

The Transition from Infancy to Language

Acquiring the Power of Expression

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The Power of Expression

What comes about through the development of language in the broadest sense is the coming to be of expressive power . . .

(Charles Taylor)¹

This book is about the transition from infancy to language: about how the affective lives of infants and what they know of persons, objects, and events in the world come together in the effort to acquire language. The focus is on the period that begins in the last quarter of the first year and continues through the second year of life. This is the time ordinarily referred to as the *single-word period* in language development. It is when infants begin to learn words and begin to acquire the power of expression in language.

Infants on the threshold of language are already quite successful, and have been for some time, in expressing *affect*. The importance of affect expression for regulating and communicating their internal states and relatedness to other persons has been well documented in the last two decades of research in infant communication and social and emotional development. Parents readily respond to a young infant's cries, whimpers, smiles, and chortles and depend on these signals for their caregiving and socializing practices. Since Darwin, we have assumed that these capacities for emotional expression are biologically determined. They provide signals for protecting and extending the species and help regulate physiological arousal and discharge. The 9-month-old infant has yet to learn language but is adept at deploying these capacities for expression.

By the end of the first year, infants have also discovered quite a lot about the world. As they approach the second year of life, all that they now know about persons, objects, and themselves informs their beliefs, desires, and feelings, and these cannot be expressed, much less articulated, by displays of affect

alone. Other modes of expression are required, and waiting in the wings is language. Language is the preeminent mode of expression provided in a society to embody and make public what is otherwise internal and private to the individual – the beliefs, desires, and feelings we have that are our intentional states. Language makes these contents of mind public, in an expression, so that other persons can know them.²

The purpose of this book is to document this transition from infancy to language and to show how acquiring a vocabulary of words is connected to developments in cognition and affect expression. Children differ widely in the particulars of this period in the second year of life. They differ in when they begin to say words, how fast they acquire a vocabulary of words, and when they start combining words to form their first simple sentences. But, barring any interference, virtually all children begin to learn language in this period. At the end of the first year the infant depends largely on affect for expression; by the end of the second year the young child has acquired a vocabulary of words and may even have begun to say simple sentences.

The central thesis in this book is that the 1-year-old child's intentionality drives the acquisition of language. Our intentional states – the beliefs, desires, and feelings that we have – are themselves unobservable, but they determine how we relate to one another in everyday events. Children learn language for acts of expression in the effort to make known to others what their own thoughts and feelings are about, and for acts of interpretation in the effort to share the thoughts and feelings of other persons. Intentional states underlying acts of expression and interpretation provide the *mental meanings* for which knowledge of language – its vocabulary, semantics, syntax, and discourse procedures – is acquired.³

Mental meanings are constructed, as we talk and listen, from data perceived in the here and now and data recalled from the knowledge we have in memory. They have been the focus of theories of meaning and intentionality in philosophy.⁴ More recently, they have been invoked in cognitive science, linguistics, and computer science as “mental models,” “mental spaces,” “complex mental attitudes,” and the like.⁵ Because such mental phenomena are hidden, language is required to make them manifest when what one individual has in mind differs from what another has in mind and needs to be shared.

A basic assumption being made here is that infants at the end of the first year of life have intentionality. All this means is that they are capable of having

thoughts and feelings and that the thoughts and feelings they have in mind are *about something*, because they are directed at objects (including persons and events) in the world. Intentionality is what the representations we have in consciousness are about when we are alert and in touch with what is going on around us – what we have in mind at the moment. Attributing intentionality to infants should not be controversial; after all, we routinely attribute intentionality to a pet cat or dog. A 9-month-old is not an automaton, and neither is what the infant has in mind limited to what is immediately perceived. Just when we can begin to say an infant has intentionality is not at issue here; we are only assuming that by 9 months the human infant is an intentional being.⁶ John Searle distinguished between this sense of intentionality with a capital *I* and simply intending to do something, or goal-directedness, which is intention in the ordinary sense, with a small *i*.⁷ When an infant reaches for a toy, the reaching is *intended*, but the infant's *intentional state* also includes a representation of the toy, the desire to have it, feelings about having or not having it, and perhaps a plan for doing something with it.

This assumption of intentionality does not imply that 1-year-olds have a “theory of mind.” We can speak of an infant's desires and beliefs without at the same time requiring that the infant have an explicit understanding of what it means to have a desire or a belief or where such things come from. Similarly, we assume an infant is attributing meaning to another person's smile or to what someone else might say without also assuming that the attribution is a deliberate one or that the infant has an understanding of why or how one makes these sorts of attributions. Sharing the contents of mind is not something that 1-year-old infants purposefully do as they set out on their language-learning careers. Instead, the motivation for sharing is in the need they have to sustain intersubjectivity with other persons and thereby locate themselves in a social world.

If intentionality drives the acquisition of language, then intersubjectivity drives the development of intentionality. Intersubjectivity comes from the appreciation infants have for “being together” with another person and depends on each attributing to the other a sense of being in touch with what they are feeling and thinking about.⁸ These mutual attributions certainly happen without the infant's and probably even the adult's having a sense of where the thoughts and feelings in these situations come from. One-year-old infants do not yet have a theory of mind, but they do have a good start on acquiring a commonsense theory about the world.⁹ And a large part of their

nascent theorizing has to do with the other persons in their lives who care for and about them.

In sum, the mental meanings in an infant's intentional states are potentially expressible in language and are the reason why language is learned – to make them explicit and known to other persons so they can be shared. In fact, those aspects of knowledge and culture that survive from one generation to another may well be those that are most readily shared between minds. Language, obviously, is in large part responsible for determining this “sharability.” And languages probably are the way they are, and children acquire language in the way they do, because of how successfully the aspects of language – its sound system, the words in its dictionary, and its procedures for generating sentences – contribute to the dynamics of sharing.¹⁰

This explicit focus on intentionality for a theory of language development ties language acquisition to the two aspects of mental life in the young child: cognition and emotion. However, with few exceptions, the study of language has ignored the affective life of the individual, and studies of language development have paid little attention to developments in emotion. Likewise, the study of emotional development in infants and children has ordinarily proceeded apart from the study of language and cognitive development. But we can no longer afford to separate the domains of language, emotion, and thought when we consider that speech and affect are both media of expression, and both language and affect expression have to do with the mind of the young child and its development. The intent in this book is to integrate these domains in an effort to understand the *process* of early language development in the second year of life.

The plan of the book is fairly straightforward; the first half presents the background and rationale for the longitudinal study described in the second half. To provide a context for the essential thesis of the book – that children learn language for expressing and articulating mental meanings – the rest of this chapter will compare this *expressive* perspective with an *instrumental* perspective on language and its development. The role of *representation* in a theory of language development that takes expression to be central will be taken up in Chapter 2. Mental representation is tied to developments in cognition, and studies of the burgeoning cognitive developments in late infancy that enable word learning will be reviewed in Chapter 3. The capacities for expression in early infancy before language will be described in Chapter 4, as these have been revealed in studies of social interaction and

studies of the regulation and expression of emotion. This first half of the book will finish setting the stage for the second half in Chapter 5, with a review of current accounts of word learning and theories of the emergence of language in the single-word period.

Together, the first five chapters provide the background for the second half of the book and the results of a longitudinal study of 14 infants from 9 months to 2 years. The infants and the details of the research project are described in Chapter 6. Developments in the mental meanings of belief and desire – expressed by affect and speech – are described in Chapter 7; developments in affect expression are described in Chapter 8; and developments in word learning, in Chapter 9. Developments in the infants' play with objects was the window we used for exploring their developing cognition in this period of time, and these results are described in Chapter 10. The book concludes, in Chapter 11, with a synthesis of our research findings and a model of language development that emphasizes the relationship between expression and meaning. This relationship is in how personal and private mental meanings are connected to the shared and conventional meanings of language. The force of this relationship between expression and meaning is in the power children achieve for promoting their psychological and social well-being.

In contrast to this explicit focus on expression, the study of language development has traditionally proceeded in one of at least two other directions. One is in determining how children acquire knowledge of the forms and procedures for language. Studies with a focus on the language children learn are studies of the acquisition of words, semantics, syntax, or procedures for discourse, where features of utterance and context are compared in order to discover what the child knows about language. In studies of word learning, for example, the words a child says are ordinarily examined for evidence of the meaning a word has for the child and the circumstances in which the child knows to use the word. A second direction in child language studies is to determine how children acquire language as a tool for socially and strategically influencing the activities of other persons and getting things done in the world. Studies that focus on tool use and the instrumental function of language examine the pragmatics of language use in everyday contexts.

Both directions in child language research – the one having to do with the forms and content of language and the other having to do with its use – emphasize those things that are external and therefore *observable*, such as speech and social behaviors. Nevertheless, the assumption of intentionality –

that language makes the unobservable mental meanings in individual minds known to others – is implicit in much of this research, as we shall see in Chapter 5. But it is rarely made explicit. Instead, the prevailing metaphor in child language research is “tool use” with an emphasis on the external dimensions of language and its instrumental function.

THE TOOL-USE METAPHOR

The main thrust of the tool-use metaphor is that language happens between persons and that the effect of language is to influence the actions of other persons. When the focus is on the instrumental function of language, the assumption is that we use language and children learn language to get things done in the world. The emphasis in research is on pragmatics, means–end relations, and the social functions of speech.¹¹ Not surprisingly, therefore, Lev Vygotsky has become a central figure in contemporary language acquisition research because, in addition to considering language as the mechanism for thinking, he emphasized the communicative and organizing functions of speech and its practical importance as a tool:

Although children’s use of tools during their preverbal period is comparable to that of apes, as soon as speech and the use of signs are incorporated into any action . . . the specifically human use of tools is . . . realized, going beyond the more limited use of tools possible among the higher animals.¹²

This same sentiment regarding the instrumental function of speech for distinguishing animal and human language motivated Grace de Laguna as well:

Speech is the great medium through which human cooperation is brought about. . . . The problem which we have before us, then, is to compare and differentiate the type of social control effected by the cries of animals with that effected by speech in human society.¹³

Contemporaries of Vygotsky and de Laguna similarly endorsed language as the defining tool of civilizations. For example, language is “the most important of the instruments of civilization . . . used to aid the process of thinking and to record . . . achievements,” according to Ogden and Richards.¹⁴ And Wittgenstein suggested that “there is no one relation of name to object, but as many as there are *uses* of sounds or scribbles which we call names.”¹⁵ The anthropologist Malinowski put forth a “situational theory of meaning,” and in his “contextualist view”:

Speech . . . is primarily used for the achievement of a practical result. . . . Words which cross from one actor to another do not serve primarily to communicate thought: they connect work and correlate manual and bodily movements.¹⁶

Fifty years later Geoffrey Sampson summarized the prevailing metaphor at that time: "Words are tools, and the 'meaning' of a tool is its use."¹⁷

This historical characterization of words as tools has reverberated over the years in efforts to explain early language acquisition. The development of tool use was closely tied to an appreciation of means–end relations and development of the symbolic capacity by Elizabeth Bates and her colleagues.¹⁸ Katherine Nelson described early word learning as "*learning what words do*."¹⁹ The "desire to fulfil overt behavioural goals via others" was seen by Marilyn Shatz and Anne O'Reilly as one of the defining features of the conversational skills of 2-year-olds.²⁰ And for Jerome Bruner, the mastery of language "seems always to be instrumental to doing something with words in the real world, if only *meaning* something."²¹

When we explain the development of language in terms of "tool use" we are describing one of the things that can happen through language. Using language can influence the actions of other persons and get things done in the world. But we can influence the actions of other persons only because our words have the power to influence what they are thinking – their beliefs, feelings, and desires. A word or words can be successful as a tool only to the extent that the speaker is successful in setting up a representation in the *listener's* mind that is consistent with the representation in the *speaker's* mind.²² Constructing these mutual representations depends upon sharing the meanings of words. In fact, I would turn Bruner's assertion around: The mastery of language seems always to be bent on meaning something, *if only* for doing something with words in the real world.

The instrumental function of language is also implied in explanations of word learning based on reference and designation. Accounts of referring typically describe observable events: When a child looks at the clock on the wall and says "ticktock," the word is being used to "make reference" to an object that is "out there." Ordinarily, characterizing a child's use of words as reference simply describes the two facts (1) the child said a word and (2) the word named something in the context. But this description bypasses the unobservable, internal dimension of language, because it omits these important facts: The child had to recall something from prior experience with the

word from memory and then had to construct a mental meaning in consciousness with these objects—from-memory in relation to the objects-in-context. It is the elements in this representation in consciousness that are directed at objects in the world and that refer to those objects. “The language forms do not *refer* to such elements. If there is to be reference, it will go from the elements in mental spaces to the objects referred to.”²³

When a child looks at the clock on the wall and says “ticktock,” the act of reference has a mental meaning that gives rise to the behavior we observe. The mental meaning represents and refers to the object in the world; the word the child says names the representation in the mental meaning and is its expression.

When we speak of language in terms of *designation*, we come closer to taking account of processes internal to the individual. However, the familiar “mapping problem” in child language research typically takes designation to mean that words are learned to “stand for” concepts and other sorts of knowledge that we have stored in long-term memory: a mapping between words and elements of knowledge. Such accounts also bypass the mental activity whereby elements in consciousness – mental meanings – are the objects set up and designated by words. Words point to and designate the elements in these private mental meanings and make them public, by virtue of the shared linguistic meanings vested in them. The crucial developments for language, therefore, are those that contribute to (1) the symbolic capacity, for representing elements of mental meanings in consciousness, and (2) processes of recall, for accessing words from memory to say what these representations are about.

In our zeal to explain the words of very young children, we might have been taking them too seriously by endowing their words with more linguistic status than they warrant. One-year-olds are developing concepts of objects, events, and relations. They learn words when they hear them (or see them, in the case of gesture or sign) in different circumstances in association with exemplars of their emerging concepts. Children do not so much *acquire conventional word meanings* as they develop capacities for recalling and retrieving words in circumstances that are increasingly different and removed from their original experiences with a word. Word meaning for the young child is abstracted out of the circumstances of prior use. Development in the period has to do with making the connections between what a child sees and hears and what the child already knows, and words are one part of what is learned in making these connections (see Chapter 5).

Historically, the instrumental view of language came about in *response* to the rise in behaviorism in the early part of this century, with its emphasis on observable phenomena. Indeed, Grace de Laguna called her model of language and its acquisition “social behaviorism.” At the same time, the view of language as a social tool was also a *reaction* to the earlier idea of language as expression that had flourished in the previous century.

LANGUAGE AS EXPRESSION

The view that language is the expression of ideas has a long history, dating back in psychology at least to Wundt and in philosophy to Humboldt, Husserl, and Frege, among others.²⁴ The tool-use metaphor originated in the effort to counter this earlier notion that expression is central in language, a notion that had been articulated in particular by Wundt at the turn of the century and by Tylor, a 19th-century anthropologist:

We must cease to measure the historical importance of emotional exclamations, of gesture signs, and of picture-writing, by their comparative insignificance in modern civilized life, but must bring ourselves to associate the articulate words of the dictionary in one group with cries and gestures and pictures, as being all of them means of manifesting outwardly the inward workings of the mind.²⁵

“Language as expression” has figured in accounts of language development as far back as Saint Augustine’s “recollections,” in the fourth century, of how he himself had acquired language:

And thus by constantly hearing words, . . . I collected gradually for what they stood; and having broken in my mouth to these signs, I thereby gave utterance to my will. Thus I exchanged with those about me these current signs of our wills, and so launched deeper into the stormy intercourse of human life.²⁶

The most explicit statement for the study of child language and its acquisition came from Clara and William Stern: “A word is an expression of a unified content of consciousness. A sentence . . . is the expression of a unified position either taken, or about to be taken concerning a content of consciousness.”²⁷

The intent in this book is to revive this idea and make it explicit: Children learn language for expressing what cannot otherwise be known and shared with other persons rather than as an instrument for getting things done in the world. To be sure, words influence what other persons do, and speech is

obviously and, indeed, the “one indispensable instrument for creating the ties of the moment without which unified social action is impossible.”²⁸ And words have other effects as well, such as when they help in solving a problem or negotiating a complex set of directions. But these and other *effects* of language are subordinate to the representations words set up in a mind to create mental meanings, in an act of interpretation, and the representations in mental meanings articulated by words, in an act of expression. Social and practical effects of language depend upon what the speaker of the words wants, believes, and feels about what the hearer of the words can and will do. An expression takes the private contents of wanting, believing, and feeling and makes them available to others “as part of our activity of communicating, of being open with each other.” These are things that words *do* by virtue of an expression rather than something that happens *through* them by virtue of their being tools.²⁹

The centrality of expression is implicit in the tool-use metaphor, because using a tool presupposes a goal with a set of psychological attitudes about that goal. This would include, at the minimum, a representation of the goal and a belief that the goal is attainable, a desire to attain it, and feelings about the result of attaining it or not. All the functions of language originate with some representation in mind. The historical debate over which of its functions can best define language missed this essential point. One reason was that the question asked was *which one* – Which is the primary function of language, personal expression *or* interpersonal communication? – overlooking the fact that communication cannot occur without expression.³⁰

To complicate things, the expressive function of speech often has the sense of conveying “emotive” or “psychological” meaning as opposed to the more explicit meaning articulated by what the words actually say. In a similar vein, utterances have been described as “expressive symptoms” when something that is said causes the hearer to *infer* some culturally or personally specific affect, attitude, or association that the words themselves do not actually say.³¹ However, this is expression in only a weak sense.

Charles Taylor distinguished between this weak sense and a strong sense of expression for communication. Expression in the stronger sense involves a direct manifestation, without depending on inference. A genuine expression makes something manifest that cannot otherwise be known. And it is not only words that do this: A painting, a piece of music, a smile, a frown are

expressions in different media. When pleasure is seen in a smile, or thoughts are evident in words, or sadness is experienced in a piece of music, something is made manifest in an embodiment, and an embodiment is expression in a strong sense.³² Expressions in the weaker sense occur with inference, when we can also know the things we infer about someone or something in other ways. For example, certain signals that we give with our bodily movements or demeanor can express agitation or fatigue or the fact that we might be coming down with a cold. Reading other sorts of signals can let us infer that someone is relaxed or at peace with the world. The same is true of slips of the tongue: They are signals we use to infer something about an individual indirectly; they do not directly manifest what it is we attribute.

The difference between strong and weak expression is related to a distinction made by Sperber and Wilson between “coded communication,” which is communication with language (a strong sense of expression), and “ostensive–inferential communication,” which is communication without language (expression in a weaker sense). Ostensive–inferential communication is achieved by producing and interpreting such evidence as a glance, a point, a shrug, a frown – evidence that can be interpreted along with or instead of a linguistic message. But the message itself can only be displayed in coded communication, when its meaning is articulated and made explicit by language. In contrast, ostensive–inferential communication can be used on its own, without language, or it can be used with language.³³ Thus, what words name – what they actually say – articulates the message or mental meaning of a speaker in a way that makes it directly readable or interpretable by other persons. This is, in Taylor’s terms, the stronger sense of expression, and he allows that other media of expression, including emotional displays, do this as well.

All the functions of language – including its instrumental, interpersonal, and problem-solving functions – absolutely depend on the power of language for expression and interpretation. This fact was recognized by Fritz Heider, the founder of attribution theory in social psychology, who proposed that the psychology of persons guides the psychology of the interpersonal.³⁴ Social contexts depend upon what is in the minds of the participants; beliefs, feelings, and desires of individuals must be taken into account in the effort to understand and explain coordinated social activity. Language expresses these ideas that we have about ourselves and other persons and the expectations for action and interaction that follow from them. True, persons exist by virtue of

their relation to one another, but this is possible because of the power they have to take what is hidden within themselves and make it public. This is what language does.

Thus, expression is not one of the functions of language but is basic to all its functions. All the things that language can do depend on the fact that it is a medium for expressing what one has in mind. Language can succeed in influencing other persons in social contexts only to the extent that language connects the contents of individual minds. A large part of why languages began in the first place was no doubt the need in a society for individuals to have this expressive power – to make external and public to other persons what is otherwise internal and private to themselves.

Even for 1-year-olds, what they take from and contribute to an interaction has to do with what they have in mind and what they attribute to other minds. Young children know that their speech needs to be interpreted by other persons virtually from the time they begin to say words.³⁵ They do not ordinarily talk to inanimate objects; they may often talk to themselves and their animate surrogate toys, like dolls and teddy bears, but they do not bother to talk to refrigerators, chairs, or trees. Other *persons* interpret, care about, and respond to their messages. Children do not need to understand what it means to have a mind in order to know this. Current “theory of mind” research inquires into when and how an explicit and sophisticated knowledge of minds develops, generally crediting children with such knowledge about the beliefs of self and other at about 4 years of age.³⁶ But such psychological knowledge does not emerge *de novo* at the end of the fourth year. Just as actions serve development in other respects, children acquire increasingly sophisticated mental skills through their actions of expressing and interpreting. A concept of what it means to have a mind is acquired slowly, along with language.

What young children do need for acts of expression and interpretation is the ability to attribute to other persons something like their own feelings, beliefs, and desires *as they understand them*. This ability is intuitive and implicit rather than conceptualized and explicit – as it is as well for adults in most situations. If children engage in acts of interpretation and expression from the beginning of language, then to understand language acquisition we need to determine what these actions consist of and depend upon, and how they change with development to become increasingly informative and effective. Once we acknowledge this, the questions we ask necessarily change.

In addition to inquiring into the acquisition of language itself and how it is used, we can inquire into developments in the dynamic processes by which representations in the mental meanings underlying acts of expression and interpretation are constructed. We can also inquire into how other sorts of expression – particularly affect expression and play with objects – relate to the acquisition of language for expression. These were the motivations for the research reported in the second half of this book.

In sum, the theoretical perspective in this book departs from the commonly held view that language is acquired by children as a tool for designating objects and influencing the actions of other persons and events in the world. With language viewed as a tool, as in instrumental theories of language acquisition, the focus is on end states and the effect of a child's behaviors on the context. This focus on end states emphasizes the external dimension of language and how the child achieves a goal. The use of language as a tool should not be central to a theory of language development any more than it is to a theory of the emotions. Tool use, in general, is subordinate to the symbol-making capacity that makes it possible for us to have goals and to use tools.³⁷ The symbolic capacity enables us to represent entities and relations between entities in intentional states. What should be central to a theory of language acquisition, therefore, is the capacity for representing mental meanings in the acts of expression and interpretation for which children acquire language.

Three principles of language development follow from the implications of a child's intentionality in this theoretical perspective. The first is the *Principle of Relevance*: In the successful language-learning scenario, the words a child hears have relevance because their target is already part of what the child has in mind. What a child is feeling and thinking determines the relevance of the words the child hears from other persons. Clearly, children must hear many words that are not relevant to what they have in mind. However, the words that are relevant will most assuredly be the words they learn and eventually say.

The second is the *Principle of Discrepancy*: A consequence of developments in symbolic capacity is that what a child has in mind becomes increasingly discrepant from the data of perception. Children will acquire language because what they have in mind must be expressed if it is to be shared with other persons who cannot exploit clues from the context for understanding. And the third is the *Principle of Elaboration*: A consequence of learning more about the world is that contents of mind become increasingly elaborated. The

more elements and relations between elements in intentional states, the more the child will need to know of the language to express and articulate what they are.

These are cognitive principles; they draw on the symbolic capacity and developments in mental representation in particular; and they are socially mediated. They will surface again in the chapters to follow as the story unfolds of how language comes together with other aspects of cognition and emotional expression in early development.

LANGUAGE, EMOTION, AND COGNITION

The power of expression comes with the ability to take something hidden within us and make it public; two modes of expression that allow us to attribute hidden mental meanings are affect and language.³⁸ Affect expression is in place in earliest infancy, and its forms are biologically determined. Before language, affect expresses an infant's internal states and feelings; by learning language, infants are able to say what their internal states and feelings are about. Language is the system of expression provided by society and culture, and language has to be learned. But language does not replace affect expression, as we shall see; instead, children continue to express feelings through expressions of affect as they are learning the language. The relationship between the two is an intimate one, and their integration is a part of the developmental story of language acquisition in the second year that is not ordinarily taken into account.

The affective lives of young children are typically ignored in child language research because we tend to stay within the bounds of one or another discipline. Even the study of language itself is typically fragmented, because we tend to study different aspects of language – vocabulary, syntax, semantics, pragmatics, phonology – as though they were separate domains. This is so, perhaps, because we are intimidated by language and by the enormity and complexity of the task of its acquisition. However, domains of language are not separate for the child; they are integrated from the very beginning of acquisition.³⁹ In studies of affect as well, we may study only one or another of the subsystems of emotion, such as facial expression or social regulation or cognitive appraisals. But we know that these subsystems necessarily cohere and develop together.

Research and theory in emotion and emotional development has increasingly recognized the role of cognition in emotional experience and expression: An emotional experience entails, at least, the appraisal and evaluation of a situation in relation to some goal.⁴⁰ But the effect of this thinking is rarely considered in studies of early cognitive development with infants and young children. In linguistics, the historical emphasis on spoken words and sentences has meant that emotion was ignored in studies of language. An exception is cross-cultural work that points to the linguistic means different societies have for the expression of feelings and attitudes.⁴¹ When language and affect have been considered together in psychological research, the emphasis is generally on the words that name the emotions and not on the cognitive connections between speech and affect.⁴²

We also tend to study language, emotion, and cognition separately because of the procedural, programmatic, and practical problems encountered in attempting to analyze collaborative influences on behavior. Innovative solutions to these problems are not easy to find. Nevertheless, even though we may study them separately, language, cognition, and emotion are fundamentally and systematically related. They could not be otherwise, as we know from the organismic and contextualist world views⁴³ of the giants of developmental theory: Piaget, Schneirla, Werner, and Vygotsky (not to mention more general psychological theorists like Lehrman and Lewin). Their collaboration has been recognized in research and theory in emotional development that takes an integrative perspective.⁴⁴ More recently, a related perspective has been offered in applications of “dynamic systems theory” to the study of infant development.⁴⁵

We have made an effort in our research to explore the connections among three domains of ordinary activity – words, affect expression, and play with objects – in the development of infants in the last quarter of the first year and through the second year of life. The results of our studies are summarized in the second half of this book to show how developments in language, emotion, and cognition influence each other. The effects we found are of two kinds: large, developmental effects extending across time in the single-word period, and small, local effects in the moment-to-moment contingencies in real time as infants say words, express affect, and play with objects. Both effects require developments in (1) representation, for the construction of mental meanings, and (2) collaboration between affect and cognition, for the expression of those meanings. The relationship between representation and expression for lan-