CHAPTER 7

The narrowing acquisition path

From expressive small clauses to declaratives*

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We analyze expressive small clauses like *you fool* (and their counterparts in other languages) as contributors of expressive content. Independently known restrictions on expressive content in turn allow us to derive their limited distribution. The theory has ramifications for child language. It correctly predicts which root-level small clauses will survive into adult grammar and which will be blocked by the acquisition of higher functional projections. It also opens the way to an analysis of children's one- and two-word utterances as denoting expressive, rather than straightforwardly propositional, content.

1. Expressive small clauses

If I forget to buy a crucial item on my grocery list, I might, frustrated with myself, mutter one of the sentences in (1) to express mild self-disapprobation.

(1) a. Oh, you fool!
b. You idiot!
c. You nincompoop/dumbass/screwball!

If my coauthor overheard my muttering, he would recognize that I was in a heightened emotional state, but he would do me a disservice if he reported to others that I thought I was a fool (idiot, nincompoop). I did not, after all, use any of the fully sentential forms in (2).

(2) a. Oh, you are a fool!
b. You are an idiot!
c. You are a nincompoop/dumbass/screwball!

With the sentences in (1), I express a momentary attitude linked to a situation. With the sentences in (2), if I intend myself to be the addressee, I characterize myself in more general terms.

We call the clauses in (1) *expressive small clauses* (ESCs). They represent a productive construction type: The predicate can be just about anything that can take on

emotive force and, though the nominal is *you* in English, we will shortly see that there is considerable cross-linguistic variation and flexibility on this point.

In choosing the term *small clause*, we intend mainly to recognize that these clauses are *necessarily verbless*. An ellipsis analysis is a potential competitor, but we assume, with Merchant (Chap. 3, this volume) that this option is not viable. The semantic contrast between (1) and (2) argues against assimilating the short forms to the long ones via phonological reduction.

However, there are important differences between the clauses in (1) and those found in, for example, the complement to *consider*. For instance, if I want to tell you about my self-perceptions, I can use (3a) for this purpose. But the unembedded versions, (3b) through (3d), are ungrammatical in adult English.

(3) a. I consider myself at peace.
b. *Myself at peace.
c. *Me at peace.
d. *I at peace.

The paradigm reverses, in a sense, for ESCs, which are grammatical only as root-level clauses.

The heart of our theoretical proposal is that the examples in (1) involve a restricted subclass of lexical items that we call *expressives* (Kaplan 1999; Kratzer 1999; Potts 2003, 2005). The class includes predicates like *fool* (on some of their uses), the descriptive content of epithets, attributive-only adjectives like *damn*, and (outside of English) formal and familiar pronouns and honorifics, among many others. We develop a theory of semantic composition that not only allows, but in fact ensures, that ESCs appear only in unembedded positions and without functional material. Our ESCs further subdivide into *self-disapprobation* and *incredulity* types. The first allow no determiners or copular verbs, and the second allow only determiners to intervene between the nominal and the predicate.

Our study interacts in novel ways with the theory of language acquisition. Children in the early stages of acquisition are competent with only a restricted set of syntactic structures but are nonetheless able to express a vast range of meanings. This expressivity demands that the surface forms of child grammars be significantly more polysemous than those of adult grammars. The acquisition task involves narrowing the possible meanings for structures. Researchers have identified a variety of syntactic principles that contribute to this narrowing. We argue that the acquisition of semantic distinctions also plays a significant role here. In particular, we seek to support the following generalizations about small clause acquisition:

(4) Syntax
The acquisition of the IP projection helps define the distribution of root-level small clauses.

(5) Semantics
The recognition of a realm of expressive semantic content helps define the distribution of root-level small clauses.

Recognizing expressive content can bring us one step further – we can begin to explain why ESCs are so limited in their distribution.

2. Small clauses in adult English

Small clauses in adult English are well documented and characterized in the literature. In this section, we briefly review their core features, with the aim of highlighting similarities and contrasts with children's small clauses and indicating why ESCs are special.

As noted above, adult English small clauses are generally embedded. We illustrate in (6).

(6) a. I consider her a genius.
b. *Her/She a genius.

ESCs are different: They are unembeddable. Progovac (Chap. 2, this volume) identifies a range of other root-level small clauses. Though we do not here explore the complex interrelations between her data and expressives, it is worth noting one unifying feature: Root-level small clauses seem invariably to have a semantics not reproducible with fully sentential forms. The phrase *Ali in Nepal*, set below a photograph, is subtly different from *Ali {is/was/depicted/photographed} in Nepal*, and different in ways that transcend tense marking and the like. This observation feeds into our overarching hypothesis that root-level small clauses survive into adult English only if their content is not expressible using a fully sentential form.

Small clauses are invariably predicational constructions (Heycock & Kroch 1999):

(7) a. I consider Clark to be Superman.
b. *I consider Clark Superman.

Syntactically, this means that small clauses have the form [DP PredP], where PredP is usually AP but can sometimes be PP (see Huddleston & Pullum 2002). Semantically, the two elements are always put together by functional application; the default composition probably involves applying the Pred's meaning to the DP's meaning. However, since the DP can be quantificational, another possible composition scheme has the DP's meaning applying to the Pred's meaning. In contrast, the syntax is more rigidly directional: The predicate is always in second position, as we see in (8).

(8) a. I consider Ali intelligent.
b. *I consider intelligent Ali.
c. I consider Ali a genius.
d. *I consider a genius Ali.

For additional discussion of English small clauses, see the above cited work and also Stowell (1981) and Svenonius (1994).

3. Small clauses in child English

In child English, small clauses are freer in their syntax and in the relationship between the nominal and predicational elements. We illustrate in (9) and (10) (Bloom 1973):

(9) a. Baby highchair.
'Baby is in the highchair.' [agent–location]
b. Mommy sock.
'Mommy's sock.' [possession]
'Mommy wants a sock.' [agent–object]
c. Mommy eggnog.
'Mommy had her eggnog.' [agent–object]
d. Sweater chair.
'Sweater is on the chair.' [object–location]

(10) a. Me big.
b. Me happy.

In (9), we see that a small clause can express much more than a simple predication relation between the nominal and the predicate. In both (9) and (10), we see that these clauses can appear unembedded.

There is, though, sufficient overlap in the properties of child and adult small clauses to justify connections between them. For instance, children's small clauses always involve a pair of constituents and no sentential embedding:

(11) *Said ate.
'I said I ate it.'

What's more, children's small clauses are invariably predicate-second (Bloom 1990):

(12) a. It big.
b. *Big it.

The predicate-second requirement on small clauses strikes us as important to their overall characterization. It's for this reason that we have excluded clauses like (13) from our present domain of inquiry:

(13) a. Silly me.
b. *Me silly.
c. Silly you.
d. Silly Chris.
e. ?Goofy/Smelly/Grumpy me.

It is tempting to include these in our analysis. But they differ significantly from the self-disapprobation clauses that are our focus. In (13e), we see that the predicate is essentially fixed as *silly*. Perhaps more importantly, they have the order predicate–nominal, which is basically unattested in the realm of English small clauses.

4. A note on expressive content

Our semantic analysis of ESCs is based in the theory of expressive content, and we call upon general restrictions on such meanings to explain what is special about ESCs in particular. We therefore pause now to establish some background on expressive content in general.

Potts (2003, 2005) provides a semantically multidimensional analysis of expressive content. Strands of this work trace to Cruse (1986), Kaplan (1999), and Kratzer (1999), and the ideas have recently been applied more widely by McCready (2004), Kratzer (2004), Potts and Kawahara (2004), and others. The present section is an overview of expressive content. The criteria are taken from Potts's work, but we tailor them specifically to ESCs. We remain at a descriptive level in this section; in Section 8, we provide a precise theoretical formulation that aims to capture these properties.

The most prominent feature of expressive content is its strong tie to the utterance situation. For instance, as Potts and Kawahara (2004) show, the content of Japanese honorifics and antihonorifics is always speaker oriented, even when it is expressed inside a belief context, where one might expect it to be oriented toward the subject of the belief predication. Example (14) illustrates.

(14) *John-wa* [*Mary-ga* *nesugoshi-chimat-ta*] *-koto-* *oshitteiru.*
John-TOP Mary-NOM oversleep-ANTI.HON-PAST -fact know
a. 'John knows that Mary overslept.'
b. 'It sucks that Mary overslept.'

The antihonorific expression *chimat-* expresses the speaker's disapprobation of the propositional content of the clause containing it. Though it here appears inside the knowledge ascription to John, its content is attributed to the speaker. John might be pleased, or indifferent, that Mary overslept. It is the speaker who looks askance on this fact.

The facts are the same for formal and familiar pronouns, which indicate something about the *speaker*'s relationship to his addressee. Similarly, expressive modifiers like *damn* are always speaker contributions. One can felicitously utter the sentence *Bush thinks the damn Republicans deserve public support* because *damn* trickles up to root, attaining the same standing as the overall assertion (Potts 2003).

We cannot really test to see whether ESCs have this property in full, because they are syntactically unembeddable, as we see in (15).

(15) a. *I consider you fool/nincompoop/screwball.

b. *I consider myself/me fool.
c. *Ed saw you fool (so I was embarrassed).

Similarly, the predicates involved in ESCs cannot be modified (16a–c), except by other expressive modifiers (16d).

(16) a. *You nonfool.
b. *You unfool.
c. *You complete idiot.
d. You fucking idiot.

We are at present unsure of how the composition works for (16d). But, in Section 8, we derive the limitations evident in (16a) through (16c) from some basic facts about the semantic composition of these clauses. For now, we need only take note of the descriptive generalization: ESCs can't mingle with the regular descriptive material around them. From this, it follows that they are semantically unembeddable.

So ESCs are semantic isolates. What content do they isolate? This turns out to be extremely hard to pin down. In our opening, we described a situation in which one would *use* an ESC, and we showed that the fully sentential form would express something much different in that context. But what do ESCs mean? If they express propositions, then which ones? If they impose definedness conditions on the context, in the manner of presuppositions, then what are those conditions?

At best, these questions are hard to answer. But they might be fundamentally misguided. For expressives, we have strong intuitions about where and how they are properly used, but we hem and haw when pressed to say what they mean. This is the *descriptive ineffability* property, and it is nowhere stronger than with the expressions of mild disapprobation that are our focus here.

Expressive content has at least one other important property: It is always intuitively *independent* of the descriptive content around it. I can assent to the content of *That bastard Kresge is famous* without thereby endorsing the content of *bastard*. I assent to the proposition that Kresge is famous; whatever *bastard* contributes, it remains with the speaker. However, ESCs don't permit this kind of test. In virtue of the fact that they are syntactically and semantically isolated, their content never arrives wrapped, so to speak, in descriptive content. They are purely emotive. This sets them somewhat apart from epithets, honorifics, and the like, both descriptively and at a technical level (Section 8). But ESCs have enough in common with these other classes of expression to justify a treatment that unifies them under the broader *expressives* heading.

5. When speaking expressively, we're all children

Sections 2 and 3 showed that adult and child small clauses have different distributions. Part of our descriptive claim, though, is that a limited class of root-level small clauses survives into adulthood. We illustrated for English in (1), repeated here:

(17) a. Oh, you fool!
b. You idiot!
c. You nincompoop/dumbass/screwball!

The next few subsections show that ESCs are cross-linguistically common. Though they manifest themselves in a variety of ways, their important shared property is this: *None of them contains a verb.* Nothing mediates between the composition of the expressive predicate and its argument. Our account, developed in Section 8, handles this nicely. But we first want to explore the factual terrain more thoroughly.

Our taxonomy of ESCs divides into two distinct classes. We have the self-disapprobation clauses illustrated in (17). In addition, there are incredulity small clauses, as in (18) and (19).

(18) Tom: You're really argumentative.
Chris: Me argumentative? I am not!

(19) What, me worry?

Our analysis attributes a quite different structure to these two clause types, and their semantics differs as well. We return to the incredulity type in Section 9.

The examples in (18) and (19) display a number of puzzling morphosyntactic properties, some in common and some that distinguish them from each other. First, the self-disapprobation types can involve second-person pronouns even though they are easily used in a self-directed manner. Second, and similarly, they can involve proper names that pick out the speaker, though this is normally a highly marked choice in discourse. Third, the incredulity cases involve a pre-predicative accusative form (just as in ESCs in general) and first person (*me*) rather than second person (*you*), although the referent is the same.

This is just the start of the morphological variation. As we will see, few of these properties hold constant across languages. But the ones that do are revealing. In particular, it is significant that no functional material of any kind – no verbs, no determiners, and so on – can appear in these self-disapprobation clauses:

(20) a. *Chris, you are idiot.
b. *Chris, you an idiot.
c. Chris, you are an idiot. [not expressive]

In addition, ESCs don't ever embed, as discussed in Section 4.

6. Self-directed disapprobation cross-linguistically

We begin with an extremely safe universal:

(21) Every human language provides the means for calling oneself a fool.

The next few subsections seek to document some of the variation in form that ESCs can have.

6.1 Auf Deutsch

German differs from English in allowing the nominal in the ESC to be a first-person nominative form:

(22) a. *Ich idiot!*
b. *Ich arm-er Mensch!*
I poor-MASC.NOM man

It is also possible to use a second-person form. I might say (23) to myself if I fell asleep going 90 mph on the highway and touched the left railing before I woke up again.[1]

(23) *Du idiot, das war gefährlich!*
you idiot that was dangerous

As far as we know, the distribution of these clauses is otherwise the same: they do not really embed, and they arrive without any functional material.

6.2 Op Afrikaans

In Afrikaans,[2] we find more variation than in English and German. The first noteworthy property of Afrikaans ESCs is that the nominal form is in the accusative case. A nominative pronoun (the norm for subjects) is ungrammatical unless the copular verb and the article appear, turning the clause into a regular predication, as in (24c).

(24) a. *Jou idioot!*
you-ACC idiot
b. **Jy idioot!*
you-NOM idiot
c. *Jy is 'n idioot!*
you-NOM are an idiot

So far, this is in accord with the generalizations that we seek to capture theoretically below. We should mention, though, that expressive meanings seem also to arise via different structures in Afrikaans. For instance, a reduced copular verb can produce an expressive meaning of some kind (25a), as can a vocative (23b) and a combination of these two elements (25c).

(25) a. *Jy's 'n idioot!*
b. *Andries, jy is 'n idioot!* [vocative expressive]
c. *Andries, jy's 'n idioot!* [reduced copula and vocative]

We do not here attempt to account for these facts in our semantic analysis. We assume for now that expressive meanings can arise in a variety of different ways.

The vocative examples in (25b) and (25c) suggest an alternative to our analysis, one that a few people have suggested to us: We might seek to assimilate ESCs to vocatives. However, it seems clear that vocatives and ESCs are different constructions.

First, vocatives can easily occur without any disapprobation:

(26) You, waiter! Could you bring me the bill?

This is quite different from, and carries a different intonation from, example (27).

(27) You (mere) waiter/jerk!

What's more, the vocative in this form does not allow self-reference in English at least.

In addition, one can combine the vocative with this form of ESC, as in *Chris, you idiot!* So we think that those examples that informants give us from other languages that involve the vocative might be inherently different, although we are not able to pursue the matter further at the moment.

6.3 Po-Russki

Russian ESCs and regular small clauses differ when it comes to predicate agreement. For an expressive meaning, speakers simply use the predicate inflected for gender:

(28) a. *Idiot*
idiot-MALE.SPKR
b. *Idiotka!*
idiot-FEM.SPKR

If one uses a pronominal in addition to an inflected predicate, the result sounds somewhat like a medical diagnosis (Anna Verbuk, personal communication):

(29) *Ja idiotka!*
I idiot-FEM.SPKR

Scrambling, though, can bring back the expressive meaning that the pronoun removes in the canonical order:

(30) *Idiotka ja!*
idiot-FEM.SPKR I

6.4 Nihongo-De

Japanese ESCs are of particular interest both from the point of view of the present study and for our understanding of honorification more generally. Both (31a) and

(31b) have expressive meanings, but (31b) is noteworthy for involving an antihonorific that is self-directed.

(31) a. *Ore tte baka da na.*
me TOPIC idiot COPULA PART
b. *Ore tte o-baka-san.*
me TOPIC HOM-idiot-HON

Potts and Kawahara (2004) provide a semantics for honorifics and antihonorifics in Japanese. Like the present analysis, theirs is based in the notion of expressive content as importantly distinct from regular content.

6.5 General thoughts on variation and interfaces

The variation attested above invites some commentary on the nature of linguistic interfaces, in particular, on what general properties govern the interface and how those general properties might assist children in acquiring language.

It is clear from the above that different languages make different choices when it comes to realizing expressive predications. But, as noted earlier, they display a kind of common core: None of them contains a verbal element (excepting the reduced copular clause in the apparently expressive Afrikaans example in (25)). We suggest that this absence arises from the following principle:

(32) No verb meaning is expressive.

We will see below that this has a straightforward formal counterpart in our restrictive theory of semantic types.

We can in addition make some sense of the attested variation in the form of the nominal in these predicates. The generalization seems to be that a language will pick its least marked surface realization for the expressive nominal. In German, the default case is clearly nominative, hence the form *ich* ('I') in clauses like *Ich idiot!* and *Du* ('you-NOM') in *Du idiot!* The default case in English is accusative – it shows up just about everywhere but the canonical subject position – but we can really only speculate that it is the case of sentences like *You idiot*, since the second person does not inflect for case. It seems telling, though, that the potentially related expressive *Silly me!* clearly involves the accusative.

The generalization seems to extend to Russian. Though Russian's silent present-tense copular verb seems to prevent it from becoming a true pro-drop language, many of its pronominal subjects end up being phonologically silent, an observation that is in line with its rich inflectional morphology. It is therefore not surprising that Russian ESCs are generally just inflected predicates.

7. The acquisition of expressive small clauses

Small clauses are ideal for pursuing our distinct but related aims of tracking the path of acquisition and identifying what is special about expressives. This is so because it is common to adopt (33) in some version or another.

(33) Acquisition Stage 1
All two-word forms are small clauses (Lebeaux 1988; Radford 1990).

That is, in the earliest stages of language acquisition, all clauses that children utter have the structure of small clauses. This means, of course, that the construction is pressed into duty for everything that children wish to communicate. It is thus no surprise that we find them in matrix position and also that they can be used to assert that something other than a predication relation holds between the nominal and the predicate.

Stage 2 can be characterized as follows:

(34) Acquisition Stage 2
As learners acquire more functional projections, they begin also to move toward a one-to-one syntax–semantics connection

This recalls a prominent claim of learnability theory: The acquisition process involves expansion but not retreat. That is, the acquisition path involves adding functional projections and features, monotonically, building from a small clause base. The nature of this growth is influenced by language-particular information inferable from the speech community.

We propose that the syntax-to-semantics mapping also undergoes a systematic development. In early stages, the mapping is far from functional – each structure is associated with a large set of meanings. As children acquire more structures, they work to reduce the one-to-many nature of the interface, by assigning meanings to the new structures and disassociating those meanings from the old structures. For instance, when children acquire the verbal projections necessary for transitive clauses like *Mommy drank milk*, the small clause *Mommy milk* loses its ability to express the proposition that Mommy drank milk. And so forth. The general trend is toward a one-to-one mapping from structures into meanings. The more structures one has at one's disposal, the closer one can come to this ideal. Thus, increased syntactic sophistication correlates with decreased semantic ambiguity. What is ultimately required is a step-by-step account of how each misprojected small clause meaning is moved to another structure.

It follows from (34) that the range of syntactic and semantic options for the small clause enters into decline as children acquire additional functional projections. For example, the clause *Mommy eggnog* loses its ability to express the proposition that Mommy had her eggnog, because the extended verbal projections of the VP and the IP have assumed the role of expressing transitive clauses of this sort.

But, for reasons discussed in Section 8, ESCs are left out of this competition. Higher structure is incompatible with their semantics, which essentially forces a di-

rect application of the expressive predicate to the small clause nominal. We expect this to be true of all root-level small clauses that survive into adult English, for instance, those discussed by Progovac (Chap. 2, this volume). For instance, the small clause *John in New York* is possible precisely because its semantics differs from that of any fully sentential form.

Our analysis invites us to reconsider the nature of the semantic content of many utterances of child English. For instance, does the child's exclamation of *He big!* denote a proposition? The theory of expressive content suggests that it might not, that it might instead denote purely expressive content, in other words, that it is an ESC. As Kaplan (1999) shows, this does not mean that it couldn't have propositional implications. It might implicate the proposition that he is big. But its denotation is potentially something else entirely.

As the child acquires the ability to manipulate higher functional structure, the more direct and unambiguous alternative *He is big* crowds out the expressive variant. But the basic facility for ESCs survives in *you fool* and the like – sentences with meanings that are importantly distinct from their fully sentential counterparts, as we have shown.

In a sense, Wexler (1998) anticipates this alternative and seeks to block it. Wexler argues that root infinitives must have a higher TP phrase. The primary motivation for this claim is the assumption that TP is the sole locus of propositional denotations. However, we reject this assumption. Propositional denotations arise not only from TP nodes, but also via conversational implicatures, via semantically multidimensional constructions (Potts 2005), and via presupposition triggers. So the apparently assertive force of children's subsentential utterances does not, by itself, argue against the idea that the content of those utterances is purely expressive. We think that this avenue remains open and worth exploring.

8. Analysis of self-disapprobation small clauses

An analysis of self-disapprobation clauses must account for at least the following related properties:

(35) a. Self-disapprobation clauses are unembeddable.
b. Self-disapprobation clauses lack functional material.

The examples in (36) illustrate each of these properties in turn:

(36) a. *I regard you/yourself/myself/me idiot!
b. *You are idiot.
c. *You an idiot.

The vehicle of our analysis is the theory of semantic types. Here is a broad overview (described more fully below): We define a special expressive type, *E*, that is never an input type. Semantically, this means that nothing takes an expressive-typed thing as an

argument. This ensures that such content fails to embed, and it also explains why functional material (determiners, copular verbs, etc.) cannot come between the expressive and its argument.

Our analysis could be paired with a more clearly syntactic view of expressive content, perhaps connecting in important respects with the syntax of *point of view* (Speas 2004; Hollebrandse 2000; DeVilliers 2003; Hollebrandse & Roeper 1998) and their role in acquisition. To do this, one would define a special *expressive feature* that could select for certain items but that could never be selected for, even by abstract functional heads. Indeed, this approach is so close to our own type-theoretic formulation that readers are free to interpret it as such.

8.1 A meeting at the interface: Type theory

The set of semantic types for our theory is defined in (37).

(37) a. *e* and *t* are regular types.
b. *E* is an expressive type.
c. If *a* and *b* are regular types, then <*a*,*b*> is a regular type.
d. If *a* is a regular type, then <*a*,*E*> is an expressive type.
e. Nothing else is a type.

Clauses (a) and (c) (along with the extremal clause (e)) define the usual sort of type theory in semantics. The new clauses are (b) and (d). Clause (b) specifies a new *expressive type*, symbolized *E*. It can enter into just the limited class of functional types defined by clause (d). In short, *E* can be an output type – it can appear in types like <*a*,*E*>, where *a* is a regular type. But we have no types like <*a*,<*E*,*b*>> or <*E*,<*a*,*b*>>. In these, the expressive type is an input type – just what we exclude with (37). We also have no types in which *E* is embedded inside an output type. For example, <*a*,<*b*,*E*>> is not in this type space.

In thinking about these types, one should also consider their corresponding semantic domains, which we specify in (38).

(38) a. The domain for type *e* is D_e, a set of entities.
b. The domain for type *E* is D_E, the set of expressive meanings.
c. The domain for type *t* is D_t, a set of propositions.
d. The domain for type <*a*,*b*> is $D_{<a,b>}$, the set of all functions from D_a into D_b.

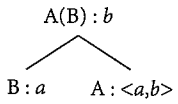
For the most part, this definition is standard. The only really noteworthy clause is (b), which essentially leaves the nature of expressive content unanalyzed. The exact nature of this content is difficult to specify. We do not venture a specific hypothesis here. A variety of answers have appeared in the literature. In Potts (2005), it is taken to be regular semantic content; expressive and regular content are distinguished, in that theory, only by their semantic types, a largely formal division. Potts (2003) seeks to connect expressives with speech acts, and Potts and Kawahara (2004) argue that it should be modeled

using the real numbers in the interval [–1,1]. We refer also to McCready (2004), an analysis that takes this content to be importantly *dynamic*. For the purposes of this chapter, though, we require only the type-theoretic division suggested by (37). Our inability to say more about the domain D_E is a direct result of our current lack of understanding of the descriptive ineffability property discussed in Section 4.

8.2 Expressive composition

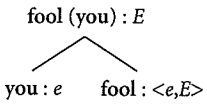
Expressive-typed expressions create an impasse of sorts when we look at semantic composition. Suppose, for instance, that we let composition proceed by function application alone. That is, suppose (39) is our only composition principle.

(39) **Functional application** (order independent)



This would allow us to have semantic parsetrees like the following:

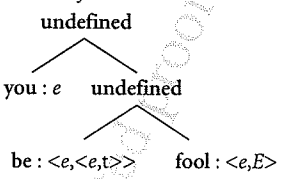
(40) *You fool!*



The expression on the root node in this tree is of type *E*. Thus, nothing can take it as an argument. This is a direct consequence of definition (37), which ensures that we cannot have expressions of type $\langle E,a \rangle$ for any type *a*. To put it another, more specific, way: Because *consider* is a function from the type of regular properties (or propositions), it cannot appear as the sister to *You fool!* The result would be semantically uninterpretable for the simple reason that it would induce a type mismatch between sisters.

We can similarly block versions of these clauses that contain, say, a copular verb:

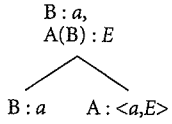
(41) **You are fool!*



The same logic block structures with determiners. We need only assume that they are not expressively typed, that is, that they have the usual semantics, delimited by the type $\langle\langle e,t\rangle,e\rangle$ or the type $\langle\langle e,t\rangle,\langle\langle e,t\rangle,t\rangle\rangle$.

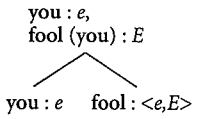
We should note that this theory of expressive composition differs from that of Potts (2005) and related work. There, expressive content (and, more generally, conventional-implicature content), is governed by the following rule:

(42) **Expressive composition (Potts 2005)**



In this rule, expressives involve functional application in one dimension of meaning. But the semantic value that an expressive determines for its mother node is *multidimensional* – it denotes both the expressive-type meaning and the regular-type meaning given by the expressive's argument. If we used this rule for ESCs, we would have trees like the following:

(43)



In a sense, the claim would be that *You fool!* denotes both an expressive meaning and picks out the addressee. This is an incorrect analysis, though: ESCs do not behave in any sense like nominals. This is easily brought out by minimal pairs like the following (for which we are indebted to Caroline Heycock, personal communication):

(44) a. You fools should read more carefully.
b. *You fool should read more carefully.

The plural form permits a reading on which it is a kind of integrated appositive like *we linguists* or *you cyclists*. Such appositives require plural pronouns, and hence *you fool* is forced into its ESC reading, where it of course cannot act as a grammatical subject. We capture this semantically if ESCs have one-dimensional expressive meanings (a possibility that Potts (2005) does not discuss at all). We fail to capture it if we import Potts's theory of expressives directly to the present work, by relying on (42) to put together the parts of ESCs. We thus propose that (42) does not characterize ESCs.

This means, though, that we must be somewhat careful about how we assign semantic types. It would be a mistake to allow the theory to be nondeterministic, that is, it would be a mistake to allow that daughters of the sort in (45) could have either (45a) or (45b) as the value for their mother.

(45) A : <a,E> B : a
a. A(B) : E
b. A(B) : E , B : a

Thus, we must allow that the predicates in ESCs have a slightly different type than those that appear in phrases like *the damn linguists*, which can appear in embedded positions but which also have an element of expressivity to them (Potts 2005). To be fully precise, we assume that the domain of expressives divides into two subdomains: the kind that determine multidimensional meanings and the kind that determine one-dimensional meanings (like those that appear in ESCs).

9. Analysis of incredulity small clauses

We have so far left incredulity clauses out of the discussion. But they bear a striking resemblance to self-disapprobation clauses. In particular, they too are unembeddable and become ungrammatical as soon as we introduce any functional structure into their minimal design.

(46) a. (What,) Me worry?
b. *I wonder/doubt me worry.
c. *Me are/is/be worry?

Our semantic explanation for these facts is, though, different from the one we gave in Section 8 for self-disapprobation clauses. In this case, we are guided by the typical way of expressing these meanings in German. We illustrate in (47).

(47) a. *Ich und Angst haben?*
I and fear have
'Me afraid?'
b. *Ich und ein Professor (sein).*
I and a professor be
'Me a professor?'

The *und* ('and') that appears in these cases is evidently not the usual Boolean coordinator or anything like it. For one thing, it conjoins two things that are of different syntactic category and semantic type. For instance, *ich* is presumably an entity-level expression. It appears here to be coordinated with *Angst haben*, a predicate.

In addition we find articles are not only possible but required:

(48) a. Me an idiot?
b. *Me idiot?

Moreover, the notion that a more abstract pairing is involved comes through because appositives are possible inside the incredulity small clauses where they are on the outside of self-disapprobation clauses:

(49) a. Me, Tom, an idiot?
b. *You, Tom, an idiot!
c. Tom, you idiot!

Thus, we propose that this coordinator is merely a pair-formation operator in the semantics. The denotation of *Ich und Angst haben* is actually more like (50).

(50) < the speaker, the property of being afraid >

The idea is that the speaker, in using this object instead of the propositional denotation obtainable by applying the second member to the first, means to say that there is something inappropriate about that act of functional application. The speaker presents these two objects independently as a way of signaling the infelicity of combining them.

This provides an immediate account of why these clauses do not embed: There are presumably no lexical items whose semantics allows for this kind of object as one of its arguments. Like expressive-typed items, objects like (50) thus in effect put an end to the semantic composition – they have to be on the root, because nothing can have them as a sister.

Incredulity clauses are not known in early child language for reasons that are expected under our account. Conjunction involves a higher order projection and is not found among early two-word meanings. Children, surprisingly, do not normally say things like (51).

(51) a. *Mommy daddy ('Mommy and Daddy')
b. *Meat rice ('Meat and rice')
c. *Knife fork ('Knife and fork')

These are natural meanings, but they would be captured with *and*, exactly the form we are attributing to incredulity clauses. So although this *and* is different from the incredulity *and*, it is part of a family of meanings not initially employed by children.

10. Summary and conclusions

It is common to assume that small clauses provide a foundation for children to acquire (build) the more complex structures of their language. They are therefore an excellent starting point if one wishes to track the path of acquisition. It is especially fruitful to link this starting point with the development of children's facility with semantic interpretation. In this chapter, we assumed two kinds of progression: Children seek to acquire additional structures, and they strive for something like a bijective relationship between forms and meanings. Thus, as they acquire new structures, the one-to-many mapping that they were once forced to by their impoverished syntax gets closer and closer to being functional.

This has distributional consequences. In particular, the higher structure limits small clauses in two ways: They lose their main clause status (because IP can serve that purpose), and they become invariably predicational (because verbal projections handle the other available relations).

In a sense, this chapter began with the following idea: Suppose there were a type of clause (or content) that couldn't project any higher than the small clause, for prin-

cipled reasons. On the above view of acquisition and interpretation, we would expect it to remain childlike, in the sense that its meaning would never get taken over by more complex syntax. ESCs seem to instantiate just this clause type. Because expressive content is inherently unable to act as a semantic argument, a small clause with an expressive type for its predicate acts as a barrier to further composition. ESCs are thus unembeddable and lack the verbal and functional material that we expect to find with main clauses. The semantic relationship between function and argument in ESCs seems inflexible (we claim that it is predication), but these clauses are otherwise a kind of throwback to early child grammar, before higher structures and the pressures of a deterministic syntax-to-semantics mapping forced small clauses into a merely supporting role.

Notes

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2. Our thanks to Andries Coetzee for these examples and observations.

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