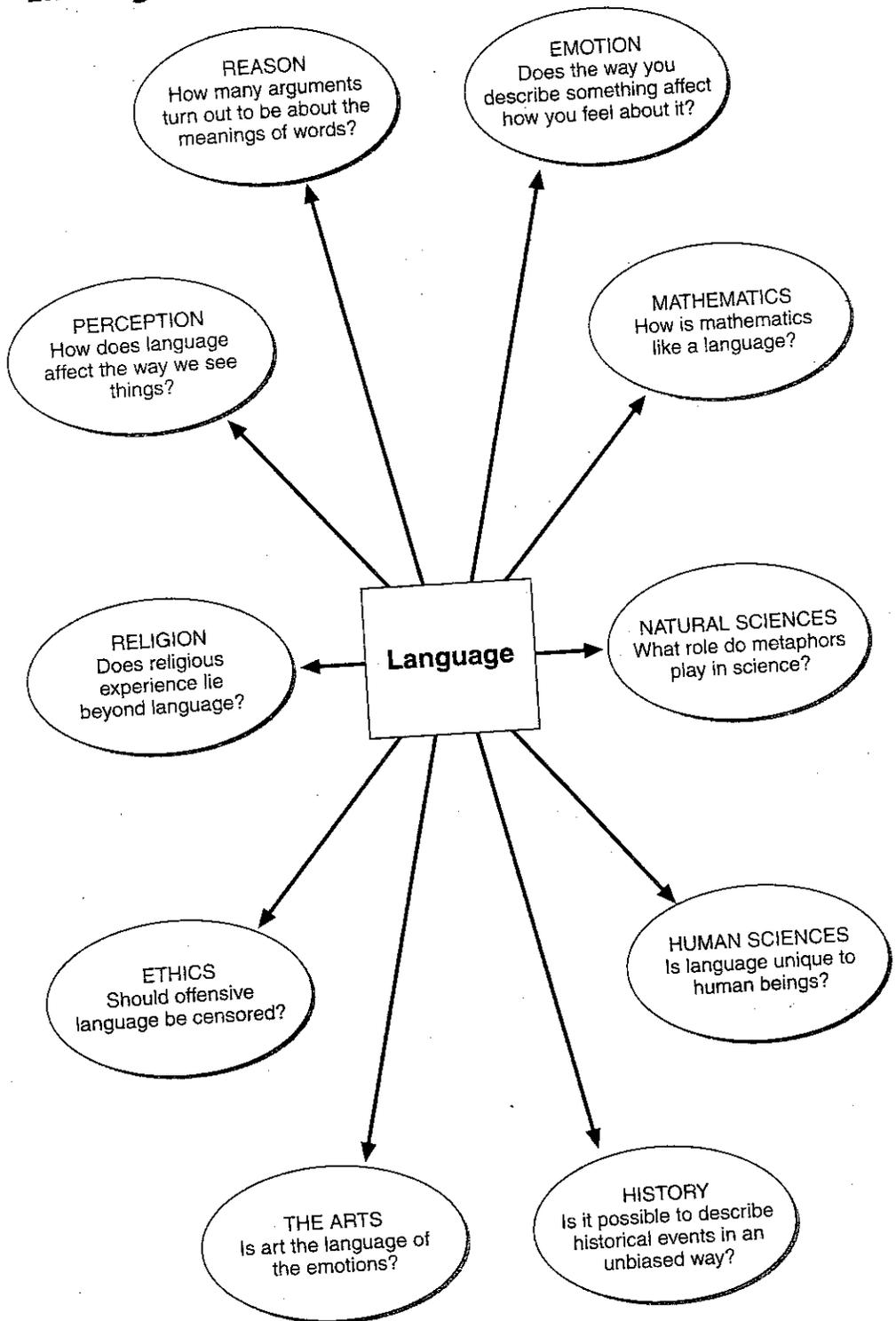


Linking Questions



2 = How do we know? = Sense perception

- The arts use perception as a source for their more divergent work. How do the arts (literature, for instance, or music) use individual or group variability of perception as a strength?

Perception does not function by itself as a way of knowing, but is intertwined with language, emotion, and reasoning. In each of the areas above—the sciences and the arts—what do you consider at this point to be the particular balance and blend of the four ways of knowing?

excerpt from Theory of Knowledge,
a Course Companion.

Dombrowski, Eileen; Rotenberg,

Lena; Beck, Mimi.

Oxford University
Press (2007).

Language

Like sense perception, language is a fascinating study in itself. In TOK, we give our attention to some of its particularly intriguing characteristics in considering it as a way of knowing. Before we do so, though, please gather some of the ideas you already have on this topic.

- What would you say, right from the outset, is the role of language in knowing? How does it influence what we know and how we know it?

Symbolic representation

No matter where we go in the world, people possess the amazing ability to make noises to each other with their mouths and convey this thing we call meaning. In many places, they also make marks on paper or other surfaces and expect others to be able to understand meaning from the marks. This capacity for language is a human characteristic, with children everywhere learning the language passed on to them by their own speech community, joining not just in mouth noise and marks on paper but also in communication. Language is so much part of our lives that its power can escape us: many of us may never wonder how language serves to give us knowledge and affect our understanding of the world and ourselves.

Much of the power of language is rooted in its symbolic nature, the use of sounds to stand for things or ideas with which they have no necessary connection, within a grammatical system that enables the symbols to be combined to connect ideas. How exactly language creates meaning eludes full understanding, though different theories suggest different ways: through the way our symbols refer to things and ideas, through the way they stir associations of ideas, or through the way they create the stimulus and response of language behaviour.⁷ Central, though, to all forms of symbolism is the use of one thing (an object, an image, a sound, a word, for example) to stand for something else.

How is this connection made? Some visual images may stand for very specific ideas and seem, to those familiar with them, quite clear and self-evident: the image of the man or woman on the door of the public toilet indicates who is expected to use the facilities; a road sign that pictures falling rocks indicates a form of danger. Even in such cases where the sign uses a picture, though, we are already removed from a self-evident or necessary connection between the picture and what it refers to. Placing an image of a woman on a door does not

communicate anything in itself; all we have is a door with something on it that we interpret as a picture of a woman. It may be no more than a decorated door. The meaning comes from the connection we have learned between that image and a particular cultural practice of indicating toilets and separating the sexes in their toilet usage.

The sign for falling rock, even though the picture shows the tumbling objects, possibly demands even more background familiarity. Those of us familiar with road signs read the shapes as rocks and a slope, the static image as motion, the triangular shape of the sign as a warning, and the specific warning as applying to driving conditions on a road. The sign exists within a system of road signs agreed on so that we do not actually have to decipher its meaning; we learn it. The relationship is a matter of convention—of agreed, accepted connection.



Symbolic representation

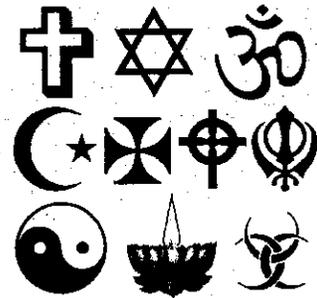
1 Think now of the variety of different kinds of connections between symbols and things symbolized that surround us as we communicate daily and observe communication around us. What distinctions would you draw between elements in the following list?

- a an animal danger sign, such as the flash of a deer's tail or the cry of a bird
- b a human danger sign, such as the warning for falling rocks
- c the word "danger"

A distinction is sometimes drawn between signs and symbols: those which are genetically inherited as a characteristic of the species, fixed in their meaning, and anchored in the immediate place and time are called "signs" (seemingly almost all animal communication) while those which are created

through convention are called "symbols". Human signs, invented and accepted by convention, are a subcategory of symbols. (In other usage, the way language works symbolically to create meaning is analysed as a system of signs in relationship with the objects or ideas to which they refer.)

- 2 What is the difference, in your view, between your sense perception of the bird we call a dove, an image of the dove with an olive branch in its beak, and the word "dove"? What characteristics of language do you note, in this context, as you read the sentence "He dove into the water"?
- 3 Consider these symbols associated with different religions or worldviews. How many of them are familiar to you? Is any of them significant to you in the context of your own



community? Could anyone outside your community, looking up or being told the meaning of the symbol, understand it as you do? If not, why not?

- 4 What does a flag symbolize? If, as we have said, the relationship between the flag and what it refers to is a matter of convention, which could easily be otherwise, why does waving a flag—or burning it—reflect and generate passion? In what ways is the action itself symbolic? Can you think of other examples of symbolic actions?

When the sign is not pictorial the connection becomes even more obviously a learned one. There is no necessary link between the tree of our sense perception and the word "tree", any more than between it and the word "arbre" in French, or any other sound we might generate. If we called that experience of sense perception a

The Sunlight on the Garden

The sunlight on the garden
Hardens and grows cold,
We cannot cage the minute
Within its nets of gold,
When all is told
We cannot beg for pardon.

Our freedom as free lances
Advances towards its end;
The Earth compels, upon it
Sonnets and birds descend;
And soon, my friend,
We shall have no time for
dances.

The sky was good for flying
Defying the church bells
And every evil iron
Siren and what it tells:
The Earth compels,
We are dying, Egypt, dying

And not expecting pardon,
Hardened in heart anew,
But glad to have sat under
Thunder and rain with you,
And grateful too
For sunlight on the garden.

Louis MacNeice

Photons on the ecosystem

Language in science

- Physics students, what is light? How would you describe it, using language appropriate to physics? How does it travel? What is its speed?
- Chemistry students, what is gold? How would you describe its properties, using language appropriate to chemistry? What is its symbol and position on the periodic table?
- Biology and environmental systems students, what is a garden? How would you describe an ecosystem, using language appropriate to biology? What is the reaction of plants to light? Can you give a formula?

What is the attitude in the sciences toward ambiguity of language? What kind of language do you expect in this area of knowledge and why? Why are numbers and other symbols used?

Denotations and connotations

Now take each of the words above not solely for their denotations but for their connotations, their shades or overtones of meaning.

- What are your associations with "sunlight"? Does "sunlight" mean something other than "light"? Do you have a personal response to the word?
- What are your associations with "gold"? What stories or legends do you know in which gold is important? What sports events or social practices?
- What are your associations with a "garden"? Do you have personal memories, or cultural (perhaps religious) associations?

Now read the poem by Louis MacNeice, and consider ways in which his use of language differs from what you would expect in your science course.

Language in poetry

- Does sunlight factually "harden and grow cold"? Would you try literally to cage a minute? What is a metaphor? Is MacNeice, in the poem as a whole, actually talking about a garden and sunlight, or is he saying something else?
- Does "beg for pardon" mean (a) to apologize, or (b) to petition to cancel a punishment such as execution? How can you tell? Is every interpretation in poetry equally valid?
- "We are dying, Egypt, dying" is a modification of "I am dying, Egypt, dying" in Shakespeare's *Anthony and Cleopatra*, IV, xv, 41. These are among Anthony's last words, addressed to his beloved Cleopatra of Egypt, as he dies. In their private love affair, the lovers have not been able to escape the forces of empire and their public roles. Why does MacNeice use Shakespeare's line here? Would

Hypothesis of linguistic relativity

It has been suggested that the particular language we speak causes us to think in a certain way (Sapir-Whorf's hypothesis of linguistic relativity, 1920s to 1930s), and that speakers of different languages consequently perceive the world quite differently. This hypothesis has not been supported: (a) it was based on too little research for the reach of its conclusions and may not even be testable because of the difficulty of separating language from culture to examine reciprocal causal influences; (b) it does not seem compatible with the differences in thinking of speakers of the same language, or

similarity of those of different languages; and (c) it exaggerates the difficulty of translating from language to language, given that we are not restricted to finding single word equivalents. Yet the hypothesis has received considerable attention, perhaps because it seemed to illuminate differences between ourselves and others, or perhaps because the idea of being tricked by language into seeing the world in a particular way was intriguing. We now consider differences between languages to be the surface of a deeper symbolic capacity. The variation, however, is far from trivial for those seeking a window into the cultural worldviews of others.

Roles of language

Chemistry textbooks and poetry are only two of the forms in which we meet language in our daily lives. All day long, we use language for a huge variety of purposes, often fused together.

- We think, using the symbols of language as tools for thought.
- We interact socially, connecting with others through greeting and conversation.
- We give factual reports.
- We express our emotions.
- We create, using language for literature or for humour.
- We persuade others.
- We give instructions, make requests, or otherwise affect actions around us.
- We change our lives, for example by pronouncing marriage vows.

What other uses of language would you add to this list? For which ones are clarity and precision important, and for which is ambiguity either less of a problem or even an advantage?

In a chemistry textbook or a poem, we can recognize the role that language is playing and can identify the way that authors will treat connotative overtones of meaning. In many other contexts, though, it is far less evident what the writer is attempting to do, and it is by giving our attention to features of language that we can judge whether we are being given a factual report—or whether we are being given something closer to an expression of emotions or even an attempt to persuade us to think and act in a particular way.

Names and connotations

Shakespeare wrote, "What's in a name? That which we call a rose by any other name would smell as sweet." (Romeo & Juliet, Act II, Sc. II) Not everyone agrees.

- Would it have made a difference to the story had Romeo fallen in love with "Harriet" or "Susan", not "Juliet"?

- Does your name (first name, last name) mean anything? If it doesn't, is it easy to imagine exchanging it for any other name?
- In your society, are there more common and less common last names? Do certain names have certain socio-economic, political, religious, ethnic, or other connotations?

When you hear names like "Smith", "Goldstein" or "Gómez" do particular associations come to mind? Where do these come from? Are these assumptions or connotations true in the same way that saying triangles have three sides is true?

What would your view be of someone who you have casually spoken to whose business card you happened to find on the locker room floor and

whose name is accompanied by: MD, D.Phil, CEO, Mrs, Sir, III, Junior or Lady?

How might your preconceptions about names influence your perception of the people you meet?

How might others' preconceptions of your name (or nationality, religion, skin colour, etc.) affect how they perceive you?

Language, emotion, and values

In trying to make this judgment on whether we are being given a factual report, we meet four points for attention similar to those we first encountered in Chapter 1, applied to maps.

- *Selection*: Out of all possible events or details that could have been reported, what has been chosen? Is it possible to compare the description with another by someone else? We can be grateful that a writer selects only the important things to tell us—whatever "important" might mean to him—rather than drowning us in detail. We can also expect that the purpose of the report and its intended audience affect what he picks out. Yet any selection is made according to criteria, and we need to be alert to what the criteria seem to be.
- *Emphasis*: Out of all the events or details reported, what has been stressed as most important, and, again, what do the guiding values or criteria seem to be for this emphasis? How has the emphasis been achieved: through placement of ideas in the main clause rather than the subordinate clause of the sentence? through placement in emphasized positions, such as the final words of a sentence or paragraph? through more detailed treatment of some details rather than others?
- *Word choice*: What kind of language has been used, and does it seem to be appropriate to the apparent purpose of the description? Is it denotative, factual language, or is it connotative and suggestive? What emotions are expressed? What values, positive or negative, are expressed or suggested? Is there evidence of bias? Is a person described as "courageous" or "reckless", as "relaxed" or "lazy", as "curious" or "nosy", as "assertive" or "pushy"? The choice of words in the description may tell you more about the writer's values than about the person being described.
- *Context*: In what context has the description been placed, and how might this framing affect the overall meaning of the passage? What does its purpose seem to be?

Creative writing activity

Choose one incident from your own life, possibly an event familiar also to others so that you can share your writing afterwards with a sense of recognition (and perhaps amusement). Write a list of five to ten pieces of information about your subject. Then write two descriptions of it which do not contradict each other factually but which communicate quite different

values and emotions through your selection of information, the emphasis you place on some information, and your word choice. Examples follow.

Home in the Negev Desert 1

In the centre of the vast Negev desert lies a small spot of green. That miraculously green dot in the endless yellow is my home. It lies on the edge of a gorgeous valley where the view is breathtaking and the peace and quiet feel like divine magic. The air is so clear and pure, so different from the city. On most days the weather is very good: the sun is shining and the sky is blue. Everyone knows each other in my village, and smiles when they say hello. It is a wonderful place to grow up in—no commotion, traffic, drugs, or violence.

By Gal Pinshow

Home in the Negev Desert 2

In the centre of the dry and harsh Negev desert lies an almost unnoticeable spot of green. That small spot in the endless nothingness is where I reside. It is situated on the edge of an arid valley where everything is so quiet that one can almost hear the sound of death. The air is so clear that it has no special fragrance, maybe because there is nothing out there to smell of anything, apart from sand and half dead bushes. Most of the time the sun is shining full blast so that it gets so hot breathing becomes hard. Everyone in the village knows everything about each other because there is nothing better to do than gossip. Nothing ever happens in the village. Even thieves don't bother making the trip out into the middle of nowhere.

Arrival at an International College 1

It was the beginning of a wonderful adventure. As soon as I arrived on campus I could sense the anticipation in the warm air. I walked around the campus in search of my new home, which I had been told was called "East House" and wondered at the flowers and the landscaped scenery which the small path meandered through. As I walked past the cozy wooden buildings which nestled close to the sloping lawns I came upon a group of students lounging in the sunshine. Struck by the diversity of the group I stood for a moment in amazement; it was real, all the smiling pictures of a perfectly balanced "ethnic mosaic" which had graced the pages of my guidebook were in fact small glimpses of the cultural cross-section which I was to encounter here. As I stood there, one of the girls in the group noticed me and smiled in greeting. "Welcome! Do you need a hand with your luggage or anything?" she asked, and before I even answered she bounded to her feet and cheerily offered to carry some of my bags while accompanying me to East House. I followed her gratefully and only hoped that the other people I met would be as friendly.

by Snow Dowd

Arrival at an International College 2

It was the end of my wonderful summer and the start of untold troubles, struggles and academics. As I crawled out of the sweltering car I could feel the tension in the air. I struggled up the crooked, concrete path dragging my belongings and hoping desperately to find the obscure residence which I knew only as "East House". As I wandered hopelessly through the maze of brooding low-slung buildings and bedraggled rhododendron bushes I finally came upon what I hoped was a change of direction. A motley group of students lay sprawled on the yellowed grass in the merciless heat. As I stood there stunned by the strangeness of the faces, one of the girls in the group spotted me and instantly donned a plastic smile; it could have been photocopied from one of the many "happy ethnic" pictures which splattered the pages of my handbook. "Welcome!" she yelled as if a string had been pulled. "Do you need a hand with your luggage or anything?" she demanded, and before I could respond she charged to her feet and grabbed my bags while gleefully informing me that she would take me to my residence. I trudged after her and only hoped that the other people I met would be more amiable.

Language and other forms of symbolic representation

Language is our dominant form of symbolism, but it is certainly not our only one. Compare language with other forms of symbolism such as maps, photographs, scientific models, paintings, mathematics, and music and consider the roles all of these play in our gaining and communicating knowledge. Feel free to bring in other forms beyond these six into class discussion, and to compare them on bases that go beyond the ones raised in the questions below.

- 1 Do any of the other forms of symbolism operate as a system, as the combination of words and grammar does in language to create meaning? What similarities and differences do you find?
- 2 Look back to the list of roles of language on page 42, to which you will have added your own ideas. Does any of the other symbolic forms function for as many purposes in our lives as language does? What, would you say, is the role that each of the others plays most effectively? Is any of the others, do you think, actually more effective than language to communicate certain things?

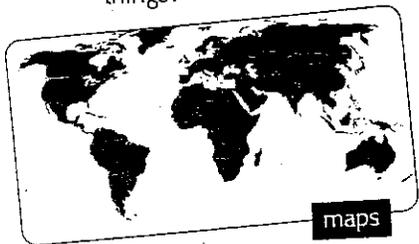
- 3 Place these forms of symbolism on a scale from:
 - at one end, maximum precision of meaning and convergence of public understanding to
 - at the other end, maximum ambiguity and divergence into individual understanding.

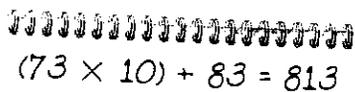
Compare within your class both your scales and your reasons for placing particular forms of symbolism in their positions.

- 4 With what other ways of knowing (sense perception, emotion, and reasoning) do you most closely associate each of these forms of symbolism?
- 5 With what areas of knowledge do you most closely associate each of these forms of symbolism?

Notice how you have been discussing symbolism and language: through language. Could any of the other forms of symbolism have been used in this way?

Notice how familiar it is for us to compare and contrast, group and make distinctions. We will return to a discussion of classification after considering two more ways of knowing: emotion and reasoning.




$$(73 \times 10) + 83 = 813$$

mathematics



photographs



scientific models



paintings

Language: a tool for thinking and communicating

Expanding your vocabulary gives you better tools for drawing distinctions and understanding shades of meaning. As a result, you increase your potential for exploring ideas and communicating effectively with others. Use your own familiarity with usage or a dictionary to ensure that you understand the following words, useful in TOK and elsewhere.

Does a dictionary describe how words are used or prescribe how they ought to be used? Some languages (French and Spanish, for example) have language academies which decide regularly which new words to accept into the language and thus to add to their dictionary. Other languages have no such control over their change.