

UNDERSTANDING METAPHORS IN POETIC TEXTS: TOWARDS A DETERMINATION OF INTERPRETATIVE OPERATIONS IN SECONDARY SCHOOL STUDENTS' ENGAGEMENT WITH IMAGERY

IRENE PIEPER* & DOROTHEE WIESER**

**University of Hildesheim, Institut für deutsche Sprache und Literatur, Germany,*

***Humboldt-Universität zu Berlin, Institut für deutsche Literatur, Germany*

Abstract

Metaphorical language plays an important role in literature education. Though it is not exclusive to poetic language it seems to have more prominence in literature than in other texts and an awareness of imagery can often be observed with experienced readers. However, so far little is known about how competences in understanding metaphor and figurative language develop. This article presents a think-aloud-study with students of different years in secondary education who all read the same poem. On the basis of this study and previous research we distinguish criteria which allow for the determination of difficulty in poetic metaphor. We also develop a coding system and characterise interpretative operations. Results show that development of competences is certainly linked to cognitive development but probably also much influenced by other factors including classroom practices. The article also discusses methodological issues and draws conclusions for future research.¹

Keywords: Literature education, metaphor, interpretation, coding system, thinking aloud.

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Correspondence concerning this article should be addressed to Prof. Dr. Irene Pieper, Institut für deutsche Sprache und Literatur, University of Hildesheim, D - 31141 Hildesheim, e-mail: Irene.pieper@uni-hildesheim.de.

1. UNDERSTANDING METAPHORS

When considering the literary response in education, an exploration of how metaphors are understood is productive, not least because the forms of figurative speech play an important role in the realm of the literary: adult readers expect to find them in literature; indeed, they more or less see them as core to it, and often pay particular attention to them (Steen, 1994). A more precise examination of the processes of reading when handling literary metaphors is also illuminating because cognitive creativity seems to play a particular role in this area (see Christmann & Scheele, 2001). Metaphors can positively provoke imaginative elaborations and the construction of hypotheses, both as an aesthetic medium and as a medium of knowledge (see Eco, 1985). From the perspective of learning, an important question is how the relevant competencies can be conceptualised, acquired and promoted.

The theoretical discourse on metaphor (summarised in Kohl, 2007) allows a rough differentiation between four traditions, which have a heuristic value from both the theoretical and the empirical perspective (Pieper & Wieser, 2011). According to the *substitution theory*, metaphorical language takes the place of, or is substituted by, "literal" language. According to the *comparison theory* – prominent in many school textbooks – the metaphor presents a truncated or elliptic comparison. The *anomaly theory* assumes that the recognition of a deviation from normal language use leads to specific constructions of meaning. The *interaction theory* is currently attracting particular attention; it has been developed in the context of analytical philosophy (Black, 1954), semiotics (Eco, 1985; 1999) and cognitive psychology (Christmann & Scheele, 2001). This theory views metaphors in connection to their use (co-text and context). This framework makes it possible to comprehend the more complex interactions between the provider of the image (vehicle) and the recipient of the image (tenor), and to avoid the truncations or restrictions of the substitution model and its assumption that 'non-literal' language – metaphor – can be translated into 'literal' language. The constructive cognitive processes which are needed to establish the (emerging) similarities between vehicle and tenor are of particular importance. Empirical investigations have been primarily directed towards the observation of these processes (Reinhart, 1976; cf. Pieper & Wieser, 2010).

In the literature curriculum, imagery plays an important role from primary school onwards. Pupils experience and engage with figurative language long before they learn to ask themselves what might really be meant by difficult terms such as metaphor, symbol, allegory, let alone the relationships between them. It has frequently been observed that primary school children can come up with productive concretisations and interpretations of metaphors even when they are not yet able to describe tropes or explain their processes of interpretation. Later, even universi-

ty students may worry that they are missing an opportunity for the construction of transferred meaning or the identification of symbolic or metaphorical language. At the same time, knowledge of stylistics and of the processes of formulation seems to make it easier for secondary school and university students to construct meaning (see Pieper & Wieser, 2011; Peskin, 2010). These observations imply that particular forms of knowledge play a role in the case of metaphors. However, these can scarcely result in declarative knowledge of the figure, and in the process of literary socialisation they may undergo a kind of reorientation towards syntactical knowledge: the naïve, but imaginatively saturated interpretative practices of a child, which, as it were, paints pictures, have been replaced by interpretative practices which are shaped by knowledge of specific figures of speech and conventions of interpretation. When this knowledge can be applied in various interpretative situations and in the treatment of different texts in such a way that it enables precise interpretation (rather than being used simply in a descriptive manner to identify figures), and when the reader is both able and willing to approach the text in an appropriate way – for instance by reading it several times – it is possible to speak of syntactic knowledge (Kämper-van den Boogaart & Pieper, 2008; cf. Shulman, 2004). However, it should not be assumed that this development will take a continuous or regular course which, if successful, will result in consistent practice (see below).

Studies of the development of poetic literacy with regard to metaphor remain rare (Pieper & Wieser, 2011). The following lines of exploration are particularly interesting in the context of such enquiries:

- Which approaches can be reconstructed in the understanding of metaphors, and do these differ at different stages of literary – and therefore also school – socialisation?

The developmental perspective is compelling in the face of the assumption that abilities in responding to literary texts undergo a radical change. Among others, the question of the extent to which metaphors are identified as such by readers at different stages of development is of interest.

- Can particularly successful strategies be identified?
“Strategies” here refers to operations focussed on the understanding of texts, whereby it cannot be assumed that they are consciously applied and their aim does not have to arise from a pre-existent plan of engagement, but can be established in the course of reading (for a discussion of the fluid concept of strategy, see Bräuer, 2010). Strategies can be considered as “sequences made up of operations of textual comprehension” which, as Grzesik shows, can be very finely nuanced (Grzesik, 2005, 356; 134-137). The question above requires particular attention when it comes to the modelling of learning processes relating to literature.
- Can specific strategies be related to various levels of understanding, and/or can equivalent, albeit distinct strategies be observed?

On the diachronic level – but also on the synchronic level, that is, within the same age-group and school class – it is interesting to explore the extent to which differences between individuals can be described in terms of different levels of understanding. Cognitive development is only one aspect in this analysis.

- Is it possible to relate strategies to learning profiles which take account of individual attitudes and approaches to literature or of school specific experiences with literature?

We assume that in more complex processes of interpretation, the habitual dimension which forms part of the cultural practice of reading gains importance (Kämper-van den Boogaart & Pieper, 2008). The extent to which this is empirically visible – or can be made empirically visible – must be clarified. In addition, the implications of epistemological and poetological convictions need to be explored.

- In how far can processes of interpretation be compared for different poetical and metaphorical texts? How can the influence of textual structure and the demands of the individual metaphor be understood more precisely and described adequately?

Previous qualitative studies considering the reception of metaphors often focused on the interpretation of one or two texts. Given that the character of any particular literary text – and its metaphors – are specific to it (according to Gehring, they are “individual pieces”, the analysis of which carries with it “problems of generalisation” [Gehring, 2010, p. 204f.]), it is to be expected that the text-reader interaction will have a strong influence on any particular case. In order to specify this, a precise modelling of the textual structure and the individual metaphor from a didactic perspective needs to be carried out.

This set of questions defines a complex programme, the results of which will offer a foundation on which a nuanced description of syntactic knowledge, considered from the perspective of processes of acquisition, can be constructed. The following pilot study is offered as an initial attempt to explore this area. Its research questions are:

- Which approaches and strategies can be reconstructed in the area of the understanding of metaphors?
- How can these approaches and strategies be grasped in a coding system?
- Which differences between the age-groups involved can be observed?
- What aspects of textual structure and of the individual metaphor can be reconstructed as specific demands in the comprehension process?

2. THE PILOT STUDY: THINKING ALOUD ABOUT SELECTED POETIC TEXTS

In the pilot study, we worked with the method of thinking aloud. As the scholarship on reading has shown this method, despite its restrictions, is particularly useful

when the aim is to gain insight into processes of the construction of meaning (Stark, 2010; Steen, 1990, Pressley & Afflerbach, 1995). The method of thinking aloud has been used in many studies on metaphor (cf. Pieper & Wieser, 2011), and also in the area of (general) literary understanding by school children (see Janssen, Braaksma & Rijlaarsdam, 2006; Gahn, 2012; Meissner, 2012; Stark, 2012).

We selected eight poetic texts, of which we gave different selections to participating students in the lower secondary classes (Grades 6, 7, 8, 10) and the upper secondary classes (Grades 11, 12, and vocational training), in order to gain an initial sense of how poetic literacy in the field of metaphor might develop.

We decided to use poetry because, despite the problems of defining the characteristics of this genre, it offers particularly clear examples of metaphorical language. Moreover, empirically speaking, experienced readers are more likely to expect to encounter metaphors in poetry than in prose. The assumption was that this would make it easier to identify metaphors, although it could also lead to incorrect assumptions. That specific modes of interpretation will be used in an engagement with poetic texts is therefore explicitly assumed; moreover, one aim is to describe these modes of interpretation more precisely in relationship to an understanding of metaphor.

Another reason for using poetic texts is their brevity, which means that the whole literary text can be considered in the context of one experiment. The contextual relationships of the metaphor can easily be considered, since the subjects can see them plainly. However, the selection of the texts was also part of the pilot study. On the basis of this initial study, it is now possible to formulate criteria oriented towards learning (see below).

When possible, the process of thinking aloud should take place with little intervention. However, with respect to the intended focus on the identification of metaphors in each particular poem and the establishment of their meaning, two problems soon emerged. In some cases the subjects did not pay much attention to the metaphors, but rather passed over them and emphasised other passages. In addition, probably due to a verse-by-verse approach, the establishment of an overall coherence or meaning was made more difficult or remained implicit or imprecise. In the case of four of the eight poems, we therefore decided to use not only a double reading of the text – simultaneous and retrospective thinking aloud – but in a third phase to repeat the metaphors with an interrogative intonation if they had not already explicitly been mentioned, in order to encourage further comments. Additionally, we encouraged the formulation of questions, in order to allow us to identify more precisely the passages where the pupils might have had difficulty in constructing meaning. Our instructions were: “Some of the others had a few questions after they had read this. Do you have any questions?” Or: “If you could ask the poet a question, what would it be?”

Finally, in order to encourage global understanding and its verbalisation, we asked the test subjects to pretend that they were presenting the poem to someone – a friend or their mother.

3. DEVELOPING A CODING SYSTEM

Studies which work with the thinking aloud method are always faced with a challenge when it comes to the evaluation of the data gathered. Different researchers have dealt with this problem in very different ways, partly because they are investigating varying sets of questions, but also because the question of the interpretation of the data gathered through a process of thinking aloud is seldom explicitly discussed. Most studies use a coding system for their evaluations which is either applied deductively to the data or developed in a primarily inductive way on the basis of the data (see Stark, 2010: 66 f.). The restrictions of such coding practices, which often show parallels to methods of qualitative content analysis (Mayring, 2008), and which are often intended to consolidate data (see Schreier, 2006: 432), are often ignored. This is particularly true in the case of the determination of comprehension as a process. Although the focus of the coding often lies on cognitive processes rather than on aspects relating to content (see Stark, 2010: 67), coding methods can only describe the chronological dimension of these processes to a limited extent. Here sequence analytical approaches (appropriately adapted) would probably be more advantageous.

This caution should not, however, be taken to indicate that coding procedures are fundamentally inappropriate for the analysis of thinking aloud protocols. On the contrary, with regard to the comparability of data and with a view to the possibility of developing typologies, these can be useful. For this reason, the development of an appropriate coding system was one of the central tasks of the pilot study. However, as Tobias Stark rightly remarks:

“In particular for studies which seek to *develop theory* or to *generate hypotheses* (...) the development of an appropriate coding system is rather the result of analysis than a “preparatory stage” of the data analysis.” (Stark, 2010: 67; italics in the original).

Consequently, the coding system which is presented (albeit partially) in the following analysis is not complete, but will be subject to on-going development.

An important starting point for the derivation of coding systems are the works of Gerard Steen, who worked with adult readers (Steen, 1990; 1994). He sees the understanding of metaphors as a problem-solving process (see Steen, 1990: 301; Steen, 1994: 111), and selects as the basis for his very nuanced categorical system (especially in its early stages) a system developed by Yvonne Waern for identifying problem-solving strategies for understanding of an unknown word (see Waern, 1988).

For Steen, a further basis for the analysis of the processes of understanding metaphors is offered by the thought of Tanya Reinhart, who criticises the concentration on interpretive processes with reference to the tenor, or the focus of the metaphorical expression, which is frequently found in the scholarship. Instead Reinhart underlines the importance of vehicle-interpretation that puts attention to the metaphorical expression (see Reinhart, 1976: 401). In Steen's work, the quality of the interpretation of the metaphor in relation to the text plays no role. On the basis of interrater reliability and its empirical occurrence, he reduces his original ten categories to five: focus processing, context construction, explicit identification, explicit appreciation and refunctionalization. Interestingly both the articulation of difficulty in understanding and the interpretation of the vehicle are abandoned. From the perspective of the development of poetic literacy, the former could be of importance, particularly in the case of learners in the lower secondary school. The focus on the vehicle is also interesting in that attentiveness to the image provider is not simply, as Reinhart assumes, an expert strategy, but also offers an appropriate description for the imaginative realisation of metaphors which can be observed in children.

A nuanced engagement with Steen's category system, the results of his study or other work will not be offered here (see on these points Pieper & Wieser, 2011). However, it is important to note that particular emphases arise from the viewpoint of the teaching of literature. For this reason, Steen's reduced system cannot simply be adopted, for in comparison with adult test subjects, who may be – and often are – very experienced in understanding literature, school pupils should be expected to demonstrate different abilities to understand texts. In addition, if one of the aims of the study is to identify particularly helpful strategies for approaching metaphor in poetic texts, then the relationship between the pupils' comments, which are to be codified, and the metaphor in the text needs to be looked at more carefully. Such strategies can be said to be successful if they support a better understanding of the text. Therefore it must be asked whether certain codes should allow for a classification of pupils' comments with regard to their interpretative quality in the particular case; in other words: is this – in terms of its response to textual clues – an adequate understanding or not?

Our category system (Appendix 1) begins in the area of basic processes by determining *literal* understanding (1). The implication here is that some pupils read the text without recognising that it includes imagery. The term "literal" is to be understood as a heuristic construction; it should not suggest that problematic assumptions are being made about "what a text/expression really means". Rather, it underlines the importance of the recognition of unusual or exceptional uses of words (see Kurz, 1993). The second category covers the expression of a generalised awareness that interpretation is needed (2), the third an explicit identification of a metaphor as needing interpretation, even if it is not described as such (3). Next, the

determination of the tenor is coded, an operation which accords with the assumptions of substitution theory (4). A distinction is then made between the elaboration of the tenor and the interpretation of a metaphor as a whole (5), with a separate categorisation of explicit uses of analogy (6). These last three codes can be understood as empirically demonstrable operationalisations of interaction theory. In addition, we have defined codes for re-interpretations, polyvalent interpretations, and the weighing up of alternative interpretations; however we have not been able to confirm these empirically. Further, we code the selective narcostatization, the use of the co-text, and symbolic readings whether on the local or the global level. These four codes will be discussed in what follows. They have been developed and adapted inductively in the process of analysing the data generated by the pilot study and appear illuminating for the strategies used by the school pupils to establish understanding. In our view, they will require particular attention in the course of our further investigations.

Two questions will continue to shape our work on the category system. Firstly, it will be necessary to test the extent to which the present categories can be used to analyse the phenomena and processes observed in the thinking aloud protocols in a nuanced way which is applicable in all cases. Secondly, those categories which do not demonstrate adequate interrater reliability must be adapted. The codes presented here have to date been tested and adapted in two workshops involving a group of five researchers. Protocols on the poem "Gefrorener Wasserfall" (Frozen Waterfall) by Christine Busta and a poem by Sarah Kirsch formed the basis for this work.

4. SELECTED CODES

This elaboration of the selected codes will be illustrated on the basis of extracts from thinking aloud protocols relating to the poem "Gefrorener Wasserfall" ("Frozen Waterfall") by Christine Busta (Busta, 1965: 59). The poem's imagery has been considered in detail by Kaspar Spinner, with a particular focus on the question of what is revealed by different theories of metaphor (Spinner, 2007). Of particular interest for the research discussed in this article is Spinner's suggestion that different theoretical models of metaphor can be used to provide a nuanced description of pupils' processes of understanding (ibid.: 88).

Christine Busta

Frozen Waterfall	Gefrorener Wasserfall
Motionless it hangs at the rock,	Reglos hängt er am Fels,
ice-grey roots pushed into nothingness,	eisgraue Wurzeln ins Nichts getrieben,
sometimes a ringing of wind,	manchmal ein Windgeläute,
glassy.	gläsern.
Invisible amongst stone:	Unsichtbar im Gestein:
Dammed torrent	Gestauter Schwall
For the water-organs of spring	Für die Wasserorgeln des Frühlings.

(Busta 1965: 59)

In the pilot study, Christine Busta's poem proved very suitable for this research. It opened interesting avenues of thought even for pupils in year 6, whilst also offering enough challenges to pupils of a more advanced level, in particular in its use of metaphor. In total, ten protocols relating to this text are available, from students in the latter half of Grades 6 (three protocols), 8 (four), and 10 (three). The pupils in Grades 6 and 10 attended a *Realschule*, a middle school that finishes with grade ten; those in Grade 8 a *Gymnasium*, a form of schooling that finishes with the 'Abitur' in Year 12 or 13 and prepares its pupils for university entrance. Both these North German schools are church schools, and both are known as schools which offer a better than average learning environment to their pupils. From comments by teachers, however, it seems that the role of poetry in teaching German varies at the two schools. Two out of three teachers at the *Realschule* said that they tended not to work with poems such as that by Busta, whilst a German teacher at the *Gymnasium* explained that from Grade 8 on she used poetry as part of an explicit attempt to cultivate the pupils' abilities to interpret texts.

4.1 Modes of approaching the text and levels of understanding

As was explained above, in the context of this research, the question of possible relationships between specific operations of understanding and the understanding of the text, to the point of distinguishing between levels, is important. Kaspar Spinner points out that different approaches to imagery can be justified and can increase awareness of the "multiplicity of possible approaches to interpretation" (Spinner, 2007: 88). A determination of level which goes beyond simple differentiation assumes that it is possible to describe factors which determine different levels, of global understanding of the text as well as in relation to individual meta-

phors. (On the attempt and the problems of such a determination, see Pieper, 2010). Consequently it is not enough simply to encode the fact that the reader undertakes an interpretation of the metaphor, as is the case, for instance, in Steen's studies, but it would seem necessary to judge, on the basis of a two or more step scale, the extent to which the interpretation can be seen as appropriate or inappropriate. It is scarcely necessary to mention the difficulties involved in defining and applying criteria for such a judgement. Therefore, we have (at least for the moment) refrained from coding "plus" and "minus" (attempts to do so have thus far provoked considerable discussion rather than agreement amongst scholars), but use a more holistic, case-oriented approach to describe quality.

Here too it has proved helpful to develop the criteria, at least to some extent, inductively. A comparison of comments relating to the lines "sometimes a ringing of wind, / glassy" shows which aspects of meaning are grasped or addressed by the pupils, and which are not mentioned.

Susanne: "<<reading> sometimes a ringing of wind, / glassy > (--) yes, when everything is so icy and then (--) yes the wind comes up and something, a kind of leaf or something is, well just covered with ice, hits against something else that is covered in ice, that it just gives a bit of noise [incomprehensible] (--) comes up against sort of glass, for instance (--) that it makes a noise."

Linda: "erm, sometimes a ringing of wind, erm, that then, ahhh, that one hears the wind there (2.0) [...] and erm glassy, erm perhaps you can look through the frozen water and then it looks as though it was invisible."

While Susanne (Year 8) elaborates the situation and develops both the formation and the "glassy" sound of the "ringing of wind", Linda (Year 6) does not see the connection between the noises caused by the wind and the description "glassy", and instead relates the attribute only to the appearance of the icicles. It is possible that this failure to connect the two is influenced by the fact that the attribute is placed after the noun, in a new line, separated by a comma. However on the basis of the available data this has to remain a conjecture. Similarly, Susanne's comments do not make it possible to determine all the processes of understanding which have given rise to the interpretation of the metaphor which she here articulates. Rather, these observations make it possible to formulate questions which will help to show which operations support or hinder understanding, and in which circumstances. The two categories considered in the next section are intended to fulfil exactly this aim.

4.2 *Selective narcostatization and activation*

A process which leads to problems of understanding and/or very restrictive interpretations of metaphors can be described in terms of selective activation or selec-

tive narcostatization of aspects of the metaphorical language. Several thinking aloud protocols offered evidence of the way in which pupils tended to narcostatize the elements of the metaphor which (presumably) seemed unclear or which interrupted their processes of construction. In contrast, those elements which support what seems to the pupil to be a reasonable interpretation are activated. An example of this process can be found in another pupil's comments on the lines considered above "sometimes a ringing of wind, / glassy":

Lara: "... and when a gust of wind comes, then it doesn't move either and so you see and err err and it looks (---) it doesn't move, because it is frozen and you see errm (---) how it errm is just lovely and sparkly"

Like Linda, Lara (Year 6) totally ignores the auditory dimension of the metaphor "sometimes a ringing of wind, / glassy"; instead she concentrates on the aspect of rigidity which is the theme of the previous lines ("motionless") and the visual aspect of sparkle. Lara certainly demonstrates processes of understanding metaphor, in that she links a characteristic of glass drops – that they sparkle – with the appearance of the frozen waterfall. However, through her narcostatization of the "ringing" and her failure to connect the elements of the expression of the image to the next verse, Lara only develops one aspect of the dimensions of meaning. It is possible that one reason for this way of proceeding is a problematic reference to the co-text, and in particular to a mental model that has already been established, which clearly represents the motionless waterfall, and which is not further enriched. The particular difficulties of establishing coherence – which are related to the thinking aloud method – must however also be borne in mind.

At the same time, Lara follows a process which can certainly be useful for understanding the text. As Umberto Eco has made clear, we all read by actualising those characteristics of the bearers of meaning which seem relevant to our understanding, and narcostatizing others (Eco, 1998: 107). This strategy is constitutive, particularly for the understanding of metaphors, but is also susceptible to interference. Thus, Lara translates glassy into sparkling, but does not, for instance, emphasise the brittleness or fragility of glass alongside its optical characteristics. In ignoring the auditory dimension – such as the clinking of glass – she also clearly ignores relevant co-textual references. It is possible that she – like Linda – does not adequately grasp and articulate the syntactic structure, which is somewhat obscured by the line break between "ringing of wind" and "glassy".

4.3 *The use of the co-text*

The implications of the co-text, that is, of the textual environment of a metaphor, for the meaning of that metaphor have not only been highlighted in theoretical approaches such as that of interaction theory. Work with isolated metaphors, found in many empirical studies in cognitive psychology, has come under increasing

criticism (see Waggoner, Palermo et al., 1997; Pieper & Wieser, 2011). The data of the pilot study suggest that an implicit or explicit reference to the co-text does not always represent a successful strategy of understanding, but that it does probably represent a more complex strategy.

In principle, the contextualising of metaphors in literary texts is not only useful, but generally also unavoidable. However, it can cause a blockage in understanding. Problems can arise if aspects of the meaning of the co-text are drawn into the interpretation even though they are not directly related to the specific formulation of the metaphor.

Bernard: “yes <<reading> invisible amongst stone dammed torrent (--) for the water-organs of spring> (--) erm so also invisible amongst stone, perhaps, because you can like see through it and then erm you sort of see the stone or the rocks of what’s hanging there. erm, so, like it says earlier glassy, so something like glass, and you can like look through it.”

Here Bernard (Year 8) connects “glassy” (line 4) and “invisible” (line 5) by means of the idea of transparency. He does not recognise that this is a localisation of the “torrent”. Only on re-reading does this become clearer: “that’s a colon: so like perhaps it’s not the stone that’s dammed.” A fruitful use of the co-text has to move beyond the establishing of an associative connection and include a syntactic analysis.

4.4 Symbolic Interpretation

Some test subjects in Years 8 and 10 offer symbolic interpretations which originate in the un-metaphorical title of the poem. Andi (Year 8) thinks that the text might be about a failed relationship:

Andi: “<<reading> frozen waterfall >. so, ah, perhaps it’s a FROZEN waterfall, because a lot of stuff goes through a waterfall and perhaps it’s about a relationship, that has ended, because frozen is like, that nothing is flowing any more, if it’s stuck. Perhaps that was a relationship, where a lot had been going on and now it’s over.”

Rather more generally, Elisa (Year 8) also interprets the title as referring to an ending:

Elisa: “<<reading> frozen waterfall > (.) so what I think is that WATERFALL was well probably something that happened or a (--) life or a story [...] so motionless it hangs at the ROCK might just mean that it is still a, so that it is again (--) emphasises that it’s over (.) that it ISN’T moving on any more ...”

Similarly, Mario (Year 10), suggested “that perhaps something has come to a standstill”; on re-reading he developed an account of a suicide.

Both Andi and Elisa develop, not a concrete idea of the frozen waterfall at the transition to spring, but rather a model of something being at an end.

Andi: “<<reading> motionless it hangs at the rock, ice-grey roots pushed into nothingness, sometimes a ringing of wind.> and here I think, ah, it’s describing what the relationship between these people is like, motionless it hangs at the rock, so there’s nothing left between them, so, that (--) ice-grey roots pushed into nothingness, so, that on the other side no-body’s there for you any more, so, it’s over. (2.0) this relationship.

Andi does not make a co-textual relationship between the waterfall and the ice-grey roots; nor does he explore further how the relationship between “it”, “nothingness”, and “these people” might be described. Andi – like Elisa – goes on to interpret the glassy ringing of the wind as a sign of hope. However, both fail to engage in more precise consideration of the poem’s image providers. The following extract from Elisa’s comments shows clearly how a symbolic approach to reading the text leads to a narrative structured around a chronological change. The indicative character of the ringing of the wind is connected to the possibility of looking into the past and experiencing loss:

Elisa: so sometimes maybe a ringing of wind, sometimes (.) you notice one more TIME, that something was there (--) but it just isn’t any MORE (.) that’s why glassy, you can look through it (.) you can see that something used to be there, and perhaps you can see also what was there, but (--) it just isn’t there any more.

Whilst Elisa can both recognise the image of the approaching spring at the end of the poem and distinguish it from another level of meaning – “just normal ... or there again pointing to, errm, everything that spring brings again” – Andi summarises the poem as being “about a relationship between two people [...] which is portrayed through a waterfall.” In this the symbolic type of reading, which enables a narrative to be presented, can clearly be seen to be a strategy for the establishing of coherence. (On the establishment of narrations as an attempt to provide coherence, see Meissner, 2012). Andi’s reading can be described as driven from the top down. He clings to his initial approach in a way which seems to make it very difficult for him to adopt the desirable flexible engagement with the mental model established at the beginning of the reading. Elisa clearly remains more flexible and – within certain boundaries – is able to draw out the nature imagery found in the poem.

In the context of their symbolic analysis, pupils also undertake both tenor- and vehicle-focussed interpretation of the metaphor. Thus, understanding of metaphor can also be coded. Given the prominence and the specificity of this procedural strategy, which can hinder the flexibility of reading, and which probably represents a learned interpretative strategy, it appears reasonable to undertake separate determinations of symbolic analysis at the local and at the global level.

The appraisal of the symbolic method of reading the poem will therefore not be without ambiguity: these pupils seem definitely to have recognised the “fundamental opposition of frozenness and life” which Spinner identifies as key to this poem and which he describes as a “symbolic representation of anthropological experi-

ence" (Spinner, 2007: 88). It is true that the poem offers no explicit indications that justify its explication in terms of a relationship crisis, and Andi's explanation in particular has to modulate between waterfall, nothing, and the protagonists.

5. DISCUSSION

The function of the pilot study was multi-faceted: the development of a coding system, the testing and modification of both the selected data collection process and of the use of a selection of poems, and finally the definition of criteria according to which the suitability of particular poems for this research can be assessed.

Alongside these primarily methodological aspects, the evaluation of the data generated in the pilot study also yields deeper insights into pupils' understanding of metaphor and the more precise definition of the research questions.

Our study confirms that *literal* understanding of metaphors is more likely to appear in Years 6 and 7, an observation that corresponds to many studies in developmental psychology. However, the same phenomenon can also be observed in Year 10. It appears that there is no clear line of development.

Further questions in this area relate to the dimensions such as textual complexity and familiarity with the conventions of interpretation, the latter also in comparison with the different types of school. In the higher year groups a phenomenon can increasingly be observed which could be described as a counter-example: the reading of (initially) *literal* terms as metaphors, which can be seen in some of the protocols discussed above. In these cases it is more appropriate to speak of symbolic readings, which could have the character of a well-rehearsed routine. The connection between the strategies of (over-)interpretation which can be observed here and the structures of classroom teaching has often been observed (see, for example, Kämper-van den Boogaart, 2009: 162 ff.; Spinner, 2010; Zabka, 2002). In the context of the lines of research introduced here, it will now be necessary to test the extent to which this symbolic mode of reading might conflict with the recognition and interpretation of metaphors. Moreover, it would be interesting to gain further insights into the teaching and establishing of these strategies of interpretation in the classroom, with comparisons between year groups and school types.

The ambivalent quality of the symbolic readings, which were at times quite distant from the text, has been discussed above. This perspective casts a somewhat different light on the learning of literary conventions (Culler, 1997), as it has been investigated by Joan Peskin through a comparison of pupils in Grades 4, 8, and 12 (Peskin, 2010). For on the one hand the learning of these conventions opens up access to literary phenomena. On the other hand it will be necessary to describe more precisely how these learned conventions of interpretation are actually applied. They can clearly be observed in the way that pupils approach texts – espe-

cially poetry – and they are probably most effective when they generate a flexible approach to the text and do not interfere with a precise reading. If this is the case, then such conventions open up a way to syntactic knowledge. We assume that such syntactic knowledge is applied on the basis of openness and attitudes towards literature which include assumptions specific to the particular genre. Whether nuanced poetological concepts and reflections offer a predicate for nuanced interpretations still needs to be tested. We observed that one girl from Grade 8, when working with a different text, expressed her belief that poetry does not have to make sense (and thus, that it did not have to tell a story), and in her interpretative engagement went on to show a particular level of creativity in exploring different possibilities.

In the discussion of the selected criteria a number of operations were also presented which led to deficient understanding. Here the selected activation or narcostatization of aspects of the expression of the metaphor must be named, as well as references to the co-text which are unreflective or selective. Difficulties in the area of syntactic analysis are clearly related to these issues. Semantic difficulties also present themselves as fundamental hindrances to understanding. Thus some pupils in Grade 6 did not understand the word “Schwall” (“torrent”). These difficulties should be allowed for and noted, in order to enable a dense account of the level of process or understanding at which the problems are found. To introduce these difficulties into the coding system however, seems problematic: when noting that students might be experiencing difficulties with syntax we are offering conjectures rather than referring to explicit verbalisations. However, these factors also constitute important indicators for the choice of texts.

The question of the significance of previous knowledge of the world, personal experience and familiarity with specific literary texts must also be investigated further. It is interesting here to consider at what point a lack of (to some extent experiential) knowledge of the world – for instance, knowing what a frozen waterfall looks like – causes difficulties of understanding. The question of the function of previous literary knowledge, such as linguistic images, genres of texts or aspects of literary history – seems more complex. That neither a schematic application of such previous knowledge nor the unreflected functionalisation of a figure of speech that has been recognised in the text is particularly productive is a frequently-heard complaint, particularly in the face of unsatisfactory results, for instance in *Abitur* exams (see Freudenberg, 2012; Steinmetz, 2012). The protocols which we have analysed, however, do not demonstrate a simplistic application of declarative knowledge, for instance through the classification of imagery as metaphor, simile or symbol. Only one boy in Year 10 ascribed his difficulties to the metaphors in the text, after he had already tried an interpretation. It is quite likely that this indicates that the thinking aloud context is less conducive to the demonstration of such theoretical knowledge than is an examination or essay format. Nonetheless, the appli-

cation of previous knowledge, including conventions of interpretation, needs further investigation. The existing expert-novice studies which have explored this question are only of limited help here, since the experts selected are usually scholars and academics in the field (see Peskin, 1998; Winkler, 2007). Our view is, however, that the divergent applications of previous literary knowledge by pupils deserves closer attention, in order to enable a critical comparison of different test subjects at a similar stage of cognitive development and with an (at least in part) similar literary socialisation in the classroom.

Our research so far gives weight to the conjecture that some pupils have problems (of which they are to varying degrees aware) with the interpretation of imagery because they are unable adequately to recognise certain textual structures. This problem is highly significant, particularly for the consideration of metaphors in their textual context. On the basis of the pilot study, it is possible to determine text-focussed criteria which can direct the selection of suitable texts and which are also helpful when analysing the protocols. Syntax, vocabulary and knowledge of the world all play a role, as do specific aspects of the imagery, such as the level of abstraction or the existence of intra-textual links. In the future this catalogue of criteria (see Appendix 2) will be given to the teachers whose pupils are taking part in the main study.

6. METHODOLOGICAL REFLECTIONS AND PERSPECTIVES FOR FUTURE WORK

In conclusion, a number of methodological reflections can be offered on the basis of the experiences gathered through the pilot study and with a view to further work. In our pilot study, the method of thinking aloud once again proved effective, in as much as it allowed instructive insights into the pupils' processes of comprehension when reading poetic texts and in particular in their understanding of the metaphors which could be found in these texts. This was true also in the case of younger pupils, whom we had thought before the study might have problems carrying out this method.

Nonetheless, the evaluation of the data also demonstrates the methodological restrictions of thinking aloud (Stark, 2010). On the one hand, it could be seen that the majority of metaphors stimulated the participants to articulate their processes of understanding, so that the problem of unconscious or implicit operations of understanding, which cannot be captured through thinking aloud (see Steen, 1990: 301; Steen, 1994: 111), was in this case much reduced. On the other hand, as has already been remarked above in the discussion of the categories, the nature of the data yielded by this study means that many of the operations of understanding remain implicit and can only be reconstructed hypothetically. This situation also reflects the fact that the participants do not express all their thoughts, but make a

selection (see Stark, 2010: 73). Consequently, when analysing the data, it is important to consider carefully under which conditions and to what extent the operations of understanding can be reconstructed (see *ibid.*: 72).

A further restriction relates to the ecological validity of the process, for both by the presentation of the text in parts – in this case generally in verses – and also through the very context of a study which is collecting empirical data, conditions are created which cannot easily be compared with a normal classroom teaching context. Additionally it must be assumed that the method produces reactions. However, despite this methodological critique, it must be appreciated that other methods of research into reading processes involve the same problems, often to a much greater extent.

The experiences of the pilot study and our future planning have led us to broaden our methodological design. In order to investigate the handling of interpretative conventions more precisely, the dependence on genre will be considered more carefully. Drawing on a study by Peskin (2010), we will rewrite a selection of poems as prose texts and offer these to the pupils. In this way, genre-specific approaches can be made clear, while at the same time the problems on the syntactic level that the poems present for some younger pupils can be avoided. We will also make some changes to the implementation of the thinking aloud process: during the simultaneous thinking aloud, suggestions which encourage a conscious reflection on the processes of understanding should be avoided,² since this method is being used precisely with the aim of achieving a direct articulation of the content of the working memory. Nevertheless it is of interest to explore the extent to which test subjects are able to apply self-reflection to their own processes of understanding, and which aspects they identify. For this reason, the main study will include immediately after the simultaneous thinking aloud a phase in which pupils will be encouraged by emphasis in the printed text to focus on certain metaphors and to reflect on their processes of understanding and on the problems they are experiencing in understanding. Possibly, stimulated recall interviews can be even more valuable in this respect.

In terms of the evaluation of the protocol data, as is to be expected, the formulation of categories which yield adequate interrater reliability whilst at the same time affording a dense description offers a challenge which must not be underestimated. A triangulation between different methods of evaluation would seem to be essential. If processes of categorisation make possible the comparability of data, then case studies with a hermeneutical, sequence-analytical orientation allow for

² *So-called level III verbalisations, in which the thought processes themselves are thematised, are undesirable in simultaneous thinking aloud, because they influence the processing of information and thus increase the reactivity of the method (see Ericsson/Simon 1993, Walach/Wolf 2001: 15 ff.).*

dense description of individual operations of understanding and their process aspects. Moreover, these two methods of qualitative data interpretation can continually be related to one another.

In the main study, thinking aloud will form only one method of data collection. Given the importance of conventions of interpretation sketched above, which is also indicated in the pilot study, we will address ourselves to the question of actual teaching practice in relation to imagery, and will carry out a carefully directed survey amongst pupils in Grades 8 and 10. In the context of case-oriented analysis, the teaching and establishment of relevant conventions needs to be reconstructed. In addition, a questionnaire will be used to explore pupils' reading patterns and their epistemological and poetological concepts. The importance of learners' domain-specific epistemological convictions is now accepted by teaching theorists in mathematics and the natural sciences. The discussion centers rather on the continued refining of the concept (see, for instance, Bromme, 2005; Köller et al., 2000). As has already been indicated, the data of the pilot study also yield results which would seem to suggest the influence of earlier poetological concepts. Consequently it appears productive to test the usefulness of a line of research which until now has been largely neglected in research on literature education.

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APPENDIX 1: CODING SYSTEM – FROZEN WATERFALL

Code	Abbreviation	Explanation	Example
<i>literal understanding</i>	LU	The student interprets a metaphorical passage literally.	Lucas: "... and then there are like ice-grey roots.that could be a tree or a bush." „... und da kommt ja eisgraue wurzeln. das könnte ein baum sein oder ein busch.“
<i>the need to interpret a specific word or phrase is acknowledged or hinted at</i>	NI	The test subject recognises a need for interpretation or understanding.	Mark: "ringing of wind [hmm] means nothing to me [...] dammed (---) I have no idea what that means." „windgeläute [mhm] sagt mir nichts [...] gestauter (---) das sagt mir gar nichts“
<i>explicit recognition of the presence of a metaphor</i>	IM	The test subject comments explicitly on the presence of a metaphor / an image / an expression which cannot to be understood literally.	Lucas: "so then really it's talking in metaphors" (after the thinking aloud phase, with reference to the poem as a whole) „das ist jetzt schon mehr in metaphern gesprochen“ (im Anschluss an das Laute Denken mit Blick auf das ganze Gedicht)
<i>tenor determination</i>	TD	The test subject defines a tenor which is not explicitly given in the text	Bernard: "... then ice-grey rootserm (9.0) hmm, so perhaps the ice-grey rootscould mean the end of the waterfall" „... dann eisgraue wurzeln ähm (9.0) mh, vielleicht also das ende des wasserfalls mit den eisgrauen wurzeln gemeint“
<i>vehicle elaboration</i>	VE	The test subject elaborates the vehicle and/or the ideas which are related to it.	Bernard (second reading): "... I am not really sure about the water-organs, I'd say an organ is like an instrument and then with the water ah water makes noises as well, like when it splashes..." (2. Durchgang): „... wasserorgeln bin ich mir nicht so sicher, ich würd

Code	Abbreviation	Explanation	Example
<i>interpretation of the complete metaphor</i>	MI	The test subject brings together TD(tenor) and VE (vehicle).	<p>sagen, orgel ist ja auch ein instrument und dann mit dem wasser ähm wasser macht ja auch töne, so plätschern, ...“</p> <p>Lara: “and when spring comes, it’ll melt again, slowly, and the drops drip from the icicles that are hanging off the bottom of the waterfall, yes and you hear how they drip on the floor“ [to: water-organs of spring]</p> <p>„und wenn’s frühling wird, dann taut er wieder langsam, dann tropfen die tropfen von dem von den eiszapfen, die am wasserfall unten hängen runter, ja und man hört dann auch schon wieder, wie sie auf den boden tropfen“ [zu: Wasserorgeln des Frühlings]</p> <p>Susanne: “<<reading> sometimes a ringing of wind, / glassy > (--) yes, when everything is so icy and then (--) yes the wind comes up and something, a kind of leaf or something is, well just covered with ice, hits against something else that is covered in ice, that it just gives a bit of noise [incomprehensible] (--) comes up against sort of glass, for instance (--) that it makes a noise.“</p> <p>„<<vorlesend>manchmal ein Windgeläute, gläsern>.. (--) ja, wenn alles so vereist ist und dann (--) ja wind aufkommt und irgendetwas, eine art blatt oder so was dann halt auch vereist ist gegen etwas anderes vereistes kommt, dass es dann halt so (.) ein bisschen [unverständlich] gegen son glas kommt, z.b. dass so ein geräusch dann erklingt.“</p> <p>Bernd: “sometimes a ringing of wind, that like the wind ahh blows</p>
<i>explicit recognition of</i>	ANA	The test subject constructs analogies between vehi-	

Code	Abbreviation	Explanation	Example
<i>analogy</i> (special case of MI)		cle and tenor. This is not coded as MI, although it does of course represent an interpretation of the metaphor.	there, at the waterfall, and glassy, the ice just like hangs there, yes like it's not a kind of glass, but it looks a bit like it, except it's just not as strong (---) and then it is like (--) see-through and like it just hangs there" „ ...und manchmal windgeläute, dass ja der wind dann ähm da dann weht, an dem wasserfall, und gläsern, der hängt ja so eis ja so nicht ne art glas aber es sieht ähnlich aus, nur dass er nicht so stabil ist oder so (---) und dann ist der halt so (--) ja durchsichtig und ja hängt eigentlich nur noch“
<i>selective activation / narcostatization</i>	NAR	The test subject makes sense of the text by means of selective activation / narcostatization of particular words. It must be decided whether to list the aspects that are narcostatized.	Lara: “ ... and when a gust of wind comes, then it doesn't move either and so you see and err err and it looks (---) it doesn't move, because it is frozen and you see erm (---) how it erm is just lovely and sparkly”(narcostatization of “ringing of wind”, activation of the visual aspect „ ... und wenn ein windstoß kommt, dann bewegt der sich auch nicht, dann sieht man also und er er und er sieht bewegt er sich auch nicht, weil er gefroren ist und man sieht ähm (---) wie er ähm halt so schön glitzert“ (Narkotisierung von „Windgeläute“, Aktivierung des visuellen Moments)
<i>re-interpretation of the metaphor</i>	RE	The test subject reinterprets the metaphor and rejects the previous interpretation. In contrast to POL, the subject does not assume that there could be several possible interpretations. Whether there is a clear distinction between RE and POL will need to	

Code	Abbreviation	Explanation	Example
<i>polyvalent interpretation</i>	POL	be explored. The test subject offers a different interpretation of the metaphor, and – in contrast to RE – treats both interpretations as possible.	
<i>weighing up interpretations</i>	WI	The test subject assesses the merits of different interpretations.	
<i>use of co-text</i>	CO	The test subject explicitly draws on the textual context in order to interpret the metaphor. This might involve the appeal to other metaphors or to the “rest” of the co-text.	Bernd: “yes <<reading> invisible amongst stone dammed torrent (–) for the water-organs of spring> (–) erm so also invisible amongst stone, perhaps, because you can like see through it and then erm you sort of see the stone or the rocks of what’s hanging there. erm, so, like it says earlier glassy, so something like glass, and you can like look through it” : „ja <<vorlesend> unsichtbar im gestein gestauter schwall (–) für die wasserorgeln des frühlings> (–) ähm also unsichtbar im gestein, vielleicht, weil man kann ja durchsehen und dann ähm sieht man so das gestein oder den felsen von dem, der hängt. ähm, also, steht ja auch vorher gläsern, also so wie glas, und da kann man ja auch durchgucken“
<i>symbolic interpretation, (local level)</i>	SYM-local	The test subject reads “literal” passages as though they were metaphors.	Bernd: “<<reading> frozen waterfall> (–) well that’s like water that can’t move any more, although it like always falls down [...] then maybe it means that it is always the same, or maybe that it isn’t any more (–) it’s stuck (–) maybe”

Code	Abbreviation	Explanation	Example
<i>symbolic interpretation (global level)</i>	SYM-global	The test subject reads the entire text as symbolic.	<p>„ <<vorlesend> gefrorener wasserfall> (--) ja das ist ja wasser, das sich ja nicht mehr bewegen kann, obwohl's ja eigentlich immer runter fällt [...] dann steht das vielleicht, dass es immer dasselbe ist oder gar nichts mehr (-) zusammenhängt (--) vielleicht“</p> <p>Elisa: “<<reading> frozen waterfall > (.) so what I think is that WATER-FALL was well probably something that happened or a (--) life or a story [...] so motionless it hangs at the ROCK might just mean that it is still a, so that it is again (--) emphasises that it's over (.) that it ISN'T moving on any more ...”</p> <p>„<<vorlesend> gefrorener wasserfall> (.) also da fällt mir eigentlich ein, dass WASSERFALL war halt vielleicht ein Ereignis oder ein (--) Leben oder eine Geschichte [...]also reglos hängt er am FELS könnte vielleicht einfach so bedeuten, dass es noch ein, also noch mal (--) bestärkt dass es jetzt vorbei ist (.) dass es NICHT mehr weitergeht ...“</p>

APPENDIX 2: CRITERIA FOR ASSESSING THE GLOBAL CHARACTERISTICS OF THE TEXT

<i>Criteria</i>	<i>Applies</i>	
	<i>Yes</i>	<i>No</i>
The syntax of the text is not complex.		
Familiar vocabulary is used.		
The making of complex connections and the use of complex reasoning is not required in order to understand the text.		
No particular knowledge of the world is required to understanding the text.		
The text does not use irony.		
The text is potentially worthwhile for pupils in lower classes of secondary school.		
The text is potentially worthwhile for pupils in higher classes of secondary school.		
<i>Imagery</i>		
The tenor is generally explicitly named (E.g.: "Achilles is a lion." – with tenor Achilles).		
The relationship between the tenor and the vehicle is clear (e.g. in the case of Achilles: heroes and lions are strong and ferocious).		
The setting of the metaphors in the text supports the interpretation of the metaphors.		
The metaphors in the text are quite conventional. (E.g.: "The sun is burning." "That stinks.")		
The interpretation of the metaphors is essential for the understanding of the text as a whole.		
The metaphors are based on actual fact rather than abstract ideas.		
The images used in the metaphors are related to each other.		

CRITERIA FOR DETERMINING FOCUS METAPHORS

<i>Criteria</i>	<i>Applies</i>	
	<i>Yes</i>	<i>No</i>
The tenor is explicit.		
The relationship between the tenor and the vehicle is clear.		
The setting of the metaphor in the text supports the interpretation of the metaphor.		
The images used in the metaphors are related to those used in other metaphors in the text.		
No particular knowledge of the world is required to understanding the metaphor.		
The metaphor is based on actual fact rather than abstract ideas.		
The metaphor is conventional. (E.g.: "The sun is burning." "That stinks.")		
No complicated syntax is used in the setting of the metaphor.		
Familiar vocabulary is used both for the metaphor itself and in its immediate setting.		
The interpretation of the metaphor is essential for the understanding of the text as a whole.		