1 Introduction

Laura M. W. Martin, Katherine Nelson, and Ethel Tobach

Scribner’s historical moment in psychology, 1968–1991

The psychology that Sylvia Scribner entered from the New School for Social Research in the 1960s was a discipline newly emerging from the hegemony of learning theory and its antagonists in gestalt psychology, represented by her graduate mentor, Mary Henle. The 1960s cognitive revolution opened new doors to previously hidden landscapes; the study of mind and language were again seen as legitimate topics in psychology. Furthermore, the social and political forces of the time brought issues of schooling as a basis for educational opportunity to the forefront of national concerns. Thus Scribner’s attraction to the problems of the relation of literacy, schooling, and thinking was initially in tune with the psychology of the times.

Cognitive psychology very shortly took a different turn, entering the 1970s with a fixation on the processing of information, the universal characteristics of the computational mind, and the innate basis of language and intelligence. From 1970 to 1985, concerns of cultural and contextual influences on the development of thinking skills, including issues of schooling and literacy moved to the periphery for mainstream psychologists, including developmental psychologists.

Scribner’s own trajectory combined research on topics of contemporary concern to cognitive psychologists with a continuing emphasis on those issues that she viewed as most fundamental. For example, in the early 1970s she joined Michael Cole’s Laboratory of Comparative Human Cognition at Rockefeller University and turned to studies of syllogistic reasoning and categorization among the Kpelle of West Africa. Her papers on these topics, which were of central interest to cognitive psychologists, became classics in the problem solving literature. Her work in this area helped to bring about recognition of contextual factors in cognitive studies. After a 20-year period of information processing dominance, cognitive psychology became more open to alternative frameworks in the
mid-1980s, particularly as dissonant computer models entered the scene, challenging the monolithic symbol crunching model. At that point, different modes of thinking and representation, and of cognitive change – from novice to expert or from one conceptual model to another – both characteristic of Scribner’s ongoing research concerns, became central problems within the larger field.

Although the issues are no longer viewed in terms of the dichotomies of the 1960s, the fundamental problems of modes of thinking and speaking, of literacy, of activity contexts, of cultural practices, and of education and cognitive change are now on the agenda for cognitive psychology. Scribner’s contributions to these changes in the field are palpable in the works presented in this volume by many of those who found their own research enriched by her thinking, in person and in writing. The activity theory approach to cognitive psychology emerged as an alternative framework in the 1980s, incorporating many of the themes that had been the focus of Scribner’s work, and it is strongly represented in the papers published here. As James Wertsch points out in his chapter, however, Scribner’s work was grounded in the conviction that human thinking should be studied as a socioculturally situated activity. The general theme of “doing and knowing” is, we believe, more inclusive than any specific theory of activity, as her own thinking was not confined by any existing theory.

An outstanding characteristic of Scribner’s intellectual activity was its integration of traditional dichotomies or opposites; for example, the values informing society and science, intellectual or mental and manual, “naturalistic settings” and the laboratory. She was skeptical of questions put in ways that did not explicate the assumptions underlying their formulation, and she did not accept a formulation that denied the relative nature of the possible answers to the questions. She understood that the questions and the answers reflected the situations in which they were generated, the motivations for their posing, and their theoretical history. This critical skepticism led her to the view that rather than separate factors representing an irresolvable contradiction these processes could be integrated through the recognition of their interdependence and connectedness.

In her own work, from her earliest research activities in the trade union movement, Scribner integrated the historical and societal setting of the issue that she was investigating. This integration was evident in
Introduction

her approach to understanding the societal significance of the treatment of “mental health” populations, and the need to see research and societal process components of such treatment as complementary and inter-related, each process moving into the other to produce changes that were necessary. This integrated approach meant that there was no separation between the societal significance of research and the search for knowledge.

The integrative approach was revealed in her methods, designed to ensure that the inquiry was founded on the lives of the individuals studied. In Scribner’s perspective, cognitive function and artifact production in manual work were never separated. The abstract and the concrete were an integrated whole, functioning together to result in the activity of the individual, the group, and society.

Organization of the book

The chapters in this book are organized in four sections, based on four themes of Sylvia Scribner’s work, which came to the forefront during different periods of her career. The first section is titled “History and Culture.” These papers deal with the sociohistorical and cultural processes in human development, an interest reflected in her work on the influence of schooling on thinking and in her concern with historical influences on contemporary thought. The section “Knowing and Telling” concerns issues of conceptualization, problem solving, abstract thinking, and literacy, all issues that were at the forefront of her research in cognition.

The section “Doing Psychology” might in other places be called “Methodology,” a major issue in Scribner’s view of the discipline of psychology. To solve the central theoretical problems of psychology she believed that appropriate methods must be developed. She did not reject the traditional experimental method, where appropriate, but she saw it as one method among others in the science of psychology that focused on thinking in meaningful activities. Indeed, she developed a sequence of methodological approaches to study thinking in the workplace, of which experimental simulations were one part of the sequence, following ethnographic accounts and systematic studies in the workplace itself. Her book with Michael Cole on literacy studies among the Vai people in Africa contains a fine account of developing methods “on site” as prob-
lems arose and a priori assumptions were challenged. Indeed, “Doing Psychology” was a major concern for Scribner throughout her career.

“Activity in Work and School” is the section heading we chose for the papers that relate most closely to the later phases of Scribner’s research, when formal activity theory became part of her theoretical approach, and when her work concerned learning in formal and informal settings, notably in the workplace. In a sense this returned her to her roots, having spent her earlier career in a labor organization of electrical workers, during which time she gained an enduring respect for the thinking workers carry out in the course of their everyday jobs. Her studies of dairy workers filling orders preceded her last investigations of representational change in the face of automation and computer control of factory production, where she worked out her ideas about “practical” thinking. Thus this last section brings Scribner’s thinking full circle. It is appropriate that it also includes one paper by a long-standing friend from her earliest days in psychology, Howard Gruber, as well as representatives of later encounters with the issues brought forth in the activity theory of the 1990s.

**History and culture**

The papers in this section share a significant meaning in Scribner’s life and work. In her analysis of Vygotsky’s use of history, and in the development of her research in community mental health, in literacy and cognition in Africa, and in education and cognition in the workplace, the integration of the sociohistorical situation in which the individual functioned and the particular personal history of the individual was the core of her outlook. This outlook extended from broad, encompassing societal history (the effects of the involvement of the United States in the Vietnam War, the significance of slave trading among the Vai) to specific experience in the workplace (individual differences in problem solving in the dairy industry). In all these situations, the developmental process of human history and individual history were serious considerations.

In Robert Serpell’s paper, the sweep of colonial history and the Western history of educational practice and theory are intertwined in the particular solution of a social welfare problem by the work of training individuals. Ethel Tobach’s paper offers an evolutionary history of human development. In Jerome Bruner’s chapter the relationship between the
Introduction

historical changes in Tsarist and Communist Russia are seen as intimately interdependent with the history of Vygotsky as a theoretician and as a working scientist. In these chapters the intensive concern with individual consciousness and societal processes is clearly brought out. In the Serpell paper, the need for attention to the consciousness of the practitioner and theoretician is shown to be significant for a valid and viable sociopolitical application of psychology. In Bruner’s chapter consciousness and language within the historic context are preeminent features.

Serpell addresses situation, history, and the cross-cultural approach at the societal level that engaged Scribner for most of her academic and professional life: the sociopolitical. The significance of the use of this term, rather than sociohistorical, is clear in his analysis of the introduction of Western schooling philosophy and practice into African society in Zambia. Serpell focuses on the value of understanding the sociohistorical context of theory and practice by describing how the concept of age graded curricula was generated, how Herbartian educational policies were appropriated by different societies, such as Japan and the United States, through processes particular to each society, and how these educational activities were carried out in a colonized society. The transfer of practice from one society to another transforms the practice in the light of the sociohistory of the receiving society. Thus, the rigid procedures derived from their educational history are adopted in Japan for different reasons than those underlying their adoption in Zambia.

He examines in detail the solution of a human welfare problem, the delivery of health care services, by the use of educational techniques derived from these histories. The results obtained can only be understood by viewing the concept of “situation” as encompassing ontogenetic and cultural processes. Taking this approach increases the likelihood that psychology can contribute constructively to development of public policies.

Tobach examines the “discontinuity” of what has been defined as uniquely human – labor and its relation to the development of mind – in the evolution of behavior from the point of view of integrative levels applied to units of analysis from activity theory. Integrative levels is a concept that helps organize our thinking about the processes and functions of the organism and its environment as they act on and change each other. It can bridge the distinction between biological concepts of energy exchange and cultural ones, as when an organism internalizes an aspect
of its social milieu. When applied to the notion of activity, Tobach proposes, the construct of integrative levels can help elucidate the transformations that characterize different stages of phylogenetic development. It also illuminates the connection between such “higher order” activities as reflection with motivation and need states. Tobach describes how integration of the notion of activity seen across categories of development can account for the ultimate “discontinuity” of human goal-directed activity; that is, activity that is reflective, that makes use of tools and symbols, and that is mediated.

History and culture tell the story of the mediated nature of human interaction with the world. They tell the story of how the use of signs and tools in the service of a goal-directed activity transforms the meaning of those signs and tools, and how these transformations enter into human activity systems. In tracing the history of these concepts, Tobach argues that the material basis of evolutionary theory was necessary to develop an understanding of the development of mind, as activity theory is necessary to understand the origins of the human species. Tobach calls for further work defining levels of human labor, a mission that work in Scribner’s tradition could address as it searches to identify specific mediating factors contributing to intellectual functioning through work activity.

Bruner’s chapter offers an approach to the questions inherent in the process by which the individual participates in society and at the same time gains consciousness about that participation, questions that attracted Scribner to Vygotsky’s work, seeking answers in the material substrate from which consciousness and mind develop. Bruner seeks answers stemming from Russian literature and history, seeing literature as a guide for understanding the individual and participation in society. He offers an analysis of the particularities of Russian history from Tsarist through Communist eras. He shows how the language itself, as well as the scientific and literary activities of the individual, reflect the effects of societal history on the individual’s understanding of consciousness and mind. He proposes that the special characteristics of that history and consciousness were and are derived from conflicts between an intrinsic interest in human subjectivity and an equal interest in objective knowledge. These conflicts took different forms in Tsarist times and in the Communist era, and Bruner brings the significant actors in the drama into their historical chronology: writers such as Dostoyevsky and
Introduction

Chernyshevsky, as well as Akhmatova, Mandelstam, and Jakobson; scientists such as Sechenov and Pavlov; and political players such as Lenin, Trotsky, Stalin, and Krushchev.

Against this ongoing political scenario, Bruner draws a clear picture of Vygotsky as an inspiration to his students and colleagues, and as a burr under the skin of those in power. Bruner’s emphasis on the “duet between language and consciousness” brings him to an optimistic proposal for the resolution of the Russian conflict: that the Russian people may now be “free to exercise the Russian genius for collective introspection and consciousness . . . that will restore the Russian strength.”

The three papers in this section reveal the richness of the scholarly community in which Scribner participated. We take these papers as examples of different uses of “history,” but which all speak to issues of how we understand our theories, paradigms, and the very language of psychology.

Doing psychology

This section of the book brings together four pieces which are, on the surface, about very different domains—memory, collaborative learning, informal education, and workplace cognition. The pieces, however, share questions that have to do with how psychology gets done. The chapters try, as Cole writes, “to change history through research which provide[s] deeper insight into how things had come to be the way they are and how they might be changed to serve current human ends.” Hirst and Mameri, for example, trace the way in which traditional cognitive psychology came to confront the limitations of its discoveries when settings outside the laboratory were examined. Rogoff, Radziszewska, and Masiello, who have been viewing cognitive development in the exchanges between mothers and children, raise questions about methods and units of analysis in the study of developmental change from a sociocultural perspective. Martin examines one application of Scribner’s method of moving from naturalistic setting to laboratory and the constraints of that method on the investigator. Finally, Cole describes transformative educational work done in afterschool centers and shows how a very different “meso-genetic” reporting window is needed to capture the nature of the transformations. Each piece discusses the “cultural and historical embeddedness of the inquiry itself” (Rogoff et al., chapter 6) and
8 Laura M. W. Martin, Katherine Nelson, & Ethel Tobach

each represents a call for a new kind of discourse that allows sociocultural elements to be part of the analysis.

Beginning the section, Hirst and Manier chart the conflict between limiting a study to tidy laboratory evidence and accounting for the messy, real-life factors that influence cognitive functioning. They portray the complacency among cognitive psychologists, particularly those studying memory, even as the need to address practical questions arose. Specifically, they describe the preprogrammed machine metaphors and the kinds of investigations they entailed as well as more contextual, user-driven models. They argue that the original goal of cognitive psychology to understand meaning was subverted by computational metaphors.

They review the literature of expert–novice, voluntary–involuntary memory, and “situated actions,” in a continuing search for universal cognitive machinery, which may be, after all, unreachable. Models that posit distributed memory or remembering across individuals find that people may externalize rather than internalize in the process of remembering, using objects as well as other people. Hirst and Manier’s research shows that the conversational roles adopted by individuals in a remembering situation affect the nature of what is remembered. They conclude that “memory grows out of social interactions,” and that research questions and methods must be adopted to reflect this understanding. Hirst and Manier do not advocate discarding principles of memory but they argue for the need to integrate those generalities into culture, experience, and intention, so as to construct a scientific picture more faithful to reality, ultimately better accounting for human inventiveness, ingenuity, and diversity.

Rogoff, Radziszewska, and Masiello’s chapter summarizes some assumptions of a sociocultural developmental perspective, that is, “a view of processes and individual development as they constitute and are constituted by interpersonal and cultural/historical activities and practices.” Their work, as Rogoff’s has in the past, contributes to the discussion of what exactly is an analysis of development according to a sociocultural (or Vygotskian) perspective. In doing so, the authors describe the concept of activity as a unit of analysis that can accommodate the multileveled, cross-individual, and cross-situational elements that enter into development and learning at levels of individual change, cultural transfer, and societal practices. Studying the process of organizing practices, specifically, is argued to capture the range of societal to individual development.
Introduction

The learning process itself, in turn, can be understood as both structured by and constituting activities.

The authors then describe research on young children’s acquisition of planning strategies whose results were not easy to interpret. The problem was that structuring activities that took place between children and their mothers in interaction did not relate to the children’s subsequent performance on individual posttests. Rogoff and her colleagues describe the methods they used and the hypotheses they tested as well as the results, concluding that the use of the individual posttest cannot be treated as a stable measure of the outcome of a series of interactions because “from a sociocultural perspective, no situation is context-free” and therefore posttests themselves are situations with particular meaning. In fact, acquisition itself is an elusive phenomenon to capture, since application of specific skills is ever evolving as well. The authors suggest what might be examined in observations that do capture the dynamism and historical distinctness of situations, linking these to what we know about how information gets communicated and how activities get structured.

Martin’s chapter discusses an attempt to understand cognitive change in manufacturing activity affected by the introduction of computer technology. Using Scribner’s method of beginning with ethnographic data to develop critical task distinctions that capture cognitive development on the job, Martin and her colleagues identified constancies, schisms, and transformations of thought between manual and electronically based activity systems. Problems arose, however, in making links between hypotheses developed from the observational level and behavior in the more experimental settings. As in the other chapters in the section, difficulties of drawing a valid, sociohistorical picture while identifying causative elements in the development of thought were encountered. Martin argues that the full story of task design and subject selection should be told in order to shed light on why links appear or fail to appear between analyses in the two settings.

In searching for a way to carry out a sociocultural or sociohistorical approach to doing psychology, Cole proposes a solution to disentangle universals of human mental processes from processes that are shaped by particular cultural circumstances, or “history in the present.” The dilemma of demonstrating that different streams of history influence each other and how is approached by Cole through studying activity sys-
tems within a window of change appropriately calibrated for a model system. Cole and his colleagues have been working over a period of time in after school settings, arranging social and technological encounters between children, undergraduates, and computers that could be said to broaden the children’s information organizing repertoires and the youth programs’ repertoires of resources for supporting children’s growth. Cole recognizes that all the players are transformed in the process. What he also examines is the analysts’ discovery of how events in the history of the project or planned for the future could both be traced, resulting in a new kind of analytic method: the story can be told backwards and forwards. By conducting both system analyses and analyses of individual growth and development using multiple data sources, this “meso-genetic” experimental window, in which transformations of individuals and systems are attempted in a relatively compressed time frame, yields a fuller, more organic picture of the relationship between factors that abide and those that are variable. This approach also reveals the variety of stories that can be told about a developing system, depending on the level of activity highlighted.

The papers in this section deal with issues of method, but go beyond the traditional concerns of elegant designs, control conditions, and independent and dependent variables to address the now-urgent issues of how to study cognition in all its messy real-world context and emerge with satisfying answers that hold across situations and times. The solutions are not immediately obvious, but the papers provide provocative insights into the problems.

**Knowing and telling**

Cognition and language have been the topics of the major portion of psychological research for the past 30 years. They have been presented primarily as static, separate, structural domains by the dominant theoretical paradigms, in contrast to the dynamic interaction implied by Vygotsky’s *Thinking and Speech*. The implications of activity theory for studying cognition and language led us to reconceptualize the topic as “knowing and telling,” emphasizing the situatedness in both time and space of any cognitive or linguistic activity. Further, the developmental trajectory of levels of thinking and telling demands new examination. In particular, the influence of literacy on thinking has been a key problem