CHAPTER 1

THE SYMBOLIC ANIMAL AND THE CULTURAL TRANSFORMATION OF NATURE

WRITING AS LEARNED ACTIVITY

Writing, as all life is, is activity. When writing, humans are doing things, purposeful things, things that transform themselves, their relation to each other, and their relations to the material world. The reason for inquiring into writing is to understand what we are doing, to learn how to do it, to learn to do it better—and to help others do, learn, understand. Writing is a skilled, invented, learned, historically emerged sociocultural activity—not instinctual, not programmed directly into genes and stimuli-released hormones. Homo sapiens emerged perhaps 200,000 years ago with strong social orientations from prior species and with newly emerged language capacities. About 5000 years ago (Schmandt-Besserat, 1996), however, we found new ways to enact our social and language capacity within a new symbolic environment for us to attend to—fostering new skills and capacities to meet new challenges and opportunities. By participating in and through this new symbolic environment we have been able to transform our meanings, relations, identities, and activities. While there are strong arguments to suggest that our general language capacity biologically evolved in dialectic with the development of our means and practices of language and social interaction—that is, nature and culture co-evolved—the introduction of writing has been so recent and its general spread to the great majority of humans only within the last few centuries, that there is no reason to believe that there has been any biological adaptation to favor writing. Writing relies on biological machinery thoroughly in place before literacy, assembled for non-literate purposes—such as our visual discrimination, our hands able to manipulate fine objects, and engage in small operations, and our capacities to use language and other symbols (See Deacon, 1997; Donald, 1991). Since written language is apparently a sociocultural evolution without the benefit of any specific biological evolution selecting for skill in writing, any biological variation in the way we participate in written language, would depend on variation that is not specific to written language, such as variations in eyesight

or general processing capacities in the pre-frontal cortex, or abilities to imagine and respond to non-present situations.

Writing from its beginnings relied on human invention, an invention that we constantly extend and elaborate, that we learn to do new things with and work with more deeply. Writing is an invention we are still learning to exploit, learning to carry out new activities with. Likewise, any rhetorical theory of writing is a new invention, a means of reflective understanding of the choices to be made in order to extend our abilities to use writing. A rhetorical theory of writing is a bootstrap to do and see more, a way of acting at different levels, incorporating new considerations.

Inventions occur in the course of humans trying to do things—such things as coordinate life in a society, improve agriculture, extend and exercise authority, keep track of property and property transfers, inform others of the great deeds of leaders and forebears, enlist cooperation with the authority of leaders, encourage particular values and attitudes, keep each other amused and cheered, or provide services for which others would provide goods in return. Every time writing has been used and therefore developed through expanding uses, it had functional use within an activity. Even play, which seems so separate from the goal-directed activities of life, enacts human desires and frustrations and explores behaviors, meanings, skills, and tools that seem effective in the lives of others and might become effective in some imagined life of the people at play. Play activities are what they are because of their relation to the more directly goal-bound activities of life. So just as every manifestation of language is an instance of situated language use, so every manifestation of writing is an instance of use of writing by some individuals in some place for some purpose.

Setting about the act of writing requires high focus, intention, and motivation. Even at the physical level, gathering the materials for writing, placing ourselves in a physical environment that makes writing possible, focusing our visual attention on small sign and manipulating our writing tools with fine motor skills require preparation and long skill development. All these preparations require intentionality even when we use convenient electronic devices that we can operate in almost any environment. In the past, when we actually had to buy paper or even prepare parchment, fill our pens, locate a desk apart from the winds of the fields, and form legible characters, the barriers of material and skill preparation were even higher. Material considerations aside, cognitive intention must be high to compose messages to those not physically present, to anticipate difficulties, to organize extended statements, to gather thoughts and facts, to build coherence, and to face the risks making our messages available to be examined later by others. These are not faced lightly and we must have

strong purposes to motivate us to such inconvenience, physical and mental effort, and risk.

Therefore, a theory of writing must also be founded on a theory of activity, but it must also distinguish itself as a particular form of action, realizing its action in particular ways. I will present writing as a form of mediated, learned activity that carries out social activity at a distance. Writing works through cognitive means that align writer and reader to common perceived locations of symbolic interchange and then carry out specific interactions within that space. In that space the writer offers temporally and spatially organized representations, transformations, and acts in an attempt to influence the cognitive state, disposition, and mental organization of the readers, but which the readers attend, to interpret, evaluate, respond to, use, forget, or remember from their own positions, situations, and interests.

It is in the art of rhetorical writing for the writer to increase the influence or effect of the sort the writer desires on readers. It is in the art of rhetorical reading for each reader to locate, interpret, and evaluate what is being offered from the positions, interests and understanding of the reader, for the reader's purposes. The interchange mediated by writing is complex, potentially making available a cognitive meeting ground in shared representations that is nonetheless entangled with individual differences of location, situation, interests, material conditions, material engagements, knowledge, beliefs, commitments, skills, and motives. Writing—the making of texts—is a form of work aimed at transforming the thought and behavior of others, and thus coordinating relations in the material world, through inscribed language, transmittable through time and space.

ACTIVITY, WORK, AND TRANSFORMATION OF CONSCIOUSNESS

The theory here is grounded in Marx's view of work as transformative of nature, including the nature of humans. Culture, in turn, consists of the accumulated tools and mediational artifacts we employ in our labor (See Fromm, 1961). Work does not consist only in the reductionist sense of paid work and the accumulation of cash value, a very particular and local historical means of organization of labor. Rather work comprises all we do to make our lives together as social and material creatures in our social and material circumstances. This labor of transforming the conditions of our life in accord with our desires, aspirations, and imagined possibilities, is itself a product of our consciousnesses that arise out of our orientation to our material and social conditions. Our consciousness is directed toward achieving our objects or goals;

that is, those transformations that we strive for. Our consciousnesses are part of the activity of living and are action directed. Marx, following Hegel but in his own way, presents human consciousness as historically changing, thus giving meaning to the project of phenomenology. Marx sees the history of consciousness tied to our changing forms of labor—that is, the ways in which we transform nature to make it our own, and make it knowable to humans and part of human life.

Rhetoric and writing are deeply implicated in the formation, orientation, and activities of our consciousnesses—as we form much of consciousness through our participation with others through language, and we learn to make meaning (that is states of consciousness in ourselves and others) through these culturally developed mediational tools.[1] Through language we learn to influence others' consciousnesses, make sense of the consciousnesses around us, and gain tools for the development of our own minds or consciousness. With literacy we have more extended, contemplative, and potentially eclectic resources for the formation of consciousness. Just as we make up our minds in talking through our impulses and ideas, we make up even more elaborate states of mind through the writing of extended texts that also potentially influence the states of consciousness of others, insofar as they attend to those texts as part of some activity of their own, an activity that may be part of a conjoint project with us.

Because we transform our world and ourselves through our labor, and the labor of language is particularly transformative of our consciousnesses and interactions, language work is essential to what we have become as a species and as individuals. Further literate interactions facilitate more sustained engagement of consciousness, are a major means of aggregating and making accessible the historical products of cultural evolution, and are also implicated

1. Marxian critical analysis of language is most often directed at false consciousness, where individuals are interpellated into ideologies serving the interests of others, leaving no room for agency (Althusser, 1970). These forms of critical rhetorical analysis typically consider such issues as the power to control discourse, the interests served by various ideological structures, silencing, and other means of enlisting and coercing people into discursive formations not of their own making and not of their own interests, so as to be deprived of their own linguistic instruments of self-making (Derrida, 1981; Foucault, 1970). Marx however had an agentive view of individuals working within available circumstance and of forming ideals and objects and goals within and from their circumstances, so constantly inventing/creating an ideological sphere of their own making, not necessarily false except insofar as they have been alienated from their own true interests, desires, and concerns. Without alienation language can be seen as a realization of human potential, a realization of ways of being. A Marxian rhetorical analysis of non-alienated language would be phenomenological and ideational, considering the situated forms of self and social realization made possible within circumstances and available linguistic tools. These forms of expression have the potential to serve as fulfillments of the individual and group's impulses towards self-expression and actualization, as Volosinov began to sketch out (1973).

in the formation of complex modern human institutions which change our relations and attentions and goals. Consequently, any rhetoric and theory of literacy need to be attuned to the history of consciousness and the history of social organization and interaction. Each literate interaction is embedded within particular moments in the changing possibilities of human consciousness and relations.

Although Marx is generally recognized as the primary vehicle of historically evolving consciousness seated in material conditions, and therefore this stance towards language and consciousness is generally associated with socialist political positions, the same perspective was equally present in the founding of western democratic capitalist thought. Adam Smith expressed a similar thought almost a century earlier, when he noted that the knowledge and experience of each person was shaped by the conditions of work (Smith, 1976, 1978). Smith further notes the modes of thought available to each was conditioned by that experience, and further this was differentiated and organized socially and economically through the division of labor and formation of classes. Smith's observation grew out of Locke and Hume's recognition of the individuality of formation of mind out of each person's history of experiences that underlay the set of associations. Smith, as a rhetorician and social theorist, was early on concerned with the difficulty of communication given that we had such individuality of experience and association; he then took that recognition of variety as a resource in building understanding. Only by sympathetic reconstruction of the position of the other and understanding of their situated state of mind could one begin to be persuasive to others (see his *Lectures on Rhetoric and Belles Lettres,* Smith, 1983), understand human reasoning and knowledge (see his *History of Astronomy*, Smith, 1980), or begin to act responsibly and morally with relation to others (see his *Theory of Moral Sentiments*, Smith, 1986).

Smith, along with the other Scottish moralists sees the ground of morality as seeing ourselves as others would see us (as his contemporary Scot Robert Burns put it), even though there are limits to how much anyone could put oneself in another's positions, so that ultimately we are thrown back on our own reconstruction of how others might see it if they knew all that we knew and saw it from our position. Yet it is the generally available patterns of experience that at least provide a beginning of understanding of the range of experiences and positions likely—and thus class, trade, social group, and other large forms of social and economic order can tell us much about the range of experience, thought, and position of individuals in a society. More particular understandings of individuals then grow out of the particulars of their lives. Thus we understand, as best we can and within limits of knowability, each other's minds as historically located within life interests and conditions. This

is the beginning of communication, social order, and production of humanly useful knowledge. By becoming reflexively aware of these operations of society, Smith argues, we can philosophically order and make improvements on human arrangements. In all these perspectives he is very close to Marx, and together they point to a historical understanding of consciousness constantly emerging in the changing conditions and arrangements of life and the forms of work by which we attempt to meet the necessities of and improve our lives. (See Bazerman, 1993b for a more detailed analysis of Smith's understanding of language and rhetoric).

The rhetorical need to understand ourselves and others to communicate and cooperate locates the consciousness formed by reading and writing even more within social and historical circumstances. Each text comes from a moment in cultural and social history—a history of interactions in pursuit of human life as it is then currently organized, as conceived through the forms of consciousness of writers and readers in their moments. These forms of consciousness are expressed in and through the forms and typifications of language as used in realizable projects in those historical circumstances. Similarly, each utterance is located within the history of each person's life, within located activities within that life, and it is received by equally situated people. For people's consciousnesses to meet over meaning, therefore, some recognizable mediational place must be established in which minds may find a common ground, across time and space. People, to paraphrase Marx (1963), make their own utterances but not in linguistic, historical, and material circumstances of their own making. However, through linguistic invention they are able to create new communicative circumstances at some levels of remove or abstraction or extension from their current immediate circumstances, thereby transforming their own immediate sense of place, sublating or transforming it to be viewed and communicated with from some more idea-lized position. They are also able, therefore, to form new social relations through the mediation of language. As we will explore throughout this work, literate use of language provides more extensive tools for the transformation of circumstances and the institutions that develop on the bases of these texts. Literate use of language also provides greater opportunities for contemplative and reflective understanding of our utterances and more extensive possibilities for the elaboration of consciousness, as well as for the material circulation and persistence of texts.[2] Thus, the history of

2. The themes of literacy supporting reflection, elaboration, and durability were initially explored by the first generation of theorists of literacy and orality, including Goody (1977), Havelock (1981) and Ong (1982). More technologically determinist versions of this argument have been criticized as "the autonomous model of literacy" by Street (1985), on the grounds that different societies use literacy in different ways, no particular consequence is pre-

literacy and sites of literate interaction are an important part of the history of consciousness and therefore the transformative work of making human life.

But before considering the transformations of human life and the creation of new locales and situations of interaction accomplished through writing, it is worth examining more deeply the early biological and cultural transformations that were part of developing the language capacity.

BIOLOGICAL AND CULTURAL EVOLUTION

The view of the effects of language use and literacy presented in this chapter is evolutionary and follows in a Darwinian mode, but sees cultural evolution as an extension of and intertwined with biological evolution. It is only because of the social and cultural nature of humans, the possibility of which is a result of biological evolution, that cultural evolution is possible. Human learning and symbol making allow us to transform our experience of nature and create novel relations to both nature and each other. Learning, symbols, and consciousness also allow the transformation of goals and activity, so that we pursue novel ends (not directly determined by our biological inheritance though indirectly supported by our inherited biologic capacities) with respect to nature and each other, thereby further transforming culture, society, and nature. Finally our ability to create artifacts and employ them as part of our transformative work with each other gives a robustness to cultural evolution and an elaborative complexity to our learning, as each generation grows up into changed material conditions incorporating the new artifacts of the prior generation and the changed social and material practices and relations employing those artifacts. Language and literacy are major elements in this cultural evolution creating artifacts of great power to change consciousness, social relations, and material practice.

Cole (1996), Deacon (1997), and Donald (1991) among others have integrated the literatures of psychology, neural and brain science, anthropology, paleontology, archeology, and biological evolution, to create accounts of the intertwining of biological and cultural evolution. Their accounts suggest that not only did biological evolution set the conditions for cultural evolution but is

determined, and many of the functions attributed to literacy can and are carried out in oral cultures. Nonetheless, not all versions of the transformations of literacy argument require determinism, uniform uptake, or absolute divides. Rather, the needs, desires, and opportunities of societies shape how they will see and use the potential affordances of writing to facilitate and extend prior functions, eventually to establish new modes of social organization and new potentialities of meaning.

intertwined with it, as earlier forms of sociality and culture proved biologically advantageous setting the stage for primates to become biologically equipped for increasingly complex social interaction and cultural production, in a spiral of cultural-biological change of at least two million years.

Deacon and Donald both tie the development of language to prior developments of symbolic behavior that serve, among other things, to transform social relations. Deacon particularly ties symbolic behavior to the marking of social roles and hierarchies serving to transform the natural order in social constructions that carry organizational weight even when they cannot be recreated at every moment. That is, a mate does not have to be there every moment to announce the attachment if the relationship is memorably defined through ritual and symbolic markings. The symbolic not only copies or represents nature—it transforms it and creates meanings. Deacon's account of how the brain selects, reinforces, and strengthens connections between perceived objects and their symbolic remarking or transformation suggests how the human brain adapted to take advantage of the opportunities offered by the new means of language to elaborate and reorganize social life. This suggests the neural mechanisms by individual as they develop internalize cultural tools, as proposed by Vygotsky (discussed in Chapters 2 and 3.)[3]

THE TRANSFORMED AND EXTENDED HERE AND NOW

This transformation of perception and meaning facilitated by language marks the here-and-now in new symbolic ways and allows the development of more intricate forms of cooperation and social organization and identity and role within the group—and the ability to operate within larger social groupings. Even more, language facilitates the representation of distant objects

3. Donald emphasizes more the mimetic transformation of episodes as prior to further semantic transformation. This semantic mimesis allows us to give particular meanings to our life, meanings that reshape our perception, behavior, and decision making, transforming and to some degree obscuring our own pre-verbal means of knowing. Deacon, on the other hand, sees us as idiot savants of language, with the expansion of the prefrontal cortex which we then largely organize for symbolic activity and symbolic transformation of preverbal activity. Previously nonsymbolic, unreflective neural activity is then controlled through conscious reflection in language. Both are very close to Vygotsky in seeing language as the means of reflection and in transforming prior forms of cognition. All three see the language capacity as developed phylogenetically and ontogenetically (as species-wide competence develops over many generations and as individual skill develops during a lifetime) in social conditions for social purposes, creating social meanings that become part of enculturation as people learn to work with these terms to mediate their social interactions.

in the intersubjective here-and-now of talk. That is, an ape when confronting a task may remember a previous moment seen as similar and may search for a tool that is part of that memory. A dog may remember a spot where a bone is buried. But neither can enlist another creature in that memory and in the search for the object. It cannot represent that non-present or non-simultaneous object, cannot call it to the consciousness of another, and thus cannot bring something distant into the current activity, short of somehow bringing the other and placing the distant object in front of them, as ants compel their peers through pheromones to visit the site of food. The fact that a few species have developed elaborate but limited symbolic means to direct the attention of peers to distant objects, such as the honey bee dance, only indicates the great value of having a flexible ways of expressing the nature and location of distant objects and events, and the development of neural means of processing these varied and flexible symbolic representations.

With the development of language, what then becomes considered relevant to the here-and-now is constructed by participants through language. Through talk, one person calls objects and events to mutual attention through symbolic marking. The terms and concepts in which these accounts are cast themselves mark out categories, ontologies, ideologies, perceptions, and perspectives on activities and the world. These terms and concepts put us into symbolic and reflective relation to the world, and this reflective relation is socially shared and confirmed. Just as body markings or adornments mark someone as a mated partner or a tribal chief, so words begin marking out an idea-saturated landscape in a process that has come to be called the social construction of reality (Berger & Luckmann, 1966). Through talk we become interpellated into each other's accounts of reality, in pursuit of the activities we share. That is, people tell each other things and evoke in others' imaginations objects and events presented as locally relevant, thereby enlisting, orienting, and providing necessary information for the other person(s) to take part in a shared activity.

Others can of course challenge the relevancy or accuracy of any account, or can distance themselves from the activity they are being enlisted into. They can even attempt to negotiate the task and activities by putting forward their own accounts and assembling their own set of relevancies to place before others. They can as well recount the events and relevancies in different terms, so as to make the setting and its assembled context different, thereby making it a different situation. Eighteenth century Scottish philosophers (including Smith, as discussed earlier) in particular noted the role of peoples' accounts of their situations as a means to sympathetic understanding of their positions and the beginning of cooperation and social cohesion. This was a theme picked up by the American pragmatist school of social sciences including Dewey, James,

Sullivan, and Mead—each of which provided the foundations of developments in education, psychology, philosophy, psychiatry, and sociology (see Chapter 5).

Nonetheless, these representations of the extended world not otherwise visible and pressing in the here-and-now are only brought to attention in the here-and-now of the participants, as perceived relevant to the here-and-now situation. With awareness that society grows out of the action of participants in the local here-and-now constructed by the participants, conversational analysts begin their examination in the micro-interactions of social talk, first of all in the turn-taking system—who gets the floor to assert his or her activities, his or her version of the world and relevancies—and then next in the membership categorization devices that assert the ideologically relevant world invoked by participants. Similarly, the linguistic anthropologist Hanks (1990) sees the deictic system of language as central in constructing the perceivable and attended-to world that participants think and work in, particularly in socially cooperative or socially organized systems. Even more, he (along with a number of other sociolinguists and linguistic anthropologists) sees the very meanings of all terms as indexical, tied to the mutually accepted and constructed here-and-now of the communicative situation; the meaning of words cannot be tied down except within the situation as perceived by the participants (Collins, 2011; Gumperz, 1982, 1992). Thus both linguistic anthropologists and conversational analysts only find meaning in the unfolding interaction which attributes meanings to what has been said, and takes those meanings as given in further actions both linguistically and in the material world acted on. (Clark, 1996 provides a psychologist's version of the same theme.)

NON-SYMBOLIC AND SYMBOLIC COGNITION

These socially constructed meanings through symbols serve to displace and transform our existing forms of non-symbolic cognition, though they do not erase them entirely. Research on color-coding for example has had two kinds of findings. Most salient is Rosch's (1977) findings that our prototypical colors encoded in language and understood by the users of those many languages tend to be organized around the colors made biologically salient through our visual receptors. Even earlier it had been noted that while culturally encoded colors aid recall of colors, we are able in real time to perceive and match colors for which we have no name. That is, we can immediately perceive in ways that do not rely on symbolic transformation, but without the support of symbols the immediate physical representations fade rapidly. Further we can act in immediate physical and social coordination without symbols. The newborn infant and mother

coordinate care-giving activities without symbols through mutual recognition of presence and sensory experience and bodily coordination with each other. In our daily life we engage in many non-symbolic acts of motor coordination and instinctive adjustment, too quick for conscious thought or for which we have only weak and pale vocabularies that cannot capture all we experience. Experiences of food often go well beyond the vocabulary of the eater.

As we develop experiences in the human symbol-saturated world, these moments of non-symbolic cognition become limited, often embedded and called upon within complexes of symbolically constructed social realities. A person playing soccer engages with non-symbolic embodied thinking in response to the ball entirely in a private perceptual-motor kind of thinking, but if the player has been coached, even that immediate activity becomes influenced by self-regulatory words. Even more, to organize such individual activities in a game and to focus one's energies on developing these embodied skills over time require a large set of social meanings enacted in language that give reality to the game and establish social value and rewards for participating in the game. This symbolic work establishes the here-and-now of the playing field during the time of action of the game and the times of practice, confirming the camaraderie of players on and off fields, creating meanings for victory and defeat, and establishing the social prestige and economic rewards which have meanings well beyond the time and place of the game.

As our more embodied experiences, actions, and thoughts become enculturated into social frames of meaning offered by available language and other symbolic systems, our very experience becomes transformed, as the taste experience of a trained chef or an oenologist has become transformed by internalization of elaborate systems of taste categorization and knowledge of the components and production of the food and wine. Enculturation of a child is also part of the process of cultural terms becoming salient in monitoring behavior, directing attention and perception, sizing up situations and initiating responsive action. Learning language is part of learning to do things, and using language is part of entering into the available and desirable social activities in which language is implicated. The child's request for "more" or "no more" facilitates feeding as well as creates a child who learns to use language to assert needs, desires, and preferences. Learning to tell jokes is an extension of sociality and bonding among family and associates; it also forms a new kind of activity that could not be carried out without language.

Yet, even while symbols refigure and transform much of our experience, symbols are still created within embodied motives and experience through talk or other significative physical action to another human to whom we are orienting. Language emerges as part of human beings in co-presence, attending

to each other, and doing things together. Speech, though symbolic, engages large parts of our biology in its production and the entire body's orientation and participation in a situation—cries for help as one is struggling in ocean waves or the coordination of a work task through rhythmic instructions. Equally, though more subtly, people engaged in as abstract a symbolic activity as arguing over the truth of a proposition can enact all the passions and postures of opposition—though transformed through the etiquettes of literate civility.

Literate symbolic activity is no less a total body experience, though often it is not accomplished in the presence of other humans, and although much of the external forms of behavior fade away as the distanced world of the text overtake the orientation of one's nervous system and one's attention turns away from the immediate world surrounding the arm chair. The history of writing and reading is filled with traditional embodiment. Many early texts were memory aids for spoken events to be re-enacted, whether by a *nuntio* reading aloud the words of a king to a distant governor, or the script of a speech to be memorized and performed, or the words of a legal code invocable in court, or the words of a god to be regularly read aloud as part of liturgy and study.

Even without oral performance of the read text, literacy is still associated with the vocal apparatus of speech. Whatever the first act of silent reading may be (whether as some folklore has it by Alexander the Great wanting to keep a message secret from his troops or Ambrose witnessed by Augustine in fourth century Milan, or some other unrecorded occasion), it clearly was not a general practice until the time of monasteries. Until the medieval script of Carolingian miniscule, reading Roman scripts required reconstruction of words from a text without spaces to aid word recognition. Similarly consonant-only scripts (Abjads) such as Hebrew, Aramaic, and Arabic, require reconstruction of the oral word from memory. Reading aloud to children and children learning to read aloud themselves remain crucial parts of literacy education—with a particular emphasis on reading with expression or feeling as an indication that one gets the meaning of the words. Disability such as deafness or blindness which interferes with the association of written and spoken words creates special challenges in learning to read and write (Albertini, 2008).

Animating meaning of words in one's mind is an act of animating oneself, as one's imagination, emotions, and anticipations become engaged in creating meaning as a writer or reader. No matter how much the activity is carried out internally in seeming bodily repose, various parts of the nervous system are influenced by even the most calming text. Moreover, even the most civilized readers or writers find moments when anger or pleasure arises, when they can't keep their bodies from tensing or they burst out in laughter. If you watch younger readers and writers who have not yet learned to hold most of the literate action

inward you can read the somaticism of literacy in the postures and movements. And if you watch writer's struggling with their words, getting up for cups of coffee or muttering to themselves, you get some indication of the insuppressible engagement of the neural system in the production and processing of text.

LANGUAGE AS SITUATED, EMBODIED UTTERANCE

This view of the capacity to use language places meaning at the center of the language competence, makes the value of language inseparable from meaning, and places meaning in the minds, motives, and actions of people. Even Saussure recognizes the centrality of meaning for understanding language when he defines the sign as a unity of the signifier and signified. Yet for analytic purposes Saussure distinguishes *langue* (a system of language) from *parole* (the motivated uses of language in situations), and then makes *langue* the object of linguistic study. While this move has been successful in creating an extensive linguistics, it ultimately is misleading about language, for language exists only in the utterance, and any attempt to abstract a language apart from its uses obscures the concrete functioning of language in evoking meaning as well as those complex processes by which we come to understand each other (this point is elaborated in Chapters 7 and 8 of this volume). Saussure's related move of distinguishing the historical change of language from an abstracted system of contemporary *langue* (the diachronic/synchronic split) obscures the historical emergence of language as a regulated system (through social negotiation and through such inventions as schools and grammar books).

The view I adopt here places societal and individual language development as part and parcel of our other activities in providing a new tool for their realization, thereby transforming them. Understanding language in this view requires understanding the activities it is part of and the meaning systems that evolve as part of the language-using activities. It also suggests plasticity of the brain and language processing as the person's language and brain develop as part of social participation mediated through language. Further, individuality (of experience, social situations, momentary needs, and motives) results in individuality of each person's experience of language and developing language competence, even as all individuals may orient towards the quasi-stabilized socially available forms of language they encounter. Neurologically and evolutionary plausible accounts present syntax itself being the consequence of the growth of semantic knowledge (Elman et al., 1996), with syntactic learning of the available ordering and morphology of the sentence predictably occurring only when vocabulary reaches a certain size, of around two hundred words—

so that far from language being characterized and led by a pre-programmed syntactic competence, that syntactic competence is a situational way of ordering and using an extended vocabulary within activity-based utterances.

Wherever the debate may go over the nature and origin of language and associated human capacities, the formation of a semantic relation to the world around one is clearly formed within the social interaction, the activity contexts where one begins to exchange symbols with each other as part of conjoint activities, ultimately emerging as something like conversation. Further, language develops to fit the use of people in real circumstances in relation to material contexts. As a number of commentators have pointed out the problem of reference cannot be overcome by an autonomous language within itself, but must be attached to perceptions of concrete objects (Goodwin, 1994).

Whatever parameters of language are set by our neural apparatus, language evolves to fit these constraints and opportunities. If it is biologically hard for us to work with a linguistic structure, or a means of pronunciation, or a conceptual structure, we will search out a linguistic means that makes communication easier to produce and process. Each child in learning the language transforms it to meet his or her needs and capacities. Similarly, as material conditions and social projects change such that new terms are needed, new activities and operations need to be indexed, or new complex structures need to be elaborated to carry out the actions, linguistic means will be invented to facilitate these needs. If old linguistic practices are no longer intelligible because of change in social activities (the vanishing of oral epic or qualitative verse) or material circumstances (the need to coordinate several people in the capture and harnessing of wild horses) the particular linguistic means associated with them will wane or become transformed to have new meanings useful in the evolving social world. Political speeches, for example, may become transformed to rely on the linguistic techniques and tropes of mass media entertainment and advertising instead of the heroic cadences of epic.

The particular interactions, activities, symbolic resources, interactive and material challenges in which people learn to use language are inscribed within the neural system of the growing child, as human brains strengthen and pare neural connections over the life of the person (Gogtay et al., 2004; Petanjek et al., 2011). Further the acceleration of myelination particularly within left hemisphere prefrontal cortex during adolescence (Paus et al., 1999) is especially associated with many of the intellectual functions of language that are introduced in writing instruction at this age in some social and educational settings. Our brains form in interaction with the material, social, and symbolic environments. Our minds grow to be able to use the tools of language, and more recently writing, just as they grow in learning to manipulate the legs and

hands or the attention and coordination of the eyes. Thus the child in a sense builds itself, or neurologically adapts itself, in relation to the current moment of culture, society, and economy that it finds itself in.

As Smith, Hegel, and Marx suggested, consciousness indeed changes throughout history in relation to the material, social, economic, and cultural arrangements, as our minds form to cope with the world we are born into. Modern neuroscience is starting to show us indeed how this changing consciousness forms itself into the very organization of the brain. It is at this point that Marx and Darwin meet.

LANGUAGE, LITERACY, AND COGNITIVE DEVELOPMENT

When we first do start to discover the power of symbolic communication, much of our social interaction and material perception has already developed along particular pathways which our language then enters into—to elaborate, work with, and to transform it, but always in interaction. Thus the child who is color-blind has extra work to accomplish and arcane adjustments to make in order to learn to speak in the standard language of colors suggested by the society (Sacks, 1996). The child who has a playful interaction with parents is likely to develop a playful and creative linguistic repertoire to elaborate that play. The child whose parents allow their gaze and attention to be influenced by the child's gaze and attention is likely then to be able to build linguistic techniques of sharing experience and entering into conjoint activity that include the child's state of being and interests, in contrast to a child who can only gain the attention of the parent by learning to align themselves with the parent's gaze. On the other hand, in some cases the development of language provides means for the realization of activities that were not possible through previous means—such as playing rule-governed instead of ad hoc games. The child's learning of the word *no* is well-known as providing great power to self-definition and choice making—though the cultural opportunities to explore and extend the applicability and range of this aspect of consciousness and social behavior is very much shaped by the cultural practices and behaviors of the people surrounding the child. That is indeed why in western nations there has been a cultural campaign in recent decades to valorize the child's learning of no as an important developmental task instead of treating it as a sign of willfulness and disobedience.

Although emergent literacy experiences, such as playing with paper and talking about books may happen as early as talk initiates, actual visual recognition of words and meaningful inscription usually happen a few years

later, when many of the fundamental pathways of behavior and language use are already well established. This means that literacy sits as an add-on to an already developed cognitive architecture, which it can draw on from the beginning. The presence of books around the house, the integration of literate activities into daily acts, the way in which this occurs are important to the ways in which literacy becomes deeply embedded within the child's notion of the life the child is developing into. How a child relates to the world indexed in the text is dependent on the earliest and most fundamental ontologies and relationships the child establishes with the world and with other people (Heath, 1983). Children with wide experiences with many people of many views and personalities can more readily recognize a range of views represented in reading, while those who experience only an adult-authoritative rule-governed world may find it harder to explore the range of worlds texts have to offer. Further, if literacy and books are part of daily life, children will be better prepared to see the power of literacy and to adapt it to multiple circumstances, while those who experience literacy only within the school walls for formal educational activities will not immediately see the purposes of reading and writing beyond the fulfillment of school requirements. Later experiences may extend their experience, and transform their understanding of use and literacy, but this means moving beyond patterns that have already taken hold.

Much can be said for the kinds of social bond developed around the hearth, or the forms of social interaction and physical health fostered by a youth spent wandering the woods or on the baseball diamond. These are possibilities of life world and deep values to be expressed through human development. But insofar as the world appears to children to be permeated with books or computers which offer attractive sites of interaction, then an early literate environment is likely to have deep transformative effect in children's organizations of their minds so as to make sense of and interact through these symbolic media. If we wish to promote these as mediating tools appropriate to the adult way of life of our society, the early and deeper the participation, the more pervasively the full range of the child's experience is likely to integrate and be transformed by these symbolic communicative opportunities.

The rest of this volume examines theory and research that help us understand more fully the way language and literacy mediate the development of our minds, experience of life, social activity, social goals, and social organization. The first half presents three social science traditions that emerged in the late nineteenth and early twentieth centuries—Russian sociocultural psychology, European phenomenological sociology, and North American pragmatism. The latter half of the volume, building on these three traditions and enlisting more recent social thought, examines the kinds of order we create, participate in, and use to

make meaning in our writing: social order, interactional order, linguistic order, temporal order, and intertextual order. These various orders converge in genre as a recognizable invocation of these multiple orders and recognizable place that each of our utterances take within them to assert our unique, situationally relevant meanings. In the companion volume *A Rhetoric of Literate Action*, directed towards our immediate practical needs as writers, genre appears front and center as it focuses the location of our work as writers. Here, however, in order to show why genre is such an important concept for writing, we must first examine the underlying conditions of human cognition, sociality, activity, and communication that pose the need for recognizable and familiar locations for literate interchange and then how that recognizable location organizes the work that happens in that place. This broader theoretical groundwork for genre supports a more comprehensive understanding of genre recognition as a human communicative process. Thus genre lurks everywhere underneath this volume, to regularly poke its head above the surface (particularly in Chapters 3 and 4), but only to take topical centrality in the final three chapters.