Introduction

Sylvia Cohen Scribner's Life and Work

Sylvia Scribner's life and work as a psychologist did not fit neatly into conventional categories and narratives. Her scientific writings were addressed at different times to academic psychologists, anthropologists, community psychologists, labor union officials, mental health professionals, politically concerned social scientists, and educational policy analysts. Her topics included reasoning, memory, IQ research, social class and psychiatric diagnoses, textbooks, thinking at work, formal schooling, literacy, developmental theory, and culture and thinking. Her methods of data collection and analysis were drawn and adapted from several academic disciplines.

Yet through all the diversity of intellectual traditions, audiences, aims, forms of knowing, and forms of persuasion – indeed, *using* this diversity – Scribner consistently focused on certain key themes in her work and activities. In some sense she was always, in all ways, concerned with the interweaving of theory and practice, of doing and knowing – and with the moral responsibility and accountability this entails for researchers. In this collection we sketch some of the personal and sociohistorical circumstances surrounding Sylvia Scribner's work at different periods in her life and let her writings themselves provide both examples and, reflexively, analyses of how she integrated knowing and doing in her life and work.

Born in 1923 and raised in New Bedford, Massachusetts, Sylvia Cohen wrote poetry and talked politics from an early age – activities she continued throughout her life. As a student at Smith College she studied economics and was active in the American Student Union. Graduating summa cum laude in 1944, Cohen found work as activities director for Local 415 of the United Electrical, Radio and Machine Workers of America (UE). There she met activist civil rights lawyer and UE general counsel David Scribner, whom she later married. Their son Oliver was born in 1954; daughter Aggie, in 1958. (The biography of Aggie Scribner Kapleman preceding this introduction describes Sylvia Scribner's life in greater detail.)

By the early 1960s the UE's policies had changed, and Sylvia and David Scribner decided to seek employment elsewhere. Sylvia Scribner's commitment to working people led her in 1963 to become Associate Director of the Mental Health Program of the National Institute of Labor Education in New York City. There, according to a curriculum vitae she later prepared, Scribner participated in developing national policy for public and private programs to meet the special mental health needs of labor, and worked with the Director and National Advisory Committee to organize multidisciplinary research teams at various universities, helping them design and implement research proposals.

In 1964 Scribner became Research Director of the Mental Health Program of the Sidney Hillman Health Center in New York City. She designed and conducted research to evaluate the effectiveness of a National Institute of Mental Health-funded demonstration program introducing new techniques for identifying and treating mental illness among blue-collar workers. Part of this research was a home interview study of the treatment histories of workers disabled by mental illness prior to the inception of the demonstration program.

Through these activities Scribner became interested in the roles psychologists played or could play in working people's lives. She began to take psychology courses at New York University and then enrolled as a graduate student in psychology at the New School for Social Research. In 1966 Scribner received an M.A. in social psychology, being awarded the Dorothy Kelgor Prize in Psychology from the New School's Graduate Faculty of Political and Social Science. During this period she, Ethel Tobach, Eleanor Leacock, and Howard Gruber engaged in philosophical study and discussions.

Scribner's interests in how people think about their social conditions led her to find employment in 1967 at the Albert Einstein College of Medicine, where she worked and became friends with, among others, Hannah Levin, Frank Riessman, and Jane Knitzer. As an Assistant Clinical Professor of Psychiatry (psychology), Scribner developed material for postdoctoral training in community psychology, conducted research on concepts of mental disorders in various cultures, and designed a research program on the cognitive consequences of literacy.

Then in her mid-forties and working full-time, she was mother of two young children and had an extended family that included three grown children from her husband's previous marriage. Scribner also enrolled in the Ph.D. program of the New School, where she took evening courses in cognitive psychology with Mary Henle and lectured in courses on memory and thinking.

It was the late 1960s: public debates about and activities surrounding the Vietnam War and civil rights were reaching their height; the beginnings of second-wave feminism were in the air. At the New School Scribner worked with Howard Gruber to organize brown bag lunches where students and faculty could discuss the social responsibility of psychologists and actions they might collectively undertake, such as demonstrations and teach-ins. She was active in

antinuclear activities in New York, working with Ethel Tobach and Eleanor Leacock among others, and in Psychologists for Social Action (PSA) with Howard Gruber and Doris K. Miller.

Scribner wrote for the PSA Newsletter and worked with others for the election of Kenneth Clark as President of the American Psychological Association. According to PSA's statement of purpose at the time, the Association had come into being because "We psychologists feel a deep sense of social responsibility. This responsibility calls for action beyond talk and study. We seek ways of applying our knowledge and experience toward the resolution of the urgent social problems of our time."

During these years David Scribner continued his work as a civil rights lawyer, participating among other cases in highly publicized trials involving the Black Panthers, prisoners in New York's Attica State Prison, and students at Kent State University. Oliver and Aggie accompanied their parents on marches and demonstrations, and political talk filled the household.

During the late 1960s, and early 1970s the field of psychology was undergoing changes as well. The "cognitive revolution" had refocused many psychologists' attention away from behaviorism and toward language, thinking, reasoning, remembering, and other aspects of higher mental function. Psychologists, along with scientists of other disciplines, were reconsidering the social relevance of their laboratory research, and Kurt Lewin's decades-old tradition of action research was again in the wind. These changes provided both organizational venues for Scribner's activities and scientific resources for her developing psychological analyses. The discussions within psychology of scientists' objectivity and social relevance offered openings for her analyses of psychologists' roles as both scientists and citizens.

In 1970 Sylvia Scribner was awarded a Ph.D. in psychology, having completed a dissertation ("A Cross-Cultural Study of Perceptions of Mental Disorder") under the sponsorship of Mary Henle, Solomon Miller, and Bernard Weitzman. She was forty-seven years old, and, from a narrowly academic perspective, was about to begin her work as researcher and teacher.

The papers reprinted in Part 1 reflect Sylvia Scribner's early and continuing commitment to promoting human welfare and justice through psychological research. She argued (with exquisite tact and unmistakable critique) that psychologists need to take responsibility for the values, aims, and interests embedded in their research practices and what they produce. To this end she articulated connections among the goals, priorities, and assumptions of the organizations and institutions with which psychologists work, the research questions they ask, and the theoretical concepts and methods they use. And she simultaneously worked to change the institutions.

In these papers and elsewhere Scribner did more than critique supposedly "neutral" science and professional practices, though she did so at a time when such analyses were rare outside radical science circles. She simultaneously

theorized psychology as practice, as activities with social and human effects, and she clarified some of the roles psychological researchers can play (including advocacy) in addressing societal problems. In the parlance of the times, though she would have eschewed the trite expression, Scribner repeatedly challenged herself and other psychologists to consider whether they were part of the problem or part of the solution (and from whose point of view) – and to act accordingly.

Scribner's 1968 manuscript, "The Cognitive Consequences of Literacy," is both a crystallization of her psychological thinking at the time she was at Albert Einstein and the New School and a preview of directions her work took in the future. (It is included here in Part 3.) When she recognized similarities between her analysis of thinking as embedded in cultural systems and the work Michael Cole was carrying out at Rockefeller University, she contacted him for dialogue. As she put it in a 1970 letter to Cole, "From my speculative route and your empirical one, we seem to have arrived at similar constructs. We agree that on the "input" side we are dealing with cultural systems and technologies – not mentalities and capacities – and on the "output" side we are dealing with certain specific mental skills, such as the intentional structuring of cognitive tasks – not "intelligence.'" Cole responded generously, obtaining funds to offer Scribner an appointment as Senior Research Associate at Rockefeller, and in 1970 they began a fruitful collaboration.

Cole's laboratory at Rockefeller was an active part of a rich and varied intellectual environment for behavioral scientists. Cole's independently functioning laboratory (which later became the Laboratory of Comparative Human Cognition) was institutionally located in William Estes' Mathematical Psychology Laboratory, and members interacted extensively with each other and also with George Miller's Psycholinguistics Laboratory.

Scribner participated in seminars, working groups, and conversations with visitors on a wide range of topics and issues, including mathematical models of memory, children's narratives, logical thinking, and intelligence tests. During these years, in addition to Michael Cole, Scribner also developed several other significant and lasting collegial, intellectual, and personal friends, including William Estes, Kay Estes, Rachel Joffe Falmagne, Elsa Bartlett, Steve Reder, Sue Sugerman, William Hall, Anderson J. Franklin, Ray McDermott, George Miller, Tom Sibarowski, and Dalton Miller-Jones.

Relatively few of the women scientists at Rockefeller in the early 1970s held faculty appointments (as was typical of elite institutions at the time), and Scribner therefore sought opportunities elsewhere to obtain a faculty position. In 1974, while still at Rockefeller, she also held an appointment as Visiting Professor in the Ferkauf Graduate School of Arts and Sciences of Yeshiva University.

Given Scribner's continuing and deepening concern with the societal roots and effects of psychologists' research practices, some of her work during the Rockefeller years involved detailed critical analyses of widely accepted concepts

and methods in psychology. In particular she focused on research practices in the study of race and intelligence, of class and psychiatric diagnoses, arguing they embodied assumptions about individuals, capacities, and abilities that enabled (as she put it in an earlier paper) the "continued avoidance by psychology of the significant dimensions of social life." She knew and cared that this "avoidance . . . of the significant dimensions of social life" carried profound consequences for poor and minority children in schools, for people in psychiatric hospitals, and for others. Her earlier papers had provided analyses of psychologists' roles in more direct and overtly political and moral language, but now her rhetoric changed as her critiques were directed toward scientific audiences.

With remarkable clarity, and tailored persuasively to the concerns and language of those she addressed, this critical work keeps probing for an analysis of scientific concepts and methods that will enable researchers to understand other people's thinking in a way that does not impose, without reflection, the powerful analytic categories embodied in traditional psychological research practices. (Some of these writings are included in Parts 1 and 2.)

Some of Scribner's poems from this period may be related to her feelings about expressing deep scientific and political convictions within academic psychology's conventional logic and styles of writing.

It Doesn't Mean A Thing

The words I use
and mis-abuse
have nothing in common
with my views:
not what they mean
but what they say
is how I deal them
every day
and if you think
that something keen
gets lost between

the line?

Fine.

Lexical Lament

Pull them out
From those dark places
Exil – ees
Return!

Lovely we's
and I's
Dot spaces
Actives take
Your turn.

No mercy to
Usurpers who
Parade as Things.
Data, Research, Study
Go!
None of you
Can ever "show"

Author, author
From the wings
Show us, please
How science sings.

As part of Michael Cole's ongoing research program on culture and cognition, Scribner spent several extended periods between 1970 and 1978 carrying out research in Liberia, West Africa. For five months in 1972 her daughter Aggie was with her; her biography of her mother describes memories of Scribner's concrete daily life in Liberia, her relationship with people there, and the regard in which they held her. Other information about the trips and the circumstances of the work in Africa is contained in the two books coauthored by Scribner and Cole. More than a decade later, when Scribner was living in Manhattan and commuting daily to work by subway through Times Square, she recalled to a colleague the pleasure she had felt in Liberia – and her respect for such sensible living – when she could simply sweep the floor, go out the door, and work.

On her first trip to Liberia Scribner lived in a small village in the bush, working closely with Kpelle collaborators to investigate how Kpelle people reason, remember, and carry out other cognitive activities. Cole and Scribner's book reporting this research, *Culture and Thought: A Psychological Introduction*, was published in 1974. It was well received, as was Scribner and Cole's 1973 *Science* paper on cognitive consequences of formal and informal education (which was reprinted in several anthologies on culture and education).

In 1973 Scribner and Cole undertook research among the Vai people in Liberia. The Vai were of particular interest: they have an original written script transmitted from one generation of men to the next, and a large segment of the population is not formally educated in schools. Thus, literacy in this group is not confounded with schooling. It was possible to examine specifically how each is related to thinking, remembering, and other cognitive activities.

Scribner and Cole's report of the Vai research, *The Psychology of Literacy*, appeared in 1981, receiving the African Studies Association's Melville J. Herskovitz Award the following year. This book builds on methodological and theoretical analyses of the earlier one, and presents a clear shift away from the approach current in cross-cultural work at that time.

During the Rockefeller years, Michael Cole, Vera John-Steiner, Sylvia Scribner, and Ellen Souberman were also editing *L. S. Vygotsky: Mind in Society*, the volume of Vygotsky's work that would appear in 1978. Scribner had earlier made a thorough study of Vygotsky's writings and those of other Russian cultural-historical psychologists and had incorporated them in her thinking. According to Cole's account of this period in the *LCHC Newsletter* (1992),[1] Scribner played an important role in promoting deeper understanding of this work among LCHC's members, an influence now evident in the widespread discussions among psychologists and others of the cultural-historical approach. Her classic paper, "Modes of Thinking and Ways of Speaking: Culture and Logic Reconsidered" (1978), was written during this time, merging her interest in logical thinking from graduate school days with her societal perspective on thinking. (It is reprinted in Part 2.)

Emerging out of direct engagement with societal and scientific issues, Scribner's theoretical understanding of thinking and learning had clear implications for real-world education policies. In 1978 she was recruited by National Institute of Education Director Patricia Albjerg Graham to become Associate Director and head of its Teaching and Learning Program. Scribner's interest in shaping research-based educational policy, the Laboratory of Comparative Human Cognition's move to California, and her lack of independent institutional status at Rockefeller converged to make the invitation attractive.

Both the NIE and the Teaching and Learning Program have since been dissolved, but at that time NIE's program was a major site of educational planning and a source of funding for research aimed at improving educational opportunities for all Americans. In addition to Pat Graham, Scribner's colleagues during this period included Lois Ellin-Datta, Ned Chalker, Susan Chipman, Judith Orasanu, Judith Siegel, Lauren Resnick, Michale Timpane, and Ramsay Selden – several of whom became lifelong friends.

At NIE Scribner sought to institute broader conceptions of learning, education, and literacy to include learning in sites other than schools – in the workplace, for example – and to focus on learning in adults as well as children and adolescents. She promoted an NIE program (jointly with the American Psychological Association) for minority researchers, and initiated discussions of technology and learning. She also launched a program of cognitive science applications to education.

In 1980 Scribner traveled to China as part of an NIE-funded Educational Research Delegation to the People's Republic of China to study literacy education programs in that country. A report of this trip is included in Part 3, together

with other papers on literacy that show the range of audiences Scribner addressed and the scope and coherence of the questions and research methods with which she was concerned.

Colleagues describe the work she did at NIE as having a "cascading effect," although she was there for only a year. Her passionate commitment to quality in research, together with her personal contacts in many fields, enabled her to enlist as reviewers and advisors first-rate scientists who had not been involved in education research. For the NIE staff, the review process came to resemble seminars. One colleague recalled how Scribner would sit with twinkling eyes, playing with a twinkling gold necklace, "taking us all on a wild intellectual ride."

David Scribner had moved with Sylvia to Washington D.C. (Their children were then grown and in graduate school or working.) He had curtailed his activities because of heart problems, but continued to do civil rights work and train lawyers in labor law, and he represented the student body of his daughter's law school in a lawsuit against the university. Sylvia Scribner continued to be an avid and informed theatergoer, as she had been in New York, and made frequent lunchtime visits to the Smithsonian's Museum of Modern Art.

While at NIE Scribner began to establish connections with the Center for Applied Linguistics in Washington, and she was appointed Senior Scientist there in 1979, joining Ed Fahrmeier, Evelyn Jacob, and others. She left her administrative position at NIE soon thereafter and began a highly productive period of scientific work.

Scribner's previous labor union work and personal manner gave her the credibility necessary to establish relations of trust with union members and officials and with management at a dairy distribution plant in nearby Baltimore. There she developed a research program on thinking at work that brought together themes woven throughout all her scientific and political life.

In Scribner's own words,

> [My research] has three objectives. On the most ambitious level, I would like it to serve as a vehicle for elaborating the very general constructs of activity theory. I want to develop and test a method that integrates observational studies of naturally occurring phenomena with experimentation on model tasks. And most concretely, I want to discover something about the characteristics of practical thinking in everyday life.
>
> What activities might be suitable for investigating practical thinking? I chose to study work activities for reasons of both significance and strategy. Significance is apparent. In all societies, work is basic to human existence; in most it consumes the greater part of waking time, and, in many – certainly our own – it is a principal source of self-definition. Although we are not wholly defined through our participation in productive activities, the circumstances under which we work and what we do when we work have deep implications for intellectual and personal development.[2]

In 1981 Sylvia and David Scribner returned to New York City when she was recruited by Katherine Nelson to a professorship in Developmental Psychology

at the Graduate School and University Center of the City University of New York. There she joined Katherine Nelson, Joseph Glick, and Harry Beilin on the Developmental Psychology faculty, which later added Dalton Miller-Jones, Mary Parlee, and David Bearison as well.

Scribner's CUNY appointment as Professor of Psychology at the age of fifty-nine was her first and only "real" faculty job. Her lifelong political and moral commitments had led her to work for much of her life outside the university. Her clarity and persistence as a scientist had enabled her to respond creatively to some of the personal and historical circumstances that often keep women and politically active psychologists at the margins of the academy and major research enterprises. She would continue to produce the psychological research and theory for which she is recognized internationally. There is no simple narrative of an academic career here; it is the life of an intellectual activist.

At CUNY Scribner taught graduate seminars on memory, mind and society, Vygotsky, and research methods, and attracted and trained a group of highly talented graduate students and postdoctoral fellows. These included King Beach, Pat Sachs, Lia DiBello, Michael Cohen, and others, contributions from many of whom are reflected in their joint publications with Scribner. Scribner also had a lasting influence on students who did not work directly with her in research but took seminars with her. One of them remembers most clearly Scribner's "passion for clarity, her interest in having us speak very clearly on an issue and listen to each other and say what we meant – and she provided a wonderful model of how to do it."

While at CUNY Scribner worked consistently to strengthen the research training offered in psychology by increasing the diversity of the faculty and student body. This is a connection she had been making in theory and practice since she entered the field: if ways of knowing and the resulting knowledge depend on who asks the research questions, why, how, and on whose behalf, then diversity of perspectives is more likely to be scientifically fruitful than monocular vision. Working with other faculty members and with Graduate Center President Harold Proshansky she was successful in bringing Dalton Miller-Jones, whom she had known at Rockefeller, onto the developmental psychology faculty, enriching the growing interest and depth within the program in a sociocultural approach to psychological questions. She consistently promoted the work of minority scholars at CUNY and nationwide and supported, financially and otherwise, a diverse group of students in her laboratory.

Scribner's commitment to diversity and antiracism were not limited to psychology, and she worked as well with other faculty at CUNY concerned with these issues (Del Jones, Leith Mullings, Bill Kornblum, Frank Riessman) until the end of her life. She continued to be an activist in non-academic arenas well. Among other efforts she worked to organize a demonstration against a proposed berthing of nuclear submarines near Staten

Island – publicity being generated by Graduate Center faculty in full academic regalia marching along 42nd Street behind a saxophonist's "When the Saints Come Marching In."

In the late 1980s Scribner's research program was gaining momentum. With funding from the Spencer Foundation, the Office of Educational Research and Improvement, the National Center for Education and the Economy, and the National Center for Research in Education, she founded the Laboratory for Cognitive Studies of Work, developing it into an intellectual center for students, colleagues, and visitors and a site for planning and analysis of field and laboratory research. Laura Martin and Patricia Sachs collaborated with Scribner as Project Directors on some of the grants. Some of the research was coordinated through the National Center for Education and Employment at Teacher's College, Columbia University, where Susan Berryman and Ray McDermott were colleagues and friends.

Scribner's work, long known to researchers at the forefront of several disciplines, was beginning to generate excitement among more mainstream psychologists as well. When Scribner and some of her students presented their "thinking at work" research at the Eastern Psychological Association meeting in Boston in 1985, the large room was filled to overflowing – there was a sense in the air that something significant was happening. There were frequent invitations to address national and international meetings. Scribner maintained an active correspondence with colleagues in Germany, Japan, Russia, Norway, Finland, Sweden, and France.

By the late 1980s Sylvia and David Scribner were grandparents, and Sylvia took special pleasure – her face would light up when she talked about him – in being with her daughter Aggie's son Alex, who lived nearby. David Scribner's illness had worsened, however, and he died in April 1991. Sylvia Scribner's "sciatica" – which did not keep her from protesting against the Gulf War or from her research and teaching – was diagnosed as cancer in the spring of 1991, four months before her death. Her second grandchild, Aggie's son Scott, was born shortly before she was hospitalized.

When Sylvia Scribner died, friends and colleagues from around the world joined together through electronic mail to express their sense of loss and love, to share memories. In February 1992 a memorial symposium, "Sylvia at Work," was held at the CUNY Graduate Center to celebrate her life and work. The auditorium was filled with Sylvia's family, friends, and colleagues from different phases of her life. Sylvia Scribner, union employee, professor, protester, scientist, mentor, and friend, was remembered as the unique and remarkable person she was.

This is a collection of her work, in her own voice, speaking of things she cared about with her indomitable, passionate intelligence. Sylvia Scribner at work, Sylvia Scribner working, Sylvia Scribner's work – the dancer and the dance are one.

Notes

1. Michael Cole, Introduction, Sylvia Scribner memorial issue of *The Quarterly Newsletter of the Laboratory of Comparative Human Cognition* 14, no. 4 (1992).
2. S. Scribner, "Head and Hand: An Action Approach to Thinking." Eastern Psychological Association, Arlington, Va., April 1987. [Reprinted by the National Center on Education and Employment, Teachers College, Columbia University.]

Introduction

For Sylvia Scribner, the purpose of understanding either psychological or societal processes was to promote human dignity. The formulation of theoretical statements was but one component of the activity of solving human problems. Scribner was committed to a dialectical-materialist approach, viewing human behavior and societal processes as mutually transformative; hence, understanding either psychological or societal processes could only be achieved through an analysis and a method that reflected their dialectic integration.

This concern is exemplified in the first talk on the subject found in her files, "Issues in the Development of a Labor Mental Health Program," and in two other papers on mental health as societal process included in this section. While at the National Institute of Labor Education, Scribner spoke on the need for a labor mental health program at the American Orthopsychiatric Association meeting in March 1963. After analyzing inequities of mental health policies in the treatment of workers, she develops a proposal for social action based on two principles that would guide her throughout: that those groups affected by the research be an integral part of the research activity, and that they act to make concrete changes in their lives. She proposes collective bargaining, the problem-solving procedure traditionally used by labor, as the activity of choice in the development of a mental health program, and sees the program as involving, in addition to care components, research on prevention and education, which she views as inseparable from research and service. She describes the partnership between labor and mental health representatives as "hold[ing] a dual promise of progress in both the social and scientific spheres." In this paper, she characteristically stresses that research is accountable to society at large and must extend its frame of reference and its standard procedures accordingly.

Scribner's experience at the Labor Education Institute provided the bridge between her practice in the labor movement and her return to academic scholarship at the New School for Social Research. The next two papers were written and delivered while Scribner was in graduate school, during a period of heightened political activity in the country at large. Critical concerns of the day had to do with the Vietnam policies of the United States, with mental health needs of the people, and with issues of educational and racial inequities.

In "Advocacy: Strategy or Solution?" she urges professionals to recognize the societal and political impact of their work, an impact they may not have intended: "professional 'neutrality' often masks support of dominant interest groups" (p. 28). She stresses an activist construal of professionals' roles, on behalf of the poor and unrepresented, but points to the limitations of advocacy within institutions and professional channels. She urges professionals and advocates to select thoughtfully the appropriate arena of struggle for a particular social problem and to consider the concrete societal and political context in which advocacy takes place.

During that period, she worked at the Albert Einstein Mental Health facility, continuing her analysis of mental health as a societal issue. In "What Is Community Psychology Made Of?" she discusses what she saw as the fundamental problem in the relationship between psychology and society: the need for psychologists to take social responsibility for the theory and practice of their work. She defines four kinds of community psychologists differing in terms of their frame of analysis and intervention, alternatively systemic or individual, and in terms of their broader commitments. Each group is seen in its limitations but also in its potential "for theory development . . . on the level of practice." All share a common need to "build a new database which will make it possible for all psychologists – in the community or the laboratory – to progress toward a more complete theory of human development and functioning" (p. 38).

Written a few years later while Scribner was at Rockefeller, "Social Class and Mental Illness" offers a critical appraisal of Hollingshead and Redlich's (1958) book by the same title. She recognizes the importance of the book's impact in stimulating a broader societal approach to psychiatric practice and theory, and praises their contribution for yielding useful investigations of social class and mental illness in "functional linkage to sociocultural . . . variables" (p. 41), but she emphasizes problematic consequences of their specific analysis. Based on a careful reexamination of their data, she explicates how these researchers' methods and their formulation of the research question – in particular, their definition of mental illness and other descriptive categories – result in interpretations that counter their original intentions, thus stressing again the need for method to be grounded in knowledge of societal processes.

Her concern about the role of psychologists in the problems of the day was brought to the fore by a significant event in the history of psychology. In 1968, in response to the police assault on demonstrators against the Vietnam War during the Democratic Party Convention in Chicago, a group of psychologists attending the annual meeting of the American Psychological Association (APA) formed an Ad Hoc Committee of Psychologists for Social Responsibility (later to formally become American Psychologists for Social Action, or PSA), and called on the APA to cancel plans to hold the next annual meeting in Chicago – a request the APA honored. When Scribner joined PSA soon thereafter, she proposed requesting the APA to organize its 1969 annual convention on the theme of psychologists' social responsibility. The APA redefined the proposed convention theme as "Psychology and the Problems of Society" and formally organized sessions on that theme; members of PSA organized independent sessions as well, some listed in the official program and some not.

The next paper in this section, "Research as a Social Process," was presented by Scribner at the Symposium on Community Psychology organized by PSA, and was not included in the official convention proceedings. Scribner's dialectical view of the relationship of science and society is clear. "Whatever

the topic of investigation, research is always embedded in larger social and political processes which influence its course and outcome. In turn, the research process has an impact upon the larger social processes through the new knowledge it produces and the methodologies it adopts." She criticizes the widely held idea that social sciences are homogeneous and offers as illustration a comparison of the NASA and HUD research programs, each shaped by their societal locations; psychologists must set research priorities and practices in collaboration with the community affected by the research. As is the case of labor and mental health, bringing the researcher and the population together produces a "tension between the two [that] will have the most advantageous yield for both."

In recognition of Scribner's role in initiating the theme of the APA convention, the PSA newsletter invited her to analyze *Psychology and the Problems of Society* (1970), a selection of papers from the convention. In her review of the book, she finds that the volume reveals "the limitations of efforts to relate psychology to specific social problems without an analysis of the basic social forces" (p. 70). She continues by calling for an integration of theory and practice. "To act responsibly on . . . aroused social consciousness, however, requires not only a scientific knowledge of psychology but a scientific understanding of society and the dynamic forces operating within it" (p. 70).

Shortly thereafter, psychologists were embroiled in debate about another societal implication of their activities, the writings of Jensen on IQ, race, and class. In "Psychologists, Process, and Performance," Scribner stresses that societal responsibilities are inescapably involved in asking "scientific research questions" and explains how sensitivity or insensitivity to those responsibilities affects research outcomes. She calls into question seemingly understood terms such as "culture" and the practice of "marking off populations": the marked-off populations are defined, not by accident, in terms of the presence or absence of specific kinds of privileges. She states: "this comparative psychological enterprise . . . interprets the problem of education . . . in terms of competencies or incompetencies of people, not inadequacies or adequacies of societal institutions" (p. 73). Specific in her critique of logical and factual inadequacies in Jensen's interpretations, she stresses that the deployment of skills is always situated and elicited by particular tasks, and urges her audience to participate with her in elucidating how the development of particular skills is shaped by specific cultural activities.

The early years in the transition of Sylvia Scribner from the world of labor and its special needs and instruments to that of the scientist in a world of active practice produced a body of work that continues to speak to how we understand the relations between the individual and society. The themes and commitments expressed here would continue to guide her research and writings throughout her life.

Selected coauthored works

Scribner, S.; Reiff, R. (1964): Issues in the new national mental health programs relating to labor and low income groups. In: *Mental health of the poor* (Ed.: Riessman, F.). The Free Press, New York, 443–56.

Scribner, S.; Riessman, F. (1965): Underutilization of mental health services by workers and low income groups: causes and cures. *American Journal of Psychiatry* 121, 798–801.

1 Issues in the development of a labor mental health program

For the past four years, the National Institute of Labor Education – an independent organization of universities and trade unions whose purpose is the development of workers' education – has been conducting a study to conceptualize and organize a mental health program in labor organizations.

As a statement of purpose, this sounds relatively simple and clear-cut; and since I am here principally to acquaint you with the nature of our work in this area, I might assume that the *objective* of organizing a labor mental health program is a self-evident one. But to do so would be to skip over some very fundamental questions.

It isn't customary, after all, to characterize a particular endeavor in the mental health field in terms of its sponsorship and the consumer group to which it is addressed rather than in terms of its specific content. Moreover, considering the fact that the labor movement has been a powerful force on the American scene for several decades and that the organized mental health movement has been flourishing for at least the same period of time, it should give pause for thought that no lasting liaison has yet been effected between the two and that it is still necessary in 1963 to describe our purpose on such a primitive level as *conceptualization* and *organization* of a labor mental health program. As a matter of fact, the coupling of "unions" and "mental health activities" is so new and unstable that even in the planning of this panel, the title slipped – almost of its own accord – into the traditional one of "Mental Health Activities in Industrial Settings" rather than the intended and more accurate heading which the program now carries of "Mental Health Activities in Union Settings."

Granted that the approach is new, the question still remains, is it valid? What do we mean by a labor mental health program? Is it meant to imply that union

This paper was originally presented at an American Orthopsychiatric Association meeting, March 8, 1963.

Introduction

When she first undertook the work included in this section, Scribner had joined Rockefeller University as part of Michael Cole's laboratory of comparative cognition. While a doctoral student at the New School for Social Research, she had formulated a programmatic societal and cultural analysis of literacy that informed her work on that topic in subsequent years. The writings in this section appeared more or less concurrently with those on literacy included in Part 3, and the two lines of investigation are interwoven theoretically.

Much of Scribner's work on thinking and culture during that period was conducted in collaboration with Michael Cole and their associates in the multiple forms that collaboration takes, from joint working out of an empirical project to theoretical dialogue, and this is reflected in the list of selected coauthored works at the end of this introduction. Scribner's broad view on experimental methodology, stressing the need to hold a cultural interpretation of the experiment and to recognize that people assimilate the problem to current cultural forms, is one she shared with Cole and other members of his research group. All also shared a theoretical perspective grounded in activity theory and substantive questions on thinking and culture.

As in any collaboration, throughout the dialectical give and take individual voices are distinct. Scribner's single-authored works on thinking, culture, and society in this section reveal the continuity of her concerns about the societal context of thought and action. These writings, as well as the paper on intelligence tests at the end of this section, written during the same period, reflect the organic relationship among question, purpose, and method that was a stamp of Scribner's research. They interweave analytical, broadly political, methodological, and substantive concerns seamlessly.

As described in the introduction and in Aggie Scribner Kapelman's narrative, the research took Scribner to Liberia for several extended periods, where she lived among Kpelle people in the village, working closely with Kpelle collaborators and living the life of a respectful researcher-participant in alternation with that of a scientist in the urban corridors of Rockefeller University.

In Scribner's concerns about societal dimensions of science, the organization of knowledge in different disciplines was central. In particular, it was evident to her that psychology and anthropology had strong theoretical and substantive relations. Yet the history of the disciplines produced differences in conceptualization and formulation of research. Throughout the articles in this section, she stresses the need to integrate the psychological and anthropological analysis of cognitive processes.

The two reviews at the beginning of this section address those issues and stress the need for psychological theories that incorporate sociocultural factors *within* psychological systems, so as to provide a unified framework for analyzing processes both within and across cultures, a key aspect of Scribner's formula-

tion of the anthropology–psychology interplay. Her review of *Societal Structures of the Mind,* in its critical form, stresses the societal level of analysis at which anthropological and psychological investigations must rely and calls into question the reductionism of the interpersonal formulation of social phenomena traditional in those disciplines. In her review of *Culture and Cognition: Readings in Cross-Cultural Psychology,* she focuses on the political agenda embodied in much of cross-cultural research in its early days, and, along with those editors, raises fundamental questions regarding the ethics and politics of cross-cultural investigations.

Scribner's methodological discussion, "Situating the Experiment in Cross-Cultural Research," lays the foundation for her empirical papers. Her approach, always, was to tailor the instrument to fit the question and the question to fit the broader societal purpose of the research. In this article, Scribner formulates a "quasi-experimental" research strategy that spans experimental and naturally occurring manifestations of cognitive phenomena, and that integrates psychological and anthropological descriptions. She would continue to work out this problem and to refine the articulation of psychological and systemic elements of theorizing throughout her work, up to her rich and elegant method in the research on thinking at work in Part 5.

The article "Recall of Classical Syllogisms: A Cross-Cultural Investigation of Error on Logical Problems" is a major advance in discussions at the time, providing a theoretical reinterpretation of those responses to syllogisms that rely on empirical knowledge rather than logical form. In contrast to previous interpretations of these responses as reflecting logical failures ("empiric bias"), Scribner's analysis grounds them in broad cultural context.

The suggestions she outlines here are subsequently developed explicitly in her classic article "Modes of Thinking and Ways of Speaking," where she introduces to this field of research the important construct of "genres." She integrates the analytical framework outlined in "Situating the Experiment" and the previous empirical article into an incisive theoretical description of empiric and theoretical modes of reasoning. Kpelle people, she observes, reason hypothetically about the actual while denying the possibility of reasoning hypothetically about the postulated, and indeed describe the latter as futile. She makes the important point that "empirical biases . . . operate as an 'organizer,' characterizing the individual's entire mode of engagement with the material."

Thus, empiric reasoning, far from reflecting a shortcoming in hypothetical thinking, reflects a grounded epistemology and a functionally guided use of hypothetical thinking. Scribner's systemic interpretation of those phenomena moves their analysis beyond the dichotomies between abstract and concrete thinking prevalent at the time, and provides an integrated description of thinking in culture and society.

Her insistence that the definition of problems and the methods of study are always rooted in society and politics is also reflected in the article "Intelligence Tests: A Comparative Perspective." This article, written during the same period, was prompted by the controversy about intelligence then raging in response to Jensen's genetic determinism. Scribner stresses that the purpose for which testing is conducted shapes its practical consequences. Whereas in medical settings testing is aimed at improving treatment outcome, in educational/institutional settings testing is used to deny learning opportunities to some individuals, often those discriminated against on the basis of class and ethnicity. The article reviews the history of the Binet test and shows how the agendas of those who do the testing distort its original function.

Scribner's analysis of the characteristics of cultures and their relation to individual thought incorporates historical-cultural development as theorized by Vygotsky, whose work she was coediting at the time. Her analysis demonstrates the dialectical relationship between the general and the specific that must be synthesized for a genuine understanding to obtain. Her view that sociocultural factors must be incorporated within psychological systems informs all her work, as is evident in Parts 3, 4, and 5. In her writings on literacy in Part 3 she would introduce the concept of practice as providing the material basis through which links between the sociocultural and psychological levels are established.

Selected coauthored works

Scribner, S.; Cole, M. (1973): Cognitive consequences of formal and informal education. *Science* 182, 553–59.

Cole, M.; Scribner, S. (1974): *Culture and thought: a psychological introduction.* John Wiley & Sons, New York.

Cassallas, M.; Cole, M.; Hall, W.; Meissner, J.; Scribner, S.; Traupmann, K. (1976): Memory span for nouns, verbs and function words in low SES children: a replication and critique of Schutz and Keislar. *Journal of Verbal Learning and Verbal Behavior* 15, 431–35.

Cole, M.; Scribner, S. (1977): Cross-cultural studies of memory and cognition. In: *Perspectives on the development of memory and cognition* (Eds.: Kail, R. V.; Hagen, J. W.). Lawrence Erlbaum Associates, Hillsdale, N.J., 239–71.

Introduction

The writings in this section span more than sixteen years and several periods of Sylvia Scribner's life. They include "The Cognitive Consequences of Literacy," written in 1968 while she was a doctoral student at the New School for Social Research; "Literacy in Three Metaphors" (1984), a paper originating from a planning document on research on literacy she wrote as Associate Director of NIE; and "Studying Literacy at Work," a paper delivered while she was at the Center for Applied Linguistics. Her social and intellectual commitment to considering thinking in its societal context shapes the theoretical formulation in the initial paper and the methods and questions she subsequently developed, and infused her policy undertaking while she was at NIE. She saw that research and policy were inherently related and, at NIE, was able to strengthen educational practice through stimulating significant research, and to strengthen research efforts of the academy and other institutions.

In "The Cognitive Consequences of Literacy" she poses the question of how writing, as a social invention and a "tool system used by man to alter and control his environment," (p. 161) may transform not only human culture but human mind as well. She states: "Like technological inventions, [these conceptual inventions] become part of the real world outside of man, the world with which he interacts, which he reflects and symbolizes. Thus, conceptual inventions which are social in origin and part of the human legacy have the potential through cultural transmission of being internalized by the individual and becoming part of his inner world." (p. 161) She identifies several hypotheses, based on her elegant review and analysis of the material and the cognitive properties of written language. Her discussion lays out the parameters for a rich empirical research program on those questions and previews lines of research she would later pursue at Rockefeller in collaboration with Michael Cole.

While the problems outlined in this early programmatic paper shaped her research questions for many years, Scribner's specific explanatory framework for cognitive effects changed substantially in the course of studying literacy with the Vai people, work reported in Scribner and Cole's *The Psychology of Literacy* and other writings. She would critique as insufficiently grounded conceptualizations that posited cognitive effects produced by the properties of the symbol system per se. She struggled with the complexities of data interpretation with her fundamental theoretical preferences as a guide until she developed a functional formulation of literacy and its effects as social practice, integrating the societal with the cognitive.

In an oral presentation, "The Concept of Practice in Research on Culture and Thought" (not included here), given in 1980 while Scribner was at the Center for Applied Linguistics, she discussed the Vai work reported in the Scribner and Cole volume, and described literacy in terms of social practice, a construct she saw as critical. She states: "In the course of the Vai research, I

developed a framework for interpreting the findings and their significance, and to guide further development of theory and method in the study of how socially organized activities come to have consequences for human thought. I called this framework a 'practice account of literacy' to emphasize that it is not a formal model nor grand theory. I present it briefly here because it appears to have a number of points of convergence with the theory of activity developed by Soviet psychologists." This formulation, to be further developed in her paper "Mind in Action" (Part 5) as a practice framework for cognition, links the theoretical and substantive concerns of the research in this section and of the program she developed at NIE. Here and in later work, Scribner uses practice as a key construct that provides a material foundation to cross-cultural cognitive analysis and to research on thinking at work.

The shift in interpretive framework is reflected in "The Practice of Literacy: Where Mind and Society Meet," a discussion of the Vai research in which social practice is the explanatory construct through which she interprets cognitive changes. The shift is especially clear in "Literacy in Three Metaphors," in which she emphasizes that literacy is a social, not an individual achievement. The meaning of literacy in a particular society is bound to societal values, and her splendid discussion considers three metaphorical meanings literacy may have: literacy as adaptation, as power, or as a state of grace. Her stress on social values in this paper is particularly noteworthy because it is based on a planning document for the White House Conference on Library and Information Services in 1979.

The next paper, "Observations on Literacy Education in China," is a report from Scribner's participation in a scientific delegation to the People's Republic of China as Associate Director of NIE. In it, she considers issues of literacy on a societal scale, discussing the textbook as an instrument of educational practice and evaluating China's success in becoming a predominantly literate society.

"Studying Literacy at Work" extends questions of literacy to practical work situations. We include the existing draft of this presentation given at the NIE conference on basic skills. This paper discusses the research on work Scribner was conducting while at the Center for Applied Linguistics, with a focus on "cognitive and linguistic operations involved in on-the-job literacy." The description of the three-tier method she was developing, from ethnography of the plant to description of literacy-related tasks under normal working conditions to task analysis and experimentation, reflects once again Scribner's commitment to tailor the method to the question and to study thinking as embedded within the real work situation with its attendant social constraints.

Scribner's consideration of societal and individual processes as linked and mutually transformative had philosophical as well as political dimensions. In her introduction to *The Future of Literacy in a Changing World,* she explores theoretical formulations of the relation between the psychological and the social afforded by the concept of levels of integration and by activity theory. Her discussion is both substantive and analytical, addressing the theoretical problem of how to relate psychological, ethnographic, and historical dimensions of literacy as well as evaluating alternative approaches to this issue. Scribner articulates the dialectical-materialist foundation of both the levels of organization concept and activity theory. The research program on thinking at work that she was primarily engaged in at that time would continue to concretize those ideas.

Selected coauthored works

Scribner, S; Goody, J.; Cole, M. (1977): Writing and formal operations: a case study among the Vai. *Africa* 47, 289–304.

Scribner, S.; Cole, M. (1978): Literacy without schooling: testing for intellectual effects. *Harvard Educational Review* 48, 4, 448–61.

Scribner, S.; Cole, M. (1981): *The psychology of literacy.* Harvard University Press, Cambridge, Mass.

Introduction

The papers in this section were written while Scribner was Professor of Developmental Psychology at the City University of New York. Like many of her other writings, these papers are grounded in activity theory as a theoretical perspective, but they specifically focus on developmental questions and examine the theoretical and methodological logic of a sociohistorical approach to the study of mind. In doing so, Scribner's work is embedded within the rich terrain of contemporary discussions of Vygotsky's theory and it brings to them a distinctive emphasis. She explicitly draws on the dialectical-materialist foundation of activity theory, an emphasis continuous with her conceptualization of the societal basis of thinking and work. The works included in this section show how the dialectical basis of Vygotsky's sociohistorical theory is, in Scribner's view, essential for an adequate conceptualization of the genesis of higher mental functions.

"Vygotsky's Uses of History," now a classic, focuses on development in its most fundamental relationships between histories on different levels. Scribner's lucid explication of "the logic of [Vygotsky's] method of theory construction" shows how the general history of humanity, the child's history, and the history of higher psychological functions, as "phenomena in movement," are dialectically related in the theory. Placing the theory itself in the historical context of psychology, she argues that Vygotsky, in contradistinction to others and despite his analogical parallels between the child and primitive societies, is not offering a "recapitulation" theory in which the history of the species would be mirrored in the history of the child. Her analysis counters this common reading of Vygotsky, which she attributes to his lack of precision in using his own concepts. She shows that the theory describes instead a dialectical integration of the history of the species and the history of the culture at the individual level of development. Likewise, she clarifies in her analysis that Vygotsky's formulations of the relation between biology and culture is not simple interactionism. Her discussion enriches the Vygotskyan framework by integratively describing changes in all three systems simultaneously, thus making Vygotsky's formulations more precise.

In the same paper, Scribner extends the historical approach by introducing a fourth level of history, the histories of particular societies, and by stressing their plurality. This, she states, is needed "for purposes of concrete research and for theory development in the present," a theme to which she returns in other writings in this section. General history alone is not sufficient to address questions about the production of higher mental functions in their full social and cultural specificity and the transformations of those functions. As is evident in her writings on literacy and on cross-cultural research and in her research on thinking at work, Scribner envisioned development broadly as encompassing adults as well as children, institutions and cultures as well as individual persons.

The theoretical analysis she develops here maps out the broad framework of those lines of research.

While writing this article, Scribner was also preparing to participate in the International Congress of Psychology in 1984 and preparing a paper entitled "Does Ontogeny Recapitulate History? An Examination of Vygotsky's Sociohistorical Theory" for delivery at the congress. In the presentation, she discusses these ideas with different critical stresses and points to the need for developmental research to include the sociohistorical background of the child. The paper was actually read by Vera John-Steiner, as Sylvia Scribner stayed at home with her husband during one of his serious episodes of illness. As it was explicitly prepared for oral presentation and because there is some overlap in coverage with the previous paper, we have not included it here.

The methodological consequences of the epistemological stance of Vygotsky's sociohistorical theory are examined in "A Sociocultural Approach to the Study of Mind." Scribner discusses the way cognition is formulated in the theory of activity and distinguishes it from the approach then prevalent in cognitive psychology. The culturally mediated and historically produced nature of mental functioning has methodological implications. "[An] analysis of changing social practices becomes integral to – rather than merely peripheral to – an inquiry into learning and development," hence the necessity of drawing on interdisciplinary procedures when investigating mind. This theme parallels and extends Scribner's earlier call for integrating sociocultural factors into psychological systems (Part 2 of this volume).

With characteristic rigor, she stresses how, in that endeavor, the specification of particular hypotheses and particular mediating mechanisms occupies a central place, above and beyond the general parameters laid out in "grand" theory. She exemplifies this approach in her description of the rationale and methodology of the Vai studies carried out by her and Michael Cole and their colleagues. The research is an illustration of how changes in symbolic mediators and in social practices shape thought, and she discusses it in its historical dimension.

Scribner's important point is that, by embedding humans both in a general species history and in specific activities shaping cognitive functional systems, the sociohistorical view of mind addresses both the universal and the culturally specific aspects of human thought. The dialectic of the universal and the particular was an early and long-standing principle in her thinking, and her discussion of the issue in this and other papers previews current discussions of the relations between the two in a range of disciplines, from philosophy to women's studies to political science.

In the final paper in this section, "Three Developmental Paradigms," Scribner reflects on psychology and development from a metatheoretical perspective. The paper, of which only a draft was found, was delivered to an anthropological audience, and in its historical presentation is both didactic and

intellectually provocative in stressing the philosophical underpinnings of empirical science. Says Scribner to this audience of anthropologists: "Psychology investigates how external activity gives rise to internal mental processes, how these processes are functionally related to particular external activities, and how external and internal activities mutually transform each other."

She criticizes Piaget for his nondialectical approach. Piaget, grounded in an individualist paradigm, uses as basic "building blocks" the individual and the environment. His is an "action" theory as contrasted with an "activity" theory, and his "inclusion" of social factors does not alter the individual–environment dichotomy; the theory lacks the tools to address relations between the social and the individual.

In the social interactionist paradigm, exemplified by Mead's sociogenetic concept, the building blocks are the individual and the social. Scribner calls Neo-Piagetian attempts to establish a social account of cognitive development a major event in contemporary psychology but criticizes this paradigm for relying on individual interactions rather than societal interaction, a theme already present in her writings on psychology and society in Part 1 and here applied to cognition: "They cut off cognition from objects and actions in the world of things."

In contrast to those two paradigms, Scribner notes, activity theory integrates the individual's relations with the world of objects and the world of people within the framework of the larger societal system. The individual, the environment, and the societal are integrated to produce the unit of analysis. She stresses the need to account for the historical evolution of human consciousness and its development in ontogeny. Human labor is the primary activity that integrates individual function, social organization, and society as mediated through tools and symbols.

In this paper, as in others, Scribner attempts to involve her audience in addressing these issues. Activities, constituted on the level of social organization, are methodologically prior as units of analysis to an analysis of their psychological constituents. Thus, she insists, complex as this line of study may be, socially defined categories of activity can serve as the organizing domains for comparative psychological research. To this end, she urges a collaboration between anthropology, the study of socially significant modes of activity, and other social sciences.

The theoretical analyses Scribner develops in those essays have ramifications for the study of thinking, literacy, and cultural systems she had recently pursued (discussed in her writings in Parts 2 and 3 of this volume) as well as for the study of thinking at work. Scribner during that time was developing the research program on thinking at work initiated in Baltimore, analyzing cognitive transformations functionally shaped by goal-directed work activities in a variety of technological settings (see Part 5). Characteristically, the theoretical tools she

develops in this section would be put to the challenge of articulating concrete research questions with social significance, and fine-grained analyses of mental processes.

Selected Coauthored Works

Cole, M., Scribner, S. (1975). Theorizing about socialization of cognition. *Ethos* 3, 249–67.

Cole, M., John-Steiner, V., Scribner, S., Suberman, E. (1978). *L. S. Vygotsky: mind in society*. Harvard University Press, Cambridge, Mass.

Bartlett, E. J., Scribner, S. (1981). Text and context: an investigation of referential organization in children's written narratives. In: *Writing: the nature, development and teaching of written communication*, vol. 2 (Eds.: Dominic, J., Whiteman, M., Fredericksen, C.). Lawrence Erlbaum Associates, Hillsdale, N.J., 153–67.

Hawkins, J., Pea, R. D., Glick, J., Scribner, S. (1984). Evidence for deductive reasoning by preschoolers. *Developmental Psychology* 20, 4, 584–94.

20 Vygotsky's uses of history

> "History" is not a distinctive subject-matter to be inquired into. It is rather at once a trait of all subject-matters, something to be discovered and understood about each of them; and a distinctive way of inquiring into any subject-matter.
> Randall, Jr. (1962, p. 28)

This chapter is a beginning exploration of the question "What is history?" in the psychological theory of L. S. Vygotsky.

Although the uses psychologists make of history is a topic worthy of analysis in its own right (White, 1976), the present inquiry addresses a special concern. Since the early 1970s social scientists have shown heightened interest in the relationship between culture and cognition. In spite of many advances in research methods and findings, however, conceptual difficulties continue to limit the enterprise. Principal among these difficulties is the problem of determining for any given domain of intellectual functioning (e.g., conservation, memory, logical reasoning) which aspects are universal in nature and which are specific to particular social environments. Theories of psychological development are of propaedeutic value here, and among them, Vygotsky's theory would seem to hold special promise for construction of an integrative account of cultural variations in thought. Some of us have attempted to develop this promise and use Vygotsky's framework as a guide to our work (Cole and Scribner, 1977; Scribner and Cole, 1981) but the implications of his theory for comparative studies of cognition have proved ambiguous. One source of ambiguity is that Vygotsky, like other developmental theorists, applies his concepts of development to the careers of both the child and the "primitive." These actors walk

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Introduction

Thinking at Work was the title of the book that Sylvia Scribner was planning to write, and that would have synthesized a number of themes derived from twelve years of research on thinking in the workplace. Her approach was grounded in an activity theory framework. Scribner, however, took activity theory to be not a theory but a metatheory for cognition. As she lucidly states in "Head and Hand" at the end of this section, it provides investigators with a general framework for studying cognition. Her work aimed to "concretize and elaborate activity theory constructs." Her book would have contributed experimental, qualitative, and theoretical analyses to the further development of activity theory.

Scribner's research program focused on practical thinking, a "natural kind" of thinking, and analyzed mental processes and cognitive transformations functionally grounded in goal-directed work activities. The research program began with Scribner's studies of cognitive activities of dairy workers, carried out in Maryland in collaboration with Ed Fahrmeier and Evelyn Jacob while she was at the Center for Applied Linguistics. When Scribner subsequently joined the faculty of the City University of New York, her ideas and agenda quickly generated considerable student interest. She soon formed the Laboratory for Cognitive Studies of Work in which she worked with a number of graduate students and staff on practical thinking and its development in a wide variety of everyday settings, in particular, on the transformations in practices and in thinking when new technologies are introduced into the workplace. Members of the laboratory included King Beach, Lia di Bello, Michael Cohen, Emily Filardo, Farida Kahn, Jesse Kindred, Edith Laufer, Laura Martin, Patricia Sachs, Rosalie Schwartz, Joy Stevens, and Elena Zazanis.

Others joined the regular laboratory meetings, including Dalton Miller-Jones of the faculty of the Developmental Psychology Graduate Program, Kimberly Kinsler of Hunter College, and visiting scholars from many different countries. It was an interdisciplinary group whose discussions tackled issues such as Vygotsky's theory of scientific concept development in comparison with current theories; methodological questions, such as the questions of anthropology and the nature of the analysis they permit; or critiques from Europe and the United States of postmodern capitalist views of changes in the workforce due to the introduction of new technologies. During those years, Scribner was also engaged in a study of Hegel's dialectics and of Ilyenkov's dialectical logic, and was reading widely in philosophy of science, science studies, and other fields, including the works of comparative psychologist T. C. Schneirla and anthropologist Eleanor Leacock. The broad array of tools and viewpoints that Scribner introduced into her laboratory, along with her own analytic insights, gave the work a depth and credibility that proved compelling to other researchers, policy makers, and funders.

Scribner's choice of the industrial environment as the setting for her research on practical thinking is significant. Her focus on industrial workers was based on her own experience in the labor movement, which she had recognized as a critical segment of society even while in high school when she chose to work in a lace factory during one summer's vacation. She also saw that an industrial production system would epitomize the interconnections of individual, societal, and historical processes.

In addition, in this setting, while the components of accomplishing tasks and goals could be operationalized in a clear way for study, these activities would be valid as units of analysis because they were considered first in the context of their occurrence, which included the influences of social as well as cognitive organizers. Scribner was able thus to translate theoretical questions about the nature of activity and the development of mind into research methods that were congruent with the questions asked. In several of the papers included here, she elegantly discusses the logic of her approach, its methodological implications, and the method she developed.

Scribner also experimented ingeniously with different interview methods and protocols to capture transformations in people's cognitive processes in workplace settings while respecting their experiences, work histories, and responses to participating in a study. Her ethical commitments to her informants were clear. In every site in which she worked, she made a point of developing a dialogue about her research program with the local union members, of obtaining their consent for the study to take place, separately from that of the employer, and of ensuring that they remained fully informed.

One of her earliest writings, an invited address at the biennial meeting of the Society for Research in Child Development, "Mind in Action: A Functional Approach to Thinking," describes a practice framework for cognition, an elaboration of the practice framework for literacy she developed at the conclusion of the Vai research. She draws the methodological consequences from that framework, and applies them to interpret the findings from her study of a product-assembly task, in particular, the development of work-related skill systems (her equivalent of the "novice–expert" shift).

In "Knowledge at Work," Scribner stresses the importance of understanding the relation between knowing and doing, and points out the inadequacies of the Cartesian dualism on which mainstream psychology is predicated for examining this relation. In contrast, Scribner's approach, and activity theory generally, "represents knowledge as an integral component of activities, along with technologies (tools and sign systems) and functional skill systems" (p. 309) The dairy work is then discussed from that perspective.

The next paper, "Thinking in Action: Some Characteristics of Practical Thought," discusses the status of practical thinking within the overall organization of thought and differing perspectives on this issue.[1] In particular, Scribner challenges the traditional dichotomy between practical and theoretical thinking present in mainstream cognitive science. Scribner proposes to consider practical thinking as a "natural kind." Doing so may provide a "coherent structure of explanation," capable of addressing task-related variations without being driven to particularism, by identifying common characteristics of practical thinking across contexts and situations. Scribner develops a model of practical thinking in which operations are organized as a purposive system; skilled practical thinking is characterized by adaptive flexibility and by economical modes of solution.

In the same paper, she critiques contextualism and introduces the important idea that the environment is incorporated *into* the problem-solving system and is actively exploited by it: "The characteristic we claim for practical thinking goes beyond the contextualist position. It emphasizes the inextricability of task from environment, and the continual interplay between internal representations and operations and external reality throughout the course of the problem-solving process – an interplay expressed in activity theory (Leont'ev, 1979) as the mutual constitution of subject and object."

In "Studying Working Intelligence," Scribner analyzes the specific relation between practical and theoretical thought. While practical thought is distinguished by its greater reliance on concrete forms of knowledge, Scribner stresses that this distinction is functional rather than mentalistic: it is the purpose of thinking rather than the nature of the mental representations per se that distinguishes practical from theoretical thinking. She contrasts this functional distinction with Aristotle's categories of thought and with contemporary distinctions that imply superiority of the theoretical over the practical. In fact, Scribner suggests, the difference between practical and formal problem solving is not a fundamental one; those settings are, after all, particular situations in the network of social structures and cultural practices.

In her discussion of a functional approach to the study of thinking, she analyzes empirical observations in the product-assembly task to detail sign-creating activities (pricing) through which a material object (the milk case) yields a symbol and thus "begins to serve a sign function and becomes incorporated in mental operations" (p. 354). She thus lays the ground for the functional equivalence of the mental and the manual, a notion she would elaborate in later papers.

In "Mental and Manual Work: An Activity Theory Orientation," Scribner introduces the important construct of a functional action system, extending Luria's (1973) notion of functional system to include "the action unit as a whole, including not only the inner and outer operations but the object to which these are directed," a notion that resonates with her insistence, in "Thinking in Action," that the environment is incorporated into the problem-solving system. Mental and manual work are functionally equivalent in such a functional action system, as are inner processes and outer operations.

In 1984 Sylvia Scribner was asked to be guest editor of a special issue of the LCHC quarterly newsletter devoted to the research of her Laboratory of Cognitive Studies of Work. The issue mainly includes studies by Scribner and her collaborators of specific activities in the dairy work project as one example of

cognitive studies of work, and a few works in progress by members of her laboratory extending the approach to different worksites.

In "Toward a Model of Practical Thinking at Work," Scribner presents the important idea, derived from her empirical research, that skill acquisition at work involves mastery of the concrete (pp. 380–381). The relation between the abstract and the concrete was of great interest to her and she saw these as reciprocal rather than as dichotomous. "Mastery of the concrete, of course, does not imply the absence of a reciprocal process of abstraction. . . . Without minimizing the abstract processes involved, it seems appropriate to describe the primary course of attainment of problem-solving skills at work as a process of 'concretization' " (p. 381).

"Head and Hand" is a paper that articulated and brought together the many constructs and threads of Sylvia Scribner's theorizing about thinking at work. Pursuing themes introduced earlier, she discusses thinking and doing as integrated, and thinking as linked to action in the world. The operations of head and hand are functionally equivalent and often can substitute for one another. Thinking is an aspect of concrete activities. Both are shaped by and participate in the system of social life, and Scribner discusses the methodology that results from this view.

She returns to considering the relations between the particular and the general and how they contribute to knowledge, a question discussed in her earlier writings on thinking and cultural systems, and which she addresses here with reference to the kind of knowledge that can be gained from studying specific operations deployed in a specific task. In stating her overall research strategy, she writes: "We are interested, not in whether *particulars* about practical tasks generalize, but whether we can find *general* characteristics across a wide range of *particular* tasks" (p. 397).

Scribner's theorizing and methodology, in this research on thinking at work as well as in her other lines of research, are committed to preserving the integrity of the phenomenon while describing it with precision. While she rejected the metaphysics and methodology of mainstream cognitive science, she selectively utilized some of its tools, adapted to the needs of her project. Her analysis of thought is fine-grained, but it always examines thinking as a purposive action embedded in a system of societal and material structures and culturally defined practices.

The research on activities in the workplace brings together the theoretical inquiries and commitments that guided Sylvia Scribner's work on development, on literacy, on thinking and cultural systems, and on psychology and society.

Note

1. We omit the description of the method, well-covered elsewhere.

Selected coauthored works

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Scribner, S.; Sachs, P. (1990): On the job training: a case study. *NCEE Brief* no. 9, August.

Martin, L. M. W.; Scribner, S. (1991): Laboratory for cognitive studies of work: a case study of the intellectual implications of a new technology. *Teachers College Record* 92, 4, 582–602.

Scribner, S.; Sachs, P.; with DiBello, L.; Kindred, J. (1991): Knowledge acquisition at work. *NCEE Technical Paper* no. 22.

Scribner, S.; Beach, K. (1993): An activity theory approach to memory. *Applied Cognitive Psychology* 7, 185–90.