Lexical semantics: hyponyny networks assignment

Art & Culture

Question 2 Not all dictionary definitions contain classifiers, but many do, and in some cases when you look up the classifier itself, you find another even more general classifier within its definition. For example, you might like to think about the following definitions from the Collins English Dictionary. Colostrum is the thin milky secretion from the nipples that precedes and follows true lactation. It consists largely of serum and white blood cells. A secretion is a substance that is released from a cell, especially a glandular cell, and is synthesized in the cell from simple substances extracted from the blood or similar fluid.

Substance is (1) the tangible basic matter of which a thing consists; or (2) a specific type of matter, especially a homogeneous material with definite or fairly definite chemical composition. Matter is (1) that which makes up something, especially a physical object; material. What are the classifiers in these definitions? (Why is this question hard to answer? Can you change the definition to make it easier?) Draw a diagram to show the hyponymy chain you found in (a), with hyponyms shown below their classifiers. Can you think of any additional levels that you can put in the hyponymy chain above secretion?

Add them. Sebum and saliva are co-hyponyms of colostrum. Add them to the diagram, along with two co-hyponyms for each level of the chain. Add distinguishers to your diagram, to differentiate each of the co-hyponyms you have added. On an intuitive level it would seem a simple task to select the different classifiers within each of the above definitions however, several problems arise which belie this. Colostrum is the easiest to deal with as it is

the most specific of the four terms, although there is still potential for an error to be made.

The only classifier in this description is ‘ secretion’ as, according to Hudson (1995: 26) “ the classifier … is the first common noun that follows is”[1]. Although this syntactic relationship is useful as a method of identification, it is not the reason ‘ secretion’ is a classifier of ‘ colostrum’. Syntactic relationships exist between lexemes, not senses, and are governed by the relationships between senses, thus it is the latter that hyponymic networks represent. The classifier (C) is the concept that is superordinate to the ense in question (S1) in that S1 must possess enough characteristics of the classifier to make it a type of that concept, even if not a typical one, as well as distinguishers that serve to differentiate it from the classifier and any other co-hyponyms. More simply, S1 is a hyponym of C iff all S1 are a type of C, but not all C are S1 (op cit. 16). Furthermore, classifiers for common nouns will always capture what S1 is, not how or why it is. In the case of ‘ colostrum’ only ‘ secretion’ performs this function: we can say that colostrum is a type of secretion.

It is important, however, to refine the concept of ‘ what it is’: if this is taken to include a material concept as well as a typical one, i. e. , what it is made up of or consists of, there is more scope for what can be considered a classifier. Under this description both ‘ serum’ and white blood cell’ can be considered as classifiers of ‘ colostrum’. This does not seem to be correct though, as ‘ colostrum’ is not a type of serum or white blood cell, nor does it possess enough of the characteristics of either to qualify as a hyponym.

Therefore, in such cases we can eliminate concepts about the material of which a referent of the given sense consists as candidates for classifiers. Having established the criteria for identifying classifiers it should now be easier to identify those for the remaining senses however, there are further difficulties. It is safe to say that ‘ substance’ is the classifier of ‘ secretion’ according to the above rule but the use of ‘ substance’ twice in the definition provides potential for confusion: according to the definition for ‘ secretion’ above we can make the following statement: (A) a secretion is a substance1 made up of substances2.

The difficulty seems to lie in SUBSTANCE being polysemic (Palmer 1981: 100), a fact apparently proven by its having two definitions. This implies that SUBSTANCE1 represents one of the given senses of ‘ substance’ whilst SUBSTANCE2 represents the other, but neither fits with sense (1) as both are a specific type of matter. Therefore, both must be the concept in sense (2) but if SUBSTANCE1 and SUBSTANCE2 do have the same sense statement (A) has no useful meaning, for it to do so SUBSTANCE requires an additional sense. The solution is provided in the definition of ‘ secretion’: SUBSTANCE1 is istinguished from SUBSTANCE2 by the addition of ‘ simple’ to the latter. In this way it can be seen that SUBSTANCE1 refers to sense (2) whereas SUBSTANCE2 refers to a different sense that is related to, but more specific than (2). To avoid such confusion replacing SUBSTANCE2 with a different lexeme could prove useful, e. g. , COMPOUND, although this is not necessary so long as we understand that SUBSTANCE is polysemic and we know which sense each refers to. As ‘ substance1’ has the sense (2) in the definition we

shall refer to it as ‘ substance (2)’ and it is this sense that is the classifier for ‘ secretion’.

The definition provided for ‘ substance (2)’ makes identifying the classifier here straightforward as it begins by telling us that it is a “ specific type of matter” (my emphasis), which is the central criteria for hyponymy. So given that ‘ matter’ is the classifier for ‘ substance (2)’ we can now find the next classifier in the chain. It could be assumed that the brevity of the definition makes this task even more simple however, the definition is a “ consists of” statement which rules out any concepts it contains as a classifier. It is thus the case that not all concepts have a superordinate concept.

As such we can say that ‘ matter’ sits at the top of the hyponymy chain and is the broadest sense of ‘ colostrum’. Given this information we can now represent all of the relationships above in the following diagram: Fig. 1) Initial hyponymy chain for colostrum. This chain is based solely on the definitions given above however, the claim can be made that this diagram does not contain a complete set of classifiers for ‘ colostrum’. There are facts about ‘ secretion’ that are not contained in ‘ substance (2)’ but that cannot be considered as unique to it, in particular those about its relationship with organisms and organic matter.

This claim is based on the fact, as given in the definition, that ‘ secretion’ is a substance particular to cells, which are the constituent parts of an organism. All of this information is unrepresented within the chain as it is because the relationship ‘ secretion’ has with ‘ cell’ is not due to a shared nature or type. When the hyponymy test is applied the mismatch is more evident: ! a

secretion is a type of cell. This does not deny that the two are related however, only that they are not the same kind of thing, so instead n alternative way must be found of including and representing this relationship. As ‘ cell’ is the missing concept there must be some sense it shares with ‘ secretion’. According to my definition of ‘ cell’ many together make up an organism and because any substance that is a ‘ secretion’ is the product of a cell, it can also be considered the product of an organism. We can go a step further and state that both are types of substance particular to organisms, which allows the statement a ‘ secretion’ is a ‘ substance particular to organisms’.

This can be further refined when the concepts ‘ glandular’ and ‘ blood’ are considered as these relate specifically to ‘ body’, not just to any organism in general. We can thus replace ‘ organism’ and instead state that a ‘ secretion’ is a ‘ substance particular to a body’ or, more concisely, it is a ‘ bodily substance’. A second gap exists between ‘ bodily substance’ and ‘ substance’ for the same reason as above: arguably, a ‘ bodily substance’ has characteristics shared with other types of particular substance that together constitute a more general type of substance.

As mentioned above ‘ organism’ bears a relation to ‘ organic material’ in that all of the substances of which an organism is composed are organic. Given that a body is a kind of organism any bodily substance must also be organic but not all organic material is of the body hence, ‘ organic material’ is a classifier of ‘ bodily substance’. These new facts can be added to Fig. 1) to provide a more complete sense network: Fig. 2) Full hyponymy chain for ‘ colostrum’.

When considering potential co-hyponyms there are two criteria that must be met: the co-hyponyms must share most if not all of the sense of the shared classifier but they must be differentiated by at least one distinguisher (Hudson 1995: 27). Each of the co-hyponyms in Fig. 3) meets these criteria but this does not mean to imply it is a simple task. Take ‘ matter’ and ‘ substance (1)’: the two could initially be considered to be co-hyponyms. This, however, is not the case. Essentially, the definitions for ‘ substance1’ and ‘ matter’ are the same: we could give a definition of matter s ‘ that of which a thing consists’ because CONSISTS OF and MAKES UP have the same sense. Nor does there appear to be any fact about either concept that serves to differentiate them so we must accept that rather than ‘ matter’ and ‘ substance (1)’ bearing a hyponymic relationship they are actually synonyms. As such, SUBSTANCE (1) is nothing more than an alternative lexeme that can be used to represent ‘ matter’ and so can be omitted from the network. Fig. 3) shows that although many of the co-hyponyms do not bear a direct relation to ‘ colostrum’ they are part of a conceptual network that illustrates how senses are related.

It also displays the fact that the further up the chain a concept is the broader is the range of its hyponyms because the sense becomes more generalised at each level. Furthermore, it also shows how concepts can share multiple classifiers and hyponyms. Fig. 3) Hyponymy network for ‘ colostrum’. Distinguishers can be concise or generalised providing they serve as differentiators between the senses. When selecting appropriate facts to include the notion of prototypes should be accounted for in that any potential distinguisher should ideally describe a prototypical referent of the

given sense (op. it. 20). Take ‘ glandular’ it appears in the definition of ‘ secretion’ but it has been omitted from the network. This is because it is not a prototypical characteristic in that not even the majority of secretions are from glandular cells, it is only provided as an example of the kind of cell involved. A further difficulty in selecting distinguishers is deciding what kind of information to include. Definitive information serve to provide the minimum data needed to clarify a concept whilst encyclopaedic information attempts to provide all of the facts about a concept.

The danger with the latter is that information may be included that does not serve to differentiate that concept from another. I would argue that both kinds of information should be included provided that each fact is part of the sense it iff that fact is relevant to the function of differentiation. Fig. 4) includes information of both kinds and, although I have removed the referent and lexeme classifier for the sake of clarity, it can be considered as the most complete network of senses that relate to colostrum’. Fig. 4) Complete hyponymy network for ‘ colostrum’. Bibliography Hudson, R. (1995). Word Meaning. Padstow: Routledge. Palmer, F. R. (1981). Semantics. Bath: Cambridge University Press. Stevenson, A. (ed.) (2007). Shorter Oxford English Dictionary (6th edition). Italy: Oxford University Press. Word Count 1693 not including diagrams. 1799 with diagrams ————————– [1]I have used ” ” for quotations rather than ‘ ‘ to prevent confusion between quotes and senses.