Chapter One: “The Problem and the Approach”

(The fox is sitting at the bottom of an apple tree. There is a beautiful crow in the tree. The fox ignores her. He is reading a book. The crow looks in the mirror. The fox ignores her. The crow noisily eats a piece of cheese. The fox ignores her. He turns a page. A piece of cheese falls next to the fox. The fox ignores it. The crow sings.)

Folks say foxy talk is bad
Happy words that make us sad.
Do we really hate them so?

Words are kindly. Words are smart.
It is thoughts that break your heart.
Your heart sings but your brains know.

Part I: The Problem

CROW: So what are you reading? Not that old story about the fox and the crow?

FOX: No, that’s just a bunch of anti-fox lies. This is way better…it’s Vygotsky’s Thinking and Speech!

CROW: Thinking ‘n’ speech? “Thinking IN speech”? Or thinking ON speech?

FOX (ignoring the crow). Hmmm…it says that thinking and speech are different ACTIVITIES of consciousness. They are different mental FUNCTIONS. That is, they are different things you DO with your mind.

CROW: Oh, like singing and eating. You have to do them separately. Or you cough!

FOX: No, it’s more like singing and breathing. You have to do them together.

CROW: Right. So that’s why humans have to study them together. Like looking and listening.
Like looking, listening and remembering. Like perception, attention, and memory! Kids do them together. So adults have to study them together.

FOX: Well, that’s the problem. Human children do all those things together, just like we do.
But their teachers teach them separately. You know, like “speaking skills” and “thinking skills”. Or “listening” and “speaking” and “reading” and “writing”.

CROW: Why do teachers do that? That seems pretty dumb.

FOX: It’s not THEIR fault. That’s how their professors study them!

CROW: Well, that’s really dumb. Why do they do that?

FOX: It’s not THEIR fault either. You see, scientists assumed that the RELATIONS between functions were constant. So they just ignored them. Like when you want to multiply 2(3 x 4) and start by ignoring the two. You know, you look and then you listen. You pay attention and then you perceive. You perceive and then you remember. First one, then the other. The relation is constant and always the same.

CROW: That’s true. I never remember anything unless I see it first. I guess the relations are constant.

FOX: No, they AREN’T constant. Look at you and me. You always talk first. And then you think. But I think first. And then I talk. That shows that I’m more developed than you.

CROW: But I look for the cheese first. Then I see it. And you see the cheese first, and only then do you pay attention. That shows I’m more developed than you. Besides, I can fly!

FOX: Flying isn’t a MENTAL function. Look. The relations between attention, perception, and memory can change. So the relations between thinking and speech probably change too. See?.

CROW: OK, so the relations between functions change. Doesn’t that mean human scientists HAVE to treat the functions separately? How can people study the relationship if it’s changing all the time?
FOX: Well, Vygotsky says that scientists keep changing. They zig-zag back and forth.

CROW: I had a cousin like that. He broke his wing. So he had to walk. Zig-zag-zig-zag!

FOX (hungrily): These human psychologists don’t do that. Some of them zig, and the others zag—like when some crows go north and others go south.

CROW: What's the difference?

FOX: Well, the ziggers think that thinking and speech are the same thing. Thinking is just speech with the sound shut off.

CROW: Like when I have a piece of cheese and I can't sing.

FOX: Right! That's how Aristotle, and all the behaviorists living in America, and all the reflexologists living in Russia think. Or anyway, that’s what they say they think.

CROW: What about the zaggers?

FOX: Oh, the zaggers live in Wurzburg and Geneva. They are people like Kulpe and Piaget. They say that speaking and thinking are completely distinct and not linked at all.

CROW: Are we ziggers or zaggers?

FOX: We’re animals, and we can’t talk. So thinking and speech sounds are completely separate for us. Thinking and speech have separate genetic roots.

CROW: It's a good thing we can’t talk. I wouldn’t know what to say.

FOX: I would! I would say that BOTH the ziggers and zaggers are wrong. The ziggers think that speaking and thinking are just like flesh and blood. They are made of the same stuff. And the zaggers think that speaking and thinking are like skin and clothes. They are made of completely different stuff. But really thinking and speaking are more like flesh and fur. It’s the same, but it’s different.

CROW: But humans don’t have fur. They don’t even have feathers!
FOX: They have thoughts. Thinking is part of a human. And speech is part of…other humans. So they can’t be the same thing. But they can’t be totally different, can they?

CROW: But does that mean they are both made of the same stuff?

FOX: It means a lot more than that! You know, all water is made up of the same stuff. But that doesn’t tell us anything about water.

CROW: Water! It’s wet. It’s cool. It’s good to drink. It makes my feathers look black and pretty. It puts out fire. I wonder how…

FOX: But that has nothing to do with hydrogen and oxygen. Hydrogen and oxygen are not wet. You can’t put them on our feathers. You can’t drink either one. Hydrogen burns, and oxygen burns it. So if you want to know those things, you have to do experiments on WATER, not on hydrogen or oxygen.

CROW: So?

FOX: So you need more of it than just a hydrogen atom and an oxygen atom. And if you want to know why it tastes and feels good, you really have to study UNITS and not ELEMENTS.

CROW: A unit?

FOX: Right! You need something that is small, but still wet, cool, and drinkable. Something that still puts out fire. You know, molecules and the way they move in liquid. That’s a unit.

CROW: I’ve got it. Feathers and fur, skin and hair…they are all made up of CELLS. So…what’s a cell for thinking and for speech?

FOX: You’re not going to like this. It’s something we animals don’t have.

CROW: Money?

FOX: Words.

CROW: I don’t get it. We have words. I have a cousin who is a mynah bird. He won’t shut up.
FOX: That's a sound. It's not a word. It doesn't MEAN anything. It's just like when you caw and when I bark. It's not like human speaking. It's not like reading and writing.

CROW: OK, so how do we invent words? Let's say I want to talk about this cheese. I go “caw”. That means “cheese”. Isn't that a word?

FOX: No, that's the whole problem. A word is not an association between a sound and a thing.

CROW: OK—let's say I eat the cheese. Then I go “caw”. Now the word means the MEMORY of the cheese that I ate, the IDEA of the cheese that I ate. Isn't that a word?

FOX: No, it isn’t. You are still just associating a sound and a thing. That's like associating a man and his coat, or a person and a house. But that's not what the relationship between a word and a meaning is like. It's not an association at all. It's a GENERALIZATION.

CROW: Wow! A word is a GENERALIZATION?

FOX: Yes. It's a way of relating that cheese to ALL CHEESES and even ALL THINGS IN THE WORLD.

CROW: All words do that?

FOX: No, most words have nothing to do with cheese. But every word is a generalization. And that means every word is an act of thinking. And every act of thinking can DEVELOP, so that SOMEDAY it will relate the cheese to all the cheese in the world and all the things in the world.

CROW: Ah! That's what you mean when you say the relationship between thinking and speech changes! I thought you just meant that the number of words changes or the size of the cheese changes.
FOX: Vygotsky says that every word is a report. Reports change. A report can be a report of an emotion, like a song. It can be a report of a memory, a lived experience. But it can also be a report of thinking, like a concept.

CROW: Wait a minute. How does Vygotsky know all this stuff?

FOX: He’s a fox! He has a method. That’s what I’m going to read about next. See you tomorrow! (The fox runs away, leaving the book behind.)

CROW (alone): Hey! Where’s my cheese?

Part II: The Approach

(The next day, the fox comes back to the apple tree. To his surprise, the crow is no longer there. Instead, he meets THE LITTLE PRINCE.)

PRINCE: Good morning.
FOX (looking around, but seeing no one): Good morning?

PRINCE: I am over here. Underneath the apple tree.
FOX: Who are you? You are very pretty to look at!

PRINCE: Yesterday, I was a crow. Now I am a prince. Remember, you said that word meanings develop.

FOX: Come and play with me. I am so unhappy.
PRINCE: I cannot play with you. I am not tamed.
FOX: Oh, please excuse me. (pause) What does that mean, “tamed”?
PRINCE: It means that we are linked. But we are distinct. But it is a word meaning, and word meanings develop.

FOX: I am beginning to understand. Speech serves a communicative function. It’s a means of social contact.

PRINCE: Yes, but we can have social contact without word meaning. If a fox comes, the crows all fly away. It’s not because they are communicating anything. One crow screams and the others do too, before they know why. Social contact. But not word meaning.

FOX: So where does word meaning come in?

PRINCE: It is a specifically human mode of INTELLECTUAL functioning, unlike anything found anywhere else in the animal kingdom. As far as we know, only humans talk to themselves.

FOX: So that’s how you became a prince?

PRINCE: No, that’s WHY I became a prince. There was nobody to talk to when you ran away. But you can’t explain how speech develops like that: that’s like saying that crows have wings because they want to fly.

FOX: So meaning has TWO functions: social contact, and thinking. We foxes are very interested in thinking. How does the thinking function develop?

PRINCE: Let’s say that meaning is made of something called “value”. This “value” serves BOTH functions: it functions as social contact. But it’s useful to an individual too.

FOX: Like cheese. It has individual use value as food. And it has exchange value, if you sell it.

PRINCE: Or if you share it with friends.

FOX: I don’t understand. Why is sharing cheese with friends a kind of exchange value?
PRINCE: Because you are exchanging lived experiences, of course! Sometimes I think you foxes know the price of everything, and the value of nothing.

FOX: I get it. For any lived experience to be communicable, it has to be socially shared.

PRINCE: Right—and that's exactly what a cultural concept is.

FOX: So...men know this. And animals don't. But what about children?

PRINCE: Well, kids very often get the SOUNDS before the CULTURAL CONCEPTS. So for example a kid will use the word “kiss” and “kill” long before they know much about sex and death.

FOX: I like kids. They like to play. They like fried chicken. And I don’t mind the toy guns. It's only the big people and big guns I don’t like.

PRINCE: But kids turn into big people. And toys can turn into real guns.

FOX: How?.

PRINCE: You should have finished the book. It’s really all about how social contacts give rise to generalizations. And there are two OTHER problems worth mentioning.

FOX: Give me back my book or I’ll kill you! Grrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr.....

PRINCE: Give me back my cheese...and I'll kiss you....! (kisses the fox)

FOX: Yuck! You smell like cheese.
PRINCE: Yum! So do you. Now, I'll give you back the book...in PHONEMES! You see, the first problem is the relation of sound to meaning. And the PHONEME is both a unit of sound AND a unit of meaning, because it's a MEANINGFUL difference between words!

FOX: You mean, like the difference between English words like "kiss" and "kill"?

PRINCE: Yes, or the difference between "kiss" and "kid". It's a difference in sound that makes a difference in meaning.

FOX: What's the second problem?

PRINCE: It's the relationship of EMOTION to COGNITION. A linguistics which ignores the relation of sound to meaning is just noise. And a psychology that ignores the relation of emotion to cognition can't explain how feelings set thoughts in motion, or why reading a story makes you feel real.

FOX: This book doesn't make me feel real. It makes me dumb.

PRINCE: Don't try to eat the book in one big bit. Try taking it in four pieces. First, there's a kind of review—of the most important theories of speech, those of Piaget and Stern.

FOX: So Vygotsky prefers Stern?

PRINCE: Not really—he spends a LOT more time with Piaget. But he spends a lot of it complaining about Piaget. It's a love-hate relationship. Like you and me.

FOX: What about the second part?

PRINCE: Oh, you'll like the second part. It's all about animals. Vygotsky looks at the phylogenetic ROOTS of social communication on the one hand, and practical intelligence on the other.

FOX: Practical intelligence! Does he talk about foxes?

PRINCE: Well, he talks about chimpanzees, mostly. And human children.
FOX: How disappointing. Does he do any experiments?

PRINCE: Yes—in the third part there's a study of artificial concept formation, using blocks, and then there is an observational classroom study of real concepts. But it's all about social studies.

FOX: But this doesn't really tell us how thoughts get put into words, does it?

PRINCE: That's in the fourth part. You see, most of this book is WHY thinking and speech develop—over millions and thousands and hundreds and tens of years. It's only the last chapter where he talks about how thoughts get put into words.

FOX: How?

PRINCE: The same way that words get put into thoughts, only backwards. And a lot faster.

FOX: What does that mean? Fast devolution? Or slow unlearning?

PRINCE: Well, I could tell you the answer in a single word. But the problem is that the word won't mean what it really means until you finish the book. You know, like "The Little Prince". It means one thing when you buy the book in the story. But it means something different to you when you turn the last page.

FOX: Tell me the word anyway. What is it?

PRINCE: Development.

FOX: What does "development" mean?

PRINCE: It means "to establish ties". Perhaps we had better go and play now.

FOX: Let's play tag. You're it!

PRINCE: I most certainly am not "it". I'm a human, and humans have free will.

FOX: So how do we decide who is the tagger and who is the tagee?
PRINCE: Well, in another book, Vygotsky tackles precisely this question—how human beings make decisions in a “Buridan’s Donkey” situation—when the outcome is either unknown or completely equal.

FOX: How do humans do it?

PRINCE: They use a rudimentary function—they roll the dice, or use a counting rhyme, or play a game like “The Fox, The Crow, and The Cheese”.

FOX: That sounds fun—let’s try that.

(They play “The Fox, the Crow, and the Cheese”, which is game something like “Rock, Paper, Scissors”, except that the Crow gets the Cheese, the Fox fools the Crow, and the Cheese chokes the fox. Unfortunately, they BOTH keep playing the Cheese, and so neither one can win.)

PRINCE: Let’s try something different. Do you know this counting rhyme?

Look! A crow sees chunks of cheese.  
So she takes them to the trees.  
And she sits there with her treat.

See! A fox can smell the cheese.  
Now he’s coming through the trees.  
There’s the crow, about to eat.

Foxy sees. And Foxy speaks.  
“Such black feathers! Such white cheeks!  
What a lovely pair of wings!”

“What red lips and what a beak!  
If I wait here, she will speak.  
I can’t wait until she sings!”

Now this crow is not so dumb  
But she’s lonely. And he’s come  
All this way to sit and hear.

So she smiles. And she caws.  
Cheese falls into Foxy’s jaws!  
Cheese and Foxy disappear