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CONTEXTUAL COMPETENCE: ITS GROWTH, USE AND LOSS

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Abstract

In this article we shall explore various facets of what we call 'contextual competence', that is, our ability to integrate semantic knowledge and world knowledge (including knowledge about other people's intentions and beliefs) so as to arrive at an understanding of pragmatic meaning. We analyse examples of the ways we deal with polysemy, ambiguity and metaphoricity in normal discourse; we try to explain how we acquire a contextual competence as part of semantic development; and we explore possible explanations for a breakdown in contextual competence in individuals with autism or right-hemisphere damage to the brain. We argue that we can only understand how language understanding works when we integrate research results from various approaches: the semantic-pragmatic one, the social-cultural one, the psychological-developmental one, and the clinical-neurological one.

Introduction

In his article on "Meaning" for the web-site of the *Linguistic Society of America*, William Ladusaw (on-line) distinguishes between three levels of 'meaning': the semantic one, the syntactic one, and the pragmatic one. The first two levels are predominantly linguistic in nature, the third, by contrast, is predominantly social in nature. What interests us most in this article is the pragmatic level "our assessment of what someone means on a particular occasion depends not only on what is actually said but also on aspects of the *context* of its saying and an assessment of the information and *beliefs* we share with the speaker." (Ladusaw, on-line, italics ours). The importance of context, shared beliefs and shared values is highlighted in the examples of contextual language understanding that Ladusaw provides as illustrations.

A close examination of most words reveals that they have many different senses and the rules which combine them into sentence meanings will frequently yield several possibilities for interpretation. Usually we resolve potential ambiguity unconsciously--unless someone carefully constructs a joke which turns on an ambiguity. Consider for example this joke, taken from Douglas Adams' *The hitchhiker's guide to the galaxy*.

- (1) Ford and Arthur, are stowaways on a space ship. Ford: You should prepare yourself for the jump into hyperspace; it's unpleasantly like being drunk. Arthur: What's so unpleasant about being drunk? Ford: Just ask a glass of water.
[Formatted as example by us]

The passage turns on the ambiguity of the word 'drunk', which can be an adjective, meaning 'affected by alcohol', or the passive form of the verb 'drink'. Arthur takes Ford as intending the first sense of 'drunk'-- with good reason: he's unlikely to mean that someone would drink him. But Ford reveals that the bizarre interpretation is what he intends. The art of the image is the metaphorical treatment of a person as a liquid; the joke turns on the sleight of hand which makes our semantic interpreter lean in one direction before pulling us back in an unexpected way with a disambiguation. These examples illustrate our semantic and pragmatic abilities in action.

When we engage in this type of discourse, that is, use words with multiple meanings intentionally, create metaphors or make a joke, the hearer either 'gets' the (multiplicity of) meaning(s) intended by the speaker or he or she doesn't -- the polysemous, ambiguous or metaphorical utterance 'falls flat'. There are other occasion, however, when hearers manage to 'hear' more meanings or read more meanings into a speaker's utterance than the speaker originally intended (on most occasions this will also have a humorous effect). For example:

- (2) Our eight-year-old son boasted to his friend that he was 'a really good jumper', whereupon the friend replied that that was certainly better than being 'a really good cardigan'....

Hence, in some cases the semantic contents of an utterance might be quite deep, have several 'layers', so to speak, but there is a danger that the hearer's inferences may stay on the shallow end. In other cases the hearer's inferences go deeper than the original semantic intention of the speaker. The *inferential depth* to which interlocutors plunge depends on the multiplicity of meanings available, as well as on the situation and function of the discourse -- and, most importantly, on the variable linguistic, social, and cognitive skills of the interlocutors.

Beyond these inevitable individual differences in cognitive ability, social skill and semantic sensitivity we find people who are pathologically unable to deal with polysemy, ambiguity, metaphors, indirect speech act, in short, with incongruity. These people are either adults with a right-hemisphere lesion, autistic children with what some call semantic-pragmatic disorder, or children with an early right-hemisphere dysfunction. What they lack seems to be quite fundamentally an ability to deal with inferential depth, to integrate semantic, contextual, and (social) world-knowledge, to use context to understand what is meant by what is said.

We claim that the ability to deal with inferential depth lies at the heart of what one could call our semantic/pragmatic/communicative/contextual competence or, for short, contextual competence. In this article we want to study how this contextual competence works in ordinary discourse, how it is acquired by children, and what happens when it breaks down in autistic children. We shall focus in particular on one aspect of contextual competence: our ability to deal with ambiguity, an ability which is central to the understanding of jokes, metaphors and indirect speech acts, for example.

Ambiguity in discourse

It is usual in linguistics to distinguish between structural-syntactic ambiguity (“The old men and women were leaving”) and lexical-semantic ambiguity, which can be due to polysemy (“Billy prefers to wear light clothes”) or homophony (“Max ran down to the bank”). We shall focus here on lexical-semantic ambiguity and treat polysemy and homonymy as two poles on the ends of a continuum of words and phrases with multiple meanings.

Ambiguity has been treated in various branches of the arts and humanities. In linguistics it has been studied in pragmatics and psycholinguistics, where Grice’s maxim of manner urged interlocutors to ‘avoid ambiguity’ and where numerous experiments were conducted to see how people disambiguate utterances in context. Philosophers have always been aware of the confusions that ambiguity can create. In literature writers of prose dreaded the words ‘ambiguity’ in the margins of essays, but ambiguity was cherished by literary critics in their study of poetry. In humour research ambiguity is studied developmentally, cognitively and sociolinguistically under the heading of incongruity resolution (Raskin (1985)). Those studying language play also address the positive sides of ambiguity (Crystal (1998)) and we shall follow their lead in this article.

In linguistics and psycholinguistics it has generally been assumed that

- in ordinary discourse, we resist the multiplication of meanings,
- that we adhere to the principle of conventionality, that is, that we stick to the conventional meaning of words,
- that we observe the principle ‘one form-one meaning’
- that we observe the Gricean maxim of manner: be perspicuous, and specifically: avoid obscurity, *avoid ambiguity*, be brief, be orderly (cf. Grice (1975)).

It is also assumed that

- words *in isolation* can have more than one meaning, but that words *in context* always have only one specific meaning; this is traditionally called: disambiguation in context.

According to this view, speakers intend words to have one meaning and hearers ‘disambiguate’ polysemous words automatically in context. However, one can frequently observe that a speaker intends a word (phrase, or sentence) to ‘have’ multiple meanings in context or that a hearer notices that a word (phrase, or sentence) has more than one meaning (cf. examples 1 and 2). In these cases ambiguity is sought, exploited and used quite intentionally (this is even more obvious in advertising and headlines).

The reason for this may be the evolutionary principle that people who can demonstrate that they have a sense of humour, that they have wit, that they can juggle with meanings, in short,, that they have more linguistic skills than their competitors ‘survive’ in the struggle for sexual mates (cf. Miller (2000)), and, more mundanely, for social advancement (cf. Dunbar (1996)). We believe that the (humorous) use of ambiguity and polysemy, as well as the creative deployment of metaphors in conversation is the linguistic equivalent of the ‘peacock’s tail’ (cf. Miller (2000)). This is illustrated nicely in an extract from a humorous book on ‘work’. “If you/re only *pretending* to be smart, the pay is the same as if you *actually* are smart, and nothing can ruin your day. Humour is the easiest and safest way to pretend you are smart.” (Adams (1999))

Observations of ordinary discourse show that people do indeed not always follow the route of the least mental effort, and do not always follow Grice’s Maxim of Manner, according to which we have to ‘be perspicuous’ and therefore avoid ambiguity. Driven by a new pragmatic principle which we call “Be as perspicuous as necessary and as conspicuous as possible”, both speaker and hearer devote a variable amount of mental effort to either exploiting multiple levels of meaning conventionally associated with a word or else in enriching the meaning of words contextually (cf. Nerlich & Clarke (2001); Nerlich & Chamizo Domínguez (1999)). In the following we shall analyse a few more example of this process of ambiguation in discourse.

In the first example the speaker exploits the multiple meanings of *get* as meaning ‘obtain’, ‘being in possession of’ and as a fossilised part of an idiom. As in many other cases this exploitation takes place at the juncture between conversational turns:

- (1) A is supposed to have ‘taken’ a video tape from a security office to help a friend. B asks her: “Have you got it?” Whereupon A answers: “I have got it all right!” B asks: “Where, show us?” A replies: “I have got the sack.” (*Coronation Street*, ITV)¹

¹The examples are all taken from British television, collected in 1998, or else were observed in natural discourse, unless otherwise stated.

In the next example the hearer exploits an unintentional polysemy, that is, uses the highly salient idiomatic meaning of an expression instead of the intended literal meaning. In this example the hearer actively disregards very salient contextual clues so as to achieve a humorous effect (cf. also example 2 for a similar exploitation of a homonym):

- (2) The house is cold and Brigitte says “I have got cold feet” and David replies laughingly “And what do you have to worry about today, my dear?”

The next exchange is an example of the joint exploitation of a polysemous word by speaker and hearer:

- (3) After finishing his work on laying out a patio, A stands up, rubs his back and says to B: “I am finished.... physically as well” and B butts in by saying (laughingly): “And you’ll be professionally finished if you go on like this...”
(*Ground Force*, BBC 1)

In the next example the speaker falls into what we call a ‘semantic trap’ set by a polysemous word. Ambiguity is not intended but instantly attributed to the utterance.

- (4) After hearing the report of our departmental administrator about the need for refurbishing the toilets, our deputy head of department once said: “Any movement on this issue would be welcome”. General hilarity ensued.

In the next example the hearer exploits the hidden polysemy of a dead metaphor, thereby exposing the underlying image schematic structure and rejuvenating it at the same time. Dead metaphors are actually never really dead only in a state of suspended animation!

- (5) A: You should be open-minded about this, really.
B: ... but not so much that your brain falls out.

In the last examples (taken from conversational turns in court) the speaker falls into another ‘semantic trap’ set by a polysemous word.

- (6) What gear were you in at the moment of the impact?
Gucci sweats and Reeboks.

(7) Is your appearance here this morning pursuant to a deposition notice which I sent to your attorney?

No, this is how I dress when I go to work.

As Jean Aitchison has pointed out:

We human beings are odd compared with our nearest animal relatives. Unlike them, we can say what we want, when we want. All normal humans can produce and understand any number of new words and sentences. Humans use the multiple options of language often without thinking. But blindly, they sometimes fall into its traps. They are like spiders who exploit their webs, but themselves get caught in the sticky strands (Aitchison (1997:80)).

The existence and exploitation of ambiguity and incongruity for communicative purposes has a price, however, a communicational/social, as well as a cognitive one: ambiguous utterances usually take longer to process. But the positive side of this is that both meanings stay activated for a while, something which, in turn, has communicational and, may be, benefits (cf. Giora (1997), (in prep.)).

Rachel Giora has observed that even when there is contextual information available that would allow almost instant disambiguation, speakers and comprehenders sometimes make use of the multiplicity of meanings available, regardless of this contextual information. In these cases contextual information is not used to disambiguate words immediately (see example 2) and salient meanings are not deactivated, because they have some role in constructing the discourse meaning currently being built by the discourse participants. This exploitation of ambiguity is important for the ongoing process of knitting conversational structures, knitting social relations, and for keeping conversational tedium at bay.

Keeping several meanings at once in mind *may* also have cognitive benefits, as it helps to strengthen the semantic bonds between the senses of a word. Becoming highlighted in conversation they will become more accessible and therefore more frequently used and usable, thus more salient. This may also contribute to semantic change. However, as we have said, accessing multiple meanings may also lead to what we called ‘falling into semantic traps’ and to misunderstandings which need to be repaired.

Being able to weigh up the cognitive and communicational risks and benefits, that is, achieving the right balance between the avoidance of ambiguity and the clever use of ambiguity in context, is therefore a most valuable social and communicational skill, one that has to be learned, and one that cannot be learned by everybody.

Ambiguity in language acquisition

The ability to understand ambiguous or polysemous utterances does not come out of the blue, but is one of the last stages in a gradual development, as the following example of a conversation between mother and child shows (one should stress that this developmental process never stops):

- (8) ‘What’s the matter Love? Didn’t he like it at school, then?’
‘They never gave me the present.’
‘Present? What present?’
‘They said they’d give me a present.’
‘Well, now, I’m sure they didn’t.’
‘They did! They said: “You’re Laurie Lee, aren’t you? Well just you sit there for the present.” I sat there all day but I never got it. I ain’t going back there again.’
(Laurie Lee; quoted by Donaldson (1978:17))

As Donaldson writes: “We laugh at this misunderstanding for at least two reasons: because of the shock that comes from the sudden recognition of ambiguity where normally we would see none...” (p. 17). “The obvious first way to look at this episode is to say that the child did not understand the adult. Yet it is clear on a very little reflection that the adult also failed, at a deeper level, in understanding the child -- in placing himself imaginatively at the child’s point of view.” (p. 17)

So, coping with multiple meanings involves *placing oneself imaginatively at another person’s point of view*. How do children acquire this “ability to ‘decentre’”, as Donaldson calls it (p. 17), that is an ability to “understand what the other knows already, does not know, needs to know for his purposes, wants to know for his pleasure”? (p. 18) Piaget claimed that children before the age of about 7 or 8 cannot do this ‘decentring’ successfully. However, Donaldson claims that “we are all egocentric through the whole of our lives in some situations [see example 8] and very well able to decentre in others”. (p. 25) We shall come back to this type of ‘variation’ in the third section of this article when we talk about children and adults who fall outside this spectrum of normal variation.

Normally, children’s understanding of multiple meanings emerges gradually and relatively smoothly. It starts with the understanding of the most prototypical meaning or most salient meaning of words and goes on to more distant meanings (cf. Nerlich, Todd, & Clarke (in prep.)). This was demonstrated in the following experiment, where Robin Campbell took 24 children between the ages of three and five and told them a story from which the following are extracts:

She would like to work in the big post office but she works in a *branch*... As they were driving along they saw a *hare* run across the field... Then they got back into the car and drove to the seaside. When they got there they went for a walk along the *quay*... ‘Look at this castle’, said Jane’s Daddy. ‘the oldest *wing* is

over 500 years old.' ... They got held up behind a lot of other cars, all going very slowly. 'I hope we get out of this *jam* soon', said Jane's Daddy.

The children were asked to draw the hare, the quay, the wing, etc. Many of them drew a hair (or a head of hair), a key, a bird's wing, etc. (cf. Donaldson (1978: 71)), demonstrating that, despite the contextual clues, the majority of children only accessed or recalled the most prototypical meaning of these homophones and polysemes.

Another way of getting to grips with studying children's use and understanding of polysemy, apart from such rather artificial experiments, is to look at children's gradual use and understanding of jokes in naturally occurring discourse. As reported in Nerlich, Todd, & Clarke (1998), Brigitte observed Matthew between age 4.5. and 6.5.

During that time she noticed the following (overlapping) stages in the development in Matthew's competence for the production and understanding of jokes based on polysemy:

- At a very early age Matthew, like other children,² showed a taste for (*arbitrary* or random) *incongruities* of any kind (this stage overlapped with pretend play).

Example: "What is on top of a fire engine? A tree stump! (Haha)".

- He then acquired the bipartite narrative *structure* of the joke or riddle (around age 4), which he then filled in with more and more acceptable (*meaningful*) incongruities (this stage overlaps with symbolic play).

Example: "How do you make flowers move? Put them on roller-skates!" (Comment: "Mummy, this is funny because flowers and houses don't move, only humans and animals do.")

- He finally reached the stage (around age 7) when he could tell, understand and create jokes whose resolution was based on the understanding of *multiple meanings*, such as "Why is the teacher wearing sun-glasses. Because the class is so bright". And even now (September 2000), aged 9, he is not afraid of using the semantic knowledge acquired through this joke, when pointing out to a taxi-driver, talking about the bright weather, that *bright* actually has two meanings.

²Other example can be found everywhere, even in the Sunday newspaper supplements: "Owen: 'I know a joke. Happy birthday sausage.' Theo: 'Happy birthday sausage pie.' Owen: 'Happy birthday sausage poo.' Collapse of audience. We had people falling off their chairs. You don't get that at the Comedy Store. [...] So I suppose I should be grateful to Ella. She delivered her joke with such assurance that she commanded complete silence. 'What do you call a man with no name?' On the face of it, this is a very good joke; a riddle in the classical style, possibly Shakespearean. The answer, which she delivered without waiting for one, was 'nonsense'. Which is exactly what it was. Ella does not yet understand about jokes. But then none of them does. Which was why they fell off their chairs all over again." (John Passmore (2001:18))

Ambiguity can be seen as the crucial point where mind and language meet, and its humorous exploitation seems to play an important role in cognitive and linguistic development. For Matthew, the acquisition of the *bipartite, dialogic, question-and-answer format* of the joke or riddle was a real *Aha-Erlebnis* in this developmental sequence and must be regarded as a decisive step to enjoying and understanding jokes with multiple meanings. It was from that moment onward that Matthew used this format over and over again as a *test-frame* or *template* for the exploration of semantic space and, most importantly, the exploration of incongruities in language and the world.

The important thing is that at age 6 Matthew had come to distinguish between what is said and what is meant (in various ways) - and: "A child who is trying to figure out what other people mean must be capable of recognizing intentions in others, as well as having them himself." (Donaldson (1978:88))

But over and above being able to attribute intentions to others, a child must also learn how to deal with incongruity, to "come to grips with incongruity and even to seek it out in a positive fashion" (Donaldson (1978:112)). This is an important step in children's intellectual and cognitive growth, a step that some children cannot take. This brings us to autism and the difficulties autistic children have with understanding other peoples' minds, intentions, beliefs, emotions, and at coping with incongruity.

Ambiguity and autism

It is still not clear what causes autism, but we know that children with autism lack what comes naturally to other children: to pretend-play, to simulate other worlds in interaction with others and to understand their real or imaginary intentions and utterances. The study of autism could therefore become a window onto a type of mind and consciousness that lacks the ability of dealing with contextual clues, with ambiguity, with incongruity and with figurative language.

The examples analysed so far illustrate how our semantic/linguistic knowledge (including knowledge of the multiple meanings that words can have) is more or less useless without being linked in some way to our pragmatic/contextual knowledge, and our knowledge of each other, which includes our knowledge of each other's mental states and each other's intentions. We can only 'choose' the right sense of a word or phrase with multiple meanings and therefore understand an utterance when we are able to integrate semantic cues (linguistic information) with contextual cues (and the inferences they trigger) and take into account not only the utterance but also the utterance situation and the mental states we share with our interlocutors.

Sabbagh has recently pointed out in an article on autism that knowledge of communicative intentions “provides individuals with a basis for constraining polysemy in order to reliably arrive at an appropriate meaning of an utterance” (Sabbagh (1999:45)). This ability to constrain polysemy on the basis of contextual cues is exactly what autistic people seem to lack. They also lack the ability to cope with fairly standardised indirect speech acts. Unable to integrate linguistic information with contextual inferences they just do not ‘get the message’.

The following are two typical examples of reports about the linguistic behaviour of children, one autistic, one with Asperger’s syndrome (an autistic spectrum disorder, but unlike children with classic autism, these children have fewer learning difficulties and have less problems with language):

- (9) Well-educated people tend to say things like ‘Do you think it would be a good idea to put the kettle on?’. Giles couldn’t get the message from me that I was talking about having a drink. I had to say ‘We are going to have a cup of tea’. I slowly learnt that he needed to know in the simplest terms that the next thing to happen was a drink. (Sampson (2000:12))
- (10) Taking statements literally is usual -- a person with Asperger’s syndrome might well feel confused by a comment such as “if I eat any more I’ll burst,” or “time to stretch your legs”. (Dooley (2000:10))

It might even be that if you said to an autistic child “Put the kettle on”, he or she would try to wear it, or if you said “boil the kettle”, he or she would ‘boil’ it, that is to say, they would stay on the most literal level of meaning and disregard the now conventional metonymic meaning of these speech acts.

Autistic people seem to have a general difficulty in dealing with ‘incongruity’, from creative incongruity as displayed in the use of figurative language and certain types of humour up to fairly conventionalised types of incongruity, that is, speech acts which once might have been incongruous, but now have been conventionalised. Examples are: “What are you up to?”, “Can you pass the salt?”, “You have the devil in you”, and “Why are you crying your eyes out?”. These are all utterances that certain autistic spectrum children find difficult to understand and which might even send them into states of intense anxiety (cf. Welford (1999:8))

Unlike autistic children, autistic adults feel this loss of ‘contextual competence’ quite acutely. The following quote from a poem highlights the autistic’s social and conversational difficulties.

- (11) I talk to people;

But not with them.

I see people meandering to and fro;

But I am not a part of them.

(<http://members.aol.com/autismfg/apfng.html>)

There have been many explanations proposed for the fact that even the most able people with autism have difficulties appreciating nonliteral speech, such as indirect requests, sarcasm, jokes, and metaphorical expressions (cf. Happé (1993), (1994); Jolliffe & Baron-Cohen (1999)). The most plausible explanation for this type of 'pragmatic impairment' has been put forward by Frith and Happé (1994). They noted that autistic children are unusually attentive to detail, while being relatively uninfluenced - and even maybe unaware of - the larger context. They have a tendency to focus on parts rather than wholes and they may find it easier than normal people to ignore the context and see through it. This points to what Frith and Happé call 'weak central coherence'.

On a similar line, Happé has pointed out that autistic children are well able to process individual words but have difficulties in connecting words or objects. She also observed that context is not build up so as to allow meaning-driven disambiguation. By contrast, central coherence is demonstrated in non-autistic people by the ease with which they recognise the contextually appropriate senses of the many ambiguous words heard in everyday speech (e.g. *son/sun, meet/meat, sew/so, pear/pair*) (see p. 541). "It is possible, then, that autism may result from an 'embarrassment of riches' at the neural level. This translates into a cognitive system only too well able to distinguish featureal differences at the expense of the 'big picture'." (Happé (1999:545))

Baron-Cohen (1997) found that school age children with autism, with a mental age equivalent of 6 years, had difficulty seeing that a nonliteral reference (calling a cup "a shoe") might be a joke. In contrast, normal 3-year-old children *expect* that a speaker's *intentions* might be to joke (cf. Jolliffe & Baron-Cohen (1999:395)). They expect jokes to happen and are familiar with them. In a recent article Jolliffe and Baron-Cohen replicated findings by Happé who had reported that autistic individuals find it difficult to deal with pretend play, irony, jokes, white lies, and so on. One example of the 'strange stories' these people were given to read was:

Katie and Emma are playing in the house. Emma picks up a banana from the fruit bowl and holds it up to her ear. She says to Katie, "look! This banana is a telephone!" (Jolliffe & Baron-Cohen (1999:405))

The researchers noted: "It seems that the clinical participants had no difficulty in detecting that the statement was at odds with the situation, but did have difficulty in giving a contextually appropriate explanation for why the character (sic) said what they did." (p. 403) Autistic individuals seem to be able to comprehend a story like this but they find it difficult to integrate comprehended information with higher-level meaning.

There is still another group of people, apart from autistic individuals who find it difficult to deal with these types incongruence, who find it difficult to combine semantic information with standard (what Sabbagh (1999) calls canonical) and non-standard (noncanonical) inferences. These are individuals with right-hemisphere damage to the brain. It has been known for at least thirty years, that is, since Winner and Gardner and their associates began to study the neurological basis of metaphor understanding, that right-hemisphere damage leads to an impairment in extracting meaning from context, especially when word-meaning and context are in conflict (cf. Winner & Gardner (1977)).

In the following figure we have provided an overview of the various types of impairments observed in the three clinical groups who all show deficiencies in what we call ‘contextual competence’.

Figure 1 about here

The questions that neuropsychologists might want to address are: Is the right hemisphere involved in constructing coherence of items in context? Is the right hemisphere involved in social understanding? Are these two issues linked? Does autism involve a damage to the right hemisphere? What would this mean for an understanding of our contextual competence in general? (cf. Tirassa (1999)) Cognitive linguists might want to find answers to questions such as: What is the role of metaphor (based largely on the integration of semantic and conceptual knowledge from different spheres of experience) in language and what does an inability to deal with metaphor show us about language and its relations to other perceptual, cognitive and social ‘faculties’? In this article we could only point out how crucial answers to these questions could be for answering the age-old question: How do we understand language?

Conclusion

Ohala (1983) once proposed that there are three kinds of linkage between language and other entities, abbreviated as “the three m’s” :

- mind - the psychological dimension
- matter - the anatomical neurological dimension, and
- manners - the social and cultural dimension.

In this article we have only been able to explore some of the linguistic, social and cultural dimensions of contextual competence with some excursions into the

psychological and neurological dimensions. It is clear however, that we will only be able to fully understand how contextual competence is acquired, used, and sometimes lost if we explore it in the three-dimensional space outlined by the three m's.

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