is important is not simply that Bartlett continues to be used but that real scientific innovations grow out of his ideas. In *The Constructive Mind*, I have argued that this might occur in a number of places such as reinventing the psychological experiment; updating the idea of reconstruction in cultural diffusion for a globalized and media-saturated world; creating a concept of schema that is simultaneously temporal, dynamic, embodied, holistic, and social; theorizing remembering as the coordination of individual and social processes within specified cultural contexts; and exploring the diversity and social relationship among different forms of thinking, especially with Bartlett's method to study "everyday thinking." Most of all, however, we need to consider human beings themselves as innovating agents. Construction is not a mechanical reassembling of elements but a living and forward-oriented response that takes the person beyond what is given. This was at the heart of Bartlett's key phrase, "an effort after meaning," whereby we invest personal force with the material in which we become entangled. Cultural psychology has recently picked the notion up with its focus on "meaning construction" (e.g., Valsiner, 2007). The basic idea is that we act on the meaning we give to the present, which is done on the basis of the past in order to move toward the future. This adventure of human life will remain open, ensuring that constructiveness will take a leading role whatever the future might bring.

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