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To Be or Not to Be:
The distribution of the auxiliary verb 'to be' in an SLI individual, a case study of non-target language captured by Universal Grammar

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"*And then he said: 'I want to study your brainwaves', so the scientist took the boy and cracked his head open and said: 'my God, these brainwaves are all wrong'*"
George (9;11) 2006

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SOAS

*Abstract: George is a boy of (9;11), he has a verbal I.Q. of 119 and a sharply defined sense of empathy, humour and sensitivity. He is orally dysphraxic while otherwise not suffering from any known neurodevelopmental disorder. He lives in North West London and comes from middle class stock, he has a 'posh' phonological system and an advanced vocabulary his mean length of utterance (mlu) is 14 words. Meanwhile, circa 35% of the time, he outputs sentences like: *[well she pretends to be a nice girl but she not, not really, she tells on everyone, she a tell-tale...], and, *[one time I were talking to her about if aliens exist...]. The disparity between George's generally sound cognitive abilities and his linguistic profile are what make him interesting to science. George displays an obviously compartmentalized mind in which some systems are deeply affected while others are normally developing. It is the study of such individuals that provides the strongest proof for the modularity of mind thesis (Fodor 1983) which argues against a holistic architecture of the mind* (cf. *Genie* (*Curtiss 1977*), *Laura* (*Yamada 1990*), *Christopher* (*Smith and Tsimpli 1995*) etc.). *George is an important case study because he doesn't seem to fit well into the common linguistically impaired phenotypes, he isn't autistic, retarded or afflicted with Down's Syndrome, also, despite the fact that his speech is erroneous almost exclusively on morpho-syntactic grounds we can not say that he suffers from a classic form of Specific Language Impairment like G-SLI (as defined by van der Lely 2005, van der Lely and Battell 2003). George's speech circa 65% of the time is grammatical and he outputs well formed wh-questions and embedded clauses infallibly unlike 80% of G-SLI sufferers (ibid.). The fact remains, however, that at (9;11) a boy with a verbal I.Q of 119 should not generate ungrammatical sentences a third of the time. In this short study I wish to start to unpick George's particular deficits by taking one of his most frequent devious linguistic features and examining it in isolation. The general aim is to try and understand a basic question about George's mind per se: is his linguistic deviance contained within UG and thus a product of non-language specific parameter setting or do his linguistic patterns betray a severely damaged language faculty.*

Section one simply presents George's general cognitive and linguistic patterns and outlines his specific linguistic deficits and argues for an against his diagnosis in a sub-type of SLI (Coltheart ms., van der Lely and Battell 2003). Also, it will be stated that in order to focus I will only look at a particular linguistic deficit: omission of the auxiliary verb 'to be'.

Section two will look at his general distribution of the auxiliary verb 'to be' and extrapolate any relevant patterns.

Section three will then analyse the data showing how it is remarkably similar to L1 acquisition of this auxiliary verb and therefore, possibly, could be explained in similar ways (Schütze ms.). Section three also shows a syntactic consequence of George's auxiliary verb deficit on negation which actually reaffirms research by Zanuttini (1996) on the connection of T and NegPs in (Romance and) English.

Finally, we will conclude with the tentative assumption that George's linguistic patterns seem to be captured by UG although whether his deficits are maturational/temporary vs. permanent will only be answered by a longitudinal study.

1 Introduction

1.1 On our subject

The conversations had with George are intense and academic as reflecting both his and my interests. To match his intellectual curiosity George has above average intelligence which becomes apparent to anyone who spends any time with him, it will also become apparent to a reader of the conversation transcripts. George is also orally dysphraxic which seems an ironic disparity when considering his verbal I.Q is 119 while his written I.Q is 88. This low written I.Q is probably entirely conditioned by his poor working memory delaying his learning of written language considerably. There is absolutely no possibility of George suffering from Autistic Spectrum Disorder (ASD) of any severity, George is profoundly sensitive to other's emotions and consummately self-aware of his own. He cracks jokes which are funny and also relevant to the discussion (P.3 L.95). He is also independently motivated and chose with seemingly zero outside influences to become a practicing Roman Catholic despite our families scientific and/or agnostic preference. George was born two months premature but was breathing naturally and doctors at the time declared that he hadn't suffered from hypoxia???.

1.2 George's basic linguistic profile

George's linguistic profile is clearly atypical and despite being endowed with a stunningly rich vocabulary and sensitivity to humour and speech levels George, at least at the moment, outputs a variety of linguistic error types:

i) Unusual clause structure with complex ideas being expressed in long chains of short clauses which appear to be mostly semantically linked:
P.1 L.14/15 " *a boy in my class, he's a friend of someone, and this friend of someone, his best friend, he said 'you lost another point...*"

ii) He considerably over-regularities the past tense /-ed/[1]. His general tense selection can also be ambiguous, ie. it is not clear if P.2 L.53 "*Cos I just **seen** it...*" should be analysed as a further instance of error type-(vi) (cos I **had** just seen it) or he is using the wrong verb form: (cos I just **saw** it). Context in this particular example points to the latter.

iii) The gender of pronouns or nouns is reasonably often confused
P.1 L.14 "*...ah, ah, a girl, a boy in my class...*"
P.4 L.142 "*...feels like a mother hearing his son had murdered someone"*

iv) Quantifiers are not always accurate[2]
P.2 L.44 "*...I bet it was a movie put on with a bit of special effects...*"

v) Reasonably frequent pro-drop in spoken utterances:
P.2 L.75 "*...if God exists, would be like...*"
P.4 L.142 "*he feels very fed up, [he] feels like a mother*"

vi) Very frequent complete omission of auxiliary verbs from obligatory positions:
P.3 L.140 "*I mean that why...*"

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1 Almost all of this discussion was in the present and as such not much past tense was used at all (by either of us) for this reason there aren't any good examples of this happening in the recorded pilot.

2 this is a very small non-target aspect of his deficit and the example given reflects that, it isn't strictly speaking correct but it is hardly ungrammatical

P.3 L. 136 "*no I not!*"

vii) Frequent dropping of 'that' when obligatorily heading embedded clauses
P.4 L.142 "*...feels like a mother hearing [that] his son had murdered someone*"
P.4 L.164 "*...wouldn't you agree [that] if you done something...*"

It is important to note that the majority of people who meet George do not notice that he has any linguistic deficit at all. He is very vocal, incredibly expressive and his speech rate is as fast as anyones. What masks his more obvious syntactic errors such as: P.1 L.47 "*she a tell-tale...*" is the fact that he is (as already mentioned) orally dysphraxic. George's tongue and mouth movements although consistent within themselves are non-standard and his speech is consequently 'odd' sounding. This is a mixed blessing in that, although it makes communication with him slightly harder than average especially for someone unaccustomed to his phonetic outputs it does mask his linguistic errors to some extent. On first meeting people must set up sound correspondences between his speech and normally developed Southern British English in order to decode the words: *[(h)api(n)] vs. [hapən] 'happen', *[(w)ili] vs. [re:li] 'really', *[hu:man] vs. [hju:mən] 'human'[3]. This concentration on the decoding of phonetic input probably masks such facts as an unpronounced /'s/ in 'he's'[4]. Simply, his linguistic inadequacies seem to be explained by laymen as part of his 'odd' accent. After this layperson gets to know George and grows accustomed to his accent George's linguistic abnormality becomes normalised and thus unremarkable.

1.3 Does he have a recognisable type of SLI

Whether George has SLI is unquestionable, he clearly has an impairment which is specific to language. This, in itself, is rather un-informative considering the vast heterogeneity of the disorder. The reaction to this has been to attempt to typologise SLI subjects into symptomatic sets (Coltheart ms., Hage et al. 2006 etc...) although there isn't wide consensus on the specifics of doing this. The matter is problematic for more reasons also related to heterogeneity: the SLI sub-types often offered are all separately present and/or absent showing SLI to be in itself modular and with a high degree of comorbity (Coltheart ms.). This means that we face a group of individuals numbering approximately 7% of the total population (van der Lely and Battell 2003:153) who have a specific language impairment which can in actuality be a number of sub-modular deficits intertwined and each with their own etiology and psychobiology (Coltheart ms.). This problem will become apparent as soon as we try to categorise George's linguistic profile according to SLI sub-categorisation criteria, we will see that a) although his speech sounds affected in some manner it is far from clear if this reflects a phonological deficit and b) although his deficits seem to be predominantly morpho-syntactic and as such we would expect him to pattern like a suffer of G-SLI it will be shown that his language doesn't behave like 80% of these subjects (van der Lely and Battell 2003:153).

I this section I will use definitions and qualifying criteria for SLI subtypes from Coltheart (ms.) unless otherwise stated. The subtypes of SLI are as following: grammatical SLI (G-SLI), verbal auditory agnosia (VAA-SLI), semantic pragmatic (SP-SLI) and phonological expressive impairment (P-SLI).

From the above list VAA-SLI and SP-SLI can be ruled out immediately as the modules they represent are clearly normally developing in George. The former is a specific and otherwise unexplained problem in understanding words while the latter is the condition in which the subject's sentences are syntactically grammatical albeit inappropriate to the situations they encode.

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3 one shouldn't for a second think that this erroneous pronunciation is spelling based, George is so strongly dyslexic that the written word was an object more or less inexistent, or at least totally irrelevant to his life...

4 which he does do circa 30% of the time, when it is pronounced it is: [hi:ð].

We are left with George's linguistic deficit needed to be explained by the two remaining SLI's. This shouldn't actually be unexpected as we've shown that error types (i-vii) mostly revolve around morpho-syntactic issues especially the omission of grammatical elements (v, vi, vii). George, despite clearly producing syntactic errors, doesn't seem to pattern closely with the great majority of children suffering from G-SLI.

1.3.1 Does George have G-SLI?

I will show that George is actually not quite befitting of the qualifying criteria for G-SLI, the list of typical deficits of G-SLI is taken and slightly adapted from van der Lely and Battell (2003:155,6):

1.3.1.1 a) persistent deficit in grammatical comprehension and expression at 9;0+

George (9;11) clearly does have a persistent deficit in grammatical production as the examples i-vii evidence, however, he doesn't show the particular deficits listed and investigated in G-SLI literature (ibid). George's production of embedded clauses (even centre embedding) is regular and mostly faultless[5] in contrast to G-SLI subjects who have problems in this specific area (van der Lely and Battell 2003:154).

P.2 L.44 "*she said 'well that isn't exactly proof...'*"
P.2 L.75 "*well I actually don't believe that is true...*" (after a psych-verb)
P.2 L.87 "*...you can't actually prove he did turn water into wine*"
P.2 L.89 "*but to have a son, even with god, you have to... have, ahh, sex really*" (centre)
P.4 L.142 "*...feels like a mother hearing [that] his son had murdered someone*"
P.4 L.164 "*...wouldn't you agree [that] if you done something...*"

George also regularly produces subject and object questions with 'do' support when necessary and micro-lect appropriate. Coversely, the overwhealming majority of children afflicted with G-SLI have deficits with their syntactic computation, especially with object wh-questions (van der Lely and Battell 2003:175).

Two examples of the G-SLI error types are:

*[who Mrs Scarlett saw somebody] and *[which one the vase in the study] (ibid, 2003:163)

and an actual output being:

*[who... where did Mrs. Peacock... who was in the library] (ibid, 2003:167)

George's outputs are starkly different with:

Object Questions

P.1 L.18 "*ya know what$_i$ the, the, uh, the punishment was t_i?*" (micro-lect appropriate)[6]
P.2. L.117 "*who$_i$ else could it be t_i*"
P.4 L.145 " *what$_i$ does he get t_i*"

A further problem with the criterion (a) for assessing George as G-SLI would be that it specifically

5 he sometimes doesn't head an embedded clause with an obligatory 'that' although this is still embedding a clause
6 North London dialect is special with its frequent lack of 'do' ie. [you wanna go?] for 'do you want to go' and [where you wanna go?] 'where do you want to go'

makes reference to the subject's comprehenshion and what is absolutely clear is that George has no issue of comprehenshion. This can be seen by his natural and un-elicited responses to wh-questions. The first example, here given, even requires comprehenshion of a wh-operator corefered with a phrase within a case of ellipsis:

P.2 L.50 S:"*ok, now can you? Now let's see... (can you prove that it exists* t_x*)*e_i*?*" (S: Shanti, author)
P.2 L.51 G: "*yeah!?*"
P.2 L.52 S: "*how*$_x$ e_i*?*"
P.2 L.53 G: "e_i *cos I just seen it and no one can absorb things*"

A second example shows a straightforeward reply to a wh-question:

P.3 L.116 J: "*why would that make you believe in god?*" (J: Julia (mother))
P.3 L.117 G: "*cos who else could it be? God!*"

So on point (a) of defining characteristics of G-SLI George doesn't seem to qualify, at least fully. As pointed out previously the extent of his language deficit seems to be morpho-syntactic although he produces seemingly effortlessly two very marked types of syntactic constructions showing that he doesn't have a problem with Move-F(α) at least in these environments while this very thing that van der Lely and Battell call the "core deficit responsible for G-SLI children's grammar" (2003:154). This possibly provides a clue to modularity within G-SLI itself as it shouldn't be forgotten that George still produces morpho-syntactically derived ungrammatical sentences a third of the time, importantly though, they do not involve Move-F(α).

1.3.1.2 c[7]) optional usage of grammatical morphemes (in obligatory positions)

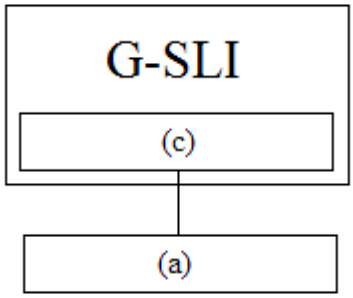
In this George definitely patterns with a typical child suffering from G-SLI, as already discussed and shown in (i-vii) George illegally drops, (pleonastic) pronouns, auxiliaries and 'that' a good deal of the time. This in fact accounts for three of the listed (i-vii) ungrammatical sentence types George produces, none of which can be explained on any environmental effects such as micro-lect variation.

1.3.1.3 conclusions of whether George has G-SLI

I would conclude from the above that George's language doesn't behave at all like 80% of children currently labelled 'G-SLI' and as such I would claim George to be a little special. What is particularly interesting is that although George clearly isn't a typical case of G-SLI his main error types are morpho-syntactic, this seems to point to a modularity within G-SLI itself. For instance, as van der Lely and Battell's study shows almost all subjects diagnosed with G-SLI drop illegally drop grammatical morphemes, George included. George, however, doesn't produce errors due to deficit involving Move-F(α). This (very vaguely so far) points to the idea that SLI which affects morpho-syntax (G-SLI) is itself modular with criterion (c) acting as a general base for this type of deficit leaving (a) as being a further module within G-SLI itself and thus separately affectable.

7 there was an intervening criterion for G-SLI in van der Lely and Battell's study which didn't seem relevant to George: (lexical vocabulary impairment).

(d1)



In diagram one (d1) we see how (c), the dropping of grammatical morphemes, is an intrinsic part of G-SLI while (a) that which van der Lely and Battell (2003:154) call the "core deficit responsible for G-SLI children's grammar" becomes relegated to a sub-part of G-SLI which when damaged will produce a deeper more damaged form of G-SLI. George with an affected (c) and a seemingly un-affected (a) argues for such a division.

1.3.1.4 modularity within syntax

It must be noted that the above does presume two things, that George's morpho-syntactic deficits *are* encapsulated within G-SLI at all and that there will be others like George to properly motivate this currently ad-hoc hypothesis.

Firstly, I will deal with the second point: encouragingly, in van der Lely and Battell's study 20% of their sample were diagnosed with G-SLI but they also produced wh-questions and T-Q- feature movement, showing that there do seem to be a larger number of G-SLI suffers who have a normally developing Move-F(α) sub-module ((a) in d1).

This probably shouldn't surprise us as syntax has a number of aspects which interelate but are not themselves similar things for instance : functional heads, movement and barriers (Chomsky 1986). These are clearly deeply interelated but they are not three types of one syntactic 'thing', they are the interaction between objects (functional heads) and their natural effects (barriers) on computation (movement). As syntax is not homogenious itself it is hardly surprising, given our general theoretical predisposion to modularity, to assume that it was ever going to be affected in holistic fashion.

Likewise, my proposed (d1) based on George's data actually provides separte support for van der Lely and Battell (2003) basic argument. They and partially based on van der Lely (1994, 1998) see movement as an independent module proven by being separately affected in her G-SLI subjects. Evidence for this comes from individuals with specifically impaired Move-F(α). Conversely, what George does is bulk this hypothesis by showing the general unaffectedness of Move-F(α) within an otherwise affected morpho-syntax. Modularity from two sides of the coin: normal x with affected y vs. affected x with normal y.

1.3.2 Does George have P-SLI

According to the definition given by Coltheart (ms.) George does have P-SLI:

1.3.2.1 a) Difficulty in producing speech sounds correctly with no apparent cause

George's oral morphology being typically developing and his non-target speech seem to make this a

given and although this is patently true it is irrelevant for a number of reasons. Firstly, the very basic assumption of what 'phonology' is as opposed to 'phonetics' is becomes a necessery side-track.

I follow Kaye (1989) and his general research program Government Phonology[8] in viewing a sharp distinction between phonetics and phonology, the former being the physiological affects to the airstream in relation to the lingusitic signal while the latter is a cognitive representation of the syllabic and sound information of lexical forms and the changes of form throughout the (phonological) derivation. The platform conclusion this creates is that the exact phonetics of speech have no impact at all on the cognitive base of phonology and conversely the details of the acoustic signal are poor evidences for cognitive realities (Ploch 2002:366-371). Essentially, the only thing that serves as evidence for cognitive representation of phonological elements is their phonological behaviour (Prof. Jonathan Kaye p.c.). This means that to claim that Phonological Expressive Impairment SLI is actually a phonological deficit one has to remove all possibility of the non-target sound system and 'rules' are being affected by general motor-coordination (Professor John Harris agreed with this position in p.c.).

The key problem with a P-SLI diagnosis for George lies exactly in what makes it seem a given that he should be categorised so: his oral dysphraxia. Dysphraxia is not restricted to oral areas and although recent studies have revealed interesting aspects specific to oromotor dysphraxia such as the lesion overlap inside the insula anterior to the central sulcus (close to the Broca's Area) (Alcock et al. 2000:31), abnormal synaptic firing patterns in the left hemisphere during repetition tests (Vargha-Khadem et al. 1998) and even a genetic foundation (Zeesman et al. 2006:511) all this becomes secondary if we remember that the only evidence for phonological representation and thus its deficit must come from phonological behaviour. Particularly important is the fact that if a subject was to be diagnosed as P-SLI they should not, logically, also be affected with general motor co-ordination disability ie. general dysphraxia. In this instance it would be impossible to separate the parts of the non-target phonetic output which were due to general motor-coordination and how much of the non-target phonetics were due to actual cognitive deficit. George is one such case and as such it is truly impossible to judge the state of his phonological knowledge based his phonetic outputs and the criterion Coltheart (ms.) gives for sub-categorisation (this point seems uncontroversial)[9].

Confusingly, it is sometimes argued that P-SLI is accompanied by the dropping of grammatical markers (Hage et al. 2006:174)[10]. In a phonetic/phonological understanding this could only be understood as children with perfect morpho-syntax that reduce [must not] into [mustn't] at which point cluster simplication of unset un-marked parameters in GP (Pan and Snider 2004) or the emergence of the unmarked in OT (McCarthy and Prince 1994) or simply oromotor control inadequacies reduce the derived cluster into a simpler form thus loosing the grammatical suffix in the process: Target: [mus**tnt**] --> Output: [must]. This kind of cluster simplication after all is attested in SLI literature (van der Lely 2005:54). George having dysphraxia doesn't begin to explain the variety of George's dropped grammatical function words. A phonological account of this hinges critically on particles or grammatical elements like clitics or contractions which are phonologically dependent on the stress of the lexeme they're attached to.

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8 of which the book length manuscripts include: Charette 1991, Harris 1994, Scheer 2004

9 After this was written a formal linguistic test showed that George had average to above average knowledge of phonological constituency such as the onset and the rhyme in alliteration and spoonerism tests.

10 this argument would seems to be supported by other research claiming that phonologically accurate speech development is a necessary precursor to syntactic development (Alcock 2006). This argument though I consider deeply flawed as it based purely on the asymmetries that children with poor phonologies (in Down's Syndrome) always have poor syntax while children with good phonologies have either good or bad syntax and thus: poor phonology = bad syntax (Alcock 2006:5). This to me seems to wide a conclusion from her results and it also seems to be immediately disproved by the syntax of sign language (Prof. Bencie Woll p.c.).

George's lost grammatical function words (which could symptomatic of G-SLI in van der Lely and Battell's definition (2003)) cannot be explained by P-SLI as his dropped elements are not always contractable ('that' and 'it'). Even the deletion of contractable elements (like 'is') cannot be explained by P-SLI for the simple reason that one can clearly hear the difference between George's [hi:] 'he' vs. [hi:θ] 'he's'. George's speech doesn't, for the most part, undergo cluster simplication, particularly if you accept, as I do, the argument that if the target is /tr/ and the subject produces /tw/ it evidences that cognitively the subject knows to branch the onset holding /t/ and /r/, the secondary fact that /r/ wasn't accurately rendered is essentially irrelevant (Kirk and Demuth 2005, Pan and Snyder 2004).

For these reasons and considering George's native like intonation I must admit that I can't currently see any evidence at all for George having a phonological deficit deficit at all. His general motor coordination problems caused by general dysphraxia act as a screen for any judgments to be made about the state of his cognitive underlying phonology.

1.3.2.2 conclusions about George's diagnosis SLI subtype(s)

It would never be disputed that George has an impairment specific to language. Being older than (9;0) and having a verbal I.Q of 119 and having no neurodevelopmental disorders which affect the architecture of spoken language or his knowledge of his native grammar[11], George meets all the criteria for having SLI. He, however, doesn't seem to fit comfortably into any of the subtypes of SLI usually offered (Coltheart ms., Hage et al. 2006) and eventhough the details of these are disputed these subtypes are still used as useful phenotypic criteria for particular studies (such as G-SLI study from van der Lely and Battell 2003). We saw how George has incontrovertably no deficit in his VAA-SLI and PS-SLI. I argued at length that it is impossible to gauge his phonological status and thus he shouldn't be labelled with P-SLI eventhough, and exactly because of, his dysphraxia. The grammatical deficits listed as part of his general linguisitic profile are mostly morpho-syntactic and as such we expected him to suffer from G-SLI and although he doesn't fit neatly into this category, he regularly and appropriately produces Move-F(α) which 80% of G-SLI children cannot do (ibid.). What we also saw in the G-SLI section that, possibly, along with 20% of the children in this study, he may provide the evidence needed to assume that G-SLI is itself modular with all G-SLI children illegally omitting grammatical elements with the greatest majority of these also showing a damaged Move-F(α) sub-module[12]. These conclusions, it must be said, are all provisory and ad-hoc reflecting that this study was started two weeks before the editing this sentence and George being previously unstudied by theoretical linguists.

2 Where to go from here

2.1 A general question raised by George

As we've already seen, some aspects of George's speech appear to be perfectly normal for example we can measure that his mean length of utterance in the pilot study where more or less identical to the adult control's: Control, 13.9 vs. George, 14 mlu. We also see that his 'auxiliary-subject inversion' occurs 3.8% of the time while in the control it occurs a similar 4.2% of the time. George also asked three wh-object questions. Despite all this we've seen that he produces ungrammatical sentences by omitting a variety of items. Of these three are omitted pronouns, omitted complementisers and omitted auxiliary verbs. The nature of what ungrammaticallity he produces begs a fascinating question due to the nature of ungrammaticallity of G-SLI(Move) children such as in van der Lely and Battell's study. The basic question lies in the following: how is x ungrammatical? Is it what we deem logically and/or metatheoretically impossible and as such unnatested synchronically or diachronically *or* is it simply not target appropriate with relevance to

11 dysphraxia being purely a problem with motor coordination.

12 I will call this G-SLI(Move) for exposition purposes only pending further research.

the language in question. The latter can be summarised as captured within universal grammar or outside of UG.

The difference is qualitative because if something is captured by UG it means that the cognitive module we call 'the language faculty' is intact, this can lead to discussion of treatments which could, at appropriate ages and brain metabolism levels, lead to full scale native like success, after all it would simply be a job of parameter resetting. This can occur even as late as (9;0) as left-hemispherocotomy subjects have proven (Dupoux ???). Conversely if someone's language patterns can be proved to be uncaptured by UG it means that this language faculty which has genetic and biological foundations is non-typically developing (Chomsky 1975, Lieberman 1981, Pinker and Bloom 1990, Lai et al. 2001 etc...). The practical consequence is that any such treatment will not be able to follow the normal course of language acquisition and thus will always be reliant on secondary mechanisms such as working memory, brain metabolism, dedication and effort etc... (cf. van der Lely and Battell 2003:173). A further point on the importance of this division is theoretical and possibly controversial, if we do claim that language is biologically and thus genetically founded this means that any disruption to the language faculty which can be proven to connected to genes such as FOX-P2[13] should automatically be linked with a truly non-normally developing language faculty and thus output which doesn't fit UG.

The only caveats are that language is itself seen as modular and thus each module requires its own etiology (Coltheart ms.) and as such FOX-P2 might well be a gene for a linguistic sub-module Move-F(α) which may affect the other modules but importantly does't have to involve all the other sub-modules. This allows us to say that a genetic deficit like that found in the KE family which causes 100% match up with language deficits (Lai et al. 2001) could still leave someone with damaged syntax but perfect semantics. Indeed similar thoughts have been published with Move-F being the core deficit of G-SLI caused by a non-normal behaviour of whatever etiology is responsible for this condition (van der Lely and Battell 2003:154).

The corrolary to the argument, however, is that if we do claim a genetic base to SLI sub-modules then we expect whatever the affected module of UG to be non-typically developing. This difference is made interesting in that George doesn't seem to produce 'commission errors' which betray a language profile of unset parameters and compensatory strategies rather he seems to only commit 'omission errors' which are typical of language acquistion and *can* be explained in harmony with a grammar of correctly set parameters and lexical inadequacy (Guasti 2000). In other words, George produces pro-drop, 'that' omission and auxiliary omission, all of these are target appropriate in other languages and even registers of English, so is George's deficit a faulty setting of parameters due to unsettability of parameters (born of a faulty UG) or are the parameters mis-set for reasons other than unsettability (with the backdrop of good UG).

2.1.1 how to test whether his grammar is legitimate

Omission errors are explained in Guasti as being due to lexical inadequacies which means that children (early on) set the parameter that an auxiliary must move into C, just like the adult grammar, the only difference between child and adult grammar would be in lexical knowledge ie. adults know that 1st person singular 'is' exists and thus move it whereas children do not and move a null category element to satify the wh-criterion. This immediately seems to be ruled out with George demonstrably knowing about both the existance of auxiliaries and even using them with syntactic movement which as we will see in the later sections he still drops 30.8% of the time.

In order to not loose focus in this small pilot study I feel that my investigation into George's linguistic deficits should be focused solely on one of his non-target utterances. This will act as a

13 Lai et al. 2001

natural channeling of research. I chose to examine non-target error type (vi), auxiliary drop for a variety of reasons.

2.1.2 why examine auxiliary drop

Number (vi), was my immediate choice as focus for a pilot study for a number of reasons. Firstly, the illegal omission of auxiliary verbs, particularly 'to be', is incredibly common in George's speech and very noticeably ungrammatical to a speaker of Southern British English. Secondly, omission of auxiliaries is an option available to UG[14] which becomes interesting when we consider whether George's distribution of auxiliaries is one prescribed by UG or is, random in context and thus outside UG's scope. Thirdly, the auxiliary verb 'to be' is very complex lexically with 5 underived morphemes representing it in just two tenses, present: [am, are, is] and past: [was and were]. The complexity is increased in Southern British English as there is option to reduce the auxiliaries. Reduction can occur in the present and future tense but not in the past: [I'm], [I'll] vs. *[I's] 'I was'. When in the present and before a negative the auxiliary may be phonologically supported either on the negative: [he isn't] or on the preceding pronoun: [he's not]. This optionality, however, is disallowed in the 1st Person *[I amn't] and the whole of the future tense *[willn't] (cf. Kayne 2000:200-203), in these environments the auxiliary may only be reduced onto the preceding pronoun: [I'll not go!].

These are just some of the basic syntactic rules of just one auxiliary verb in English and yet children by the age of four have acquired the rules and lexical entries that drive these or most of these alternations, meanwhile, George, by age (9;11), is still noticeably making a large number of mistakes with them.

The complexity of the auxiliary verb 'to be' and its variability in linguistic existence, particle or reduced element, verb or inflection, mean I feel justified in choosing to run the pilot study looking solely at this auxiliary verb. As far as I can tell, it is the most lexically complex in English and so common that to study just 'to be' in a long enough conversation will provide enough data that will point towards the validity of this and similar research.

2.2 Method of data gathering

For this experiment the most suitable data seems to be natural, un-elicited speech in order to capture the abnormal distribution of the auxiliary verb 'to be' in a speaker of a non-typically developing grammar. To create the possibility of recording spontaneous speech all that is required is for me to dine at George's house (as is custom many weeks anyway) and turn on recording equipment during dinner preparations. The conversations at this time are carried out in the most familiar environment possible, they are thus totally natural and no elicitation will ever be required. As George knows me well my presence is normalised and there is no danger of his speech being full of prescriptivisms from a perceived formality of a 'recording' event but also it is not in a 'game' register born of novelty. The recording equipment is a small black box two-inches by one in size and completely silent, it is a 'Digital MP3 Player and Voice Recorder'. As it is powerful and small it can be placed in the corner of a room and forgotten about. After the conversation ends the sound file is labeled, transcribed and filed.

The pilot is one conversation recorded mainly between myself and George. His mother who is cooking the meal occasionally interrupts with her points and questions, these often stimulate George into longer sentences explaining himself and he usually recounts stories from his day at school (which is usually traumatic and require annotation).

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14 Cantonese and AAVE being representative examples respectively, they both frequently omit auxiliaries, but only in specific environments.

2.3 The data

2.3.1 general idea

The full length transcript is in appendix 1 (a1) at the end of this study. In this section I think It would be more appropriate to provide a chronological and extensive list of all the the necessary occurances of the auxiliary verb 'to be' either reduced or in full, by 'necessary occurances' it is intended that all obligatory positions where 'to be' should be used are listed whether George included it or not. This will give us a mini-corpus of the occurrence of 'to be' vs. omitted 'to be' in natural, un-elicited speech lasting 13:08 mins in length, (a1) contains four pages and 173 lines of dialogue.

2.3.2 what we're looking for

These notes are exclusively based on the occurrence (or not) of the auxiliary 'to be'. Listed is every instance of it occurring in George's speech as well as all the ungrammatical sentences resultant of such an omission. These are chronologically listed but anyway are numbered with page and line number for ease of reference. The ungrammatical sentences are written in bold. If an auxiliary is misused it can still count as target appropriate even if it doesn't match Standard British English when this auxiliary selection is harmonious with George's (Islington, North London mico-lect). A few cases have to be discarded in such cases there is an exact explanation by its side.

2.3.3 notes on style

The lines will always start with /P./: page number, then /L./: the line number (referring to the appendix (a1)). Following will be an extract of the sentence. Following are any relevant comments including the correct output (irrespective of correct or not). The correct output will always be listed as a breakdown of the meaningful parts, these are in the order: /xP./ Person, /sing-plu/ singular and plural, /neg/ before a negative, /past,pres,fut,inf/ tense of auxiliary. Any disregarded data is strikethroughed with a single stroke.

2.3.4 George's supposed and actual output of the auxiliary verb 'to be'

P.1 L.14 “...and it also not fair...” incorrect selection of 3P.sing.neg.pres

P.1 L.14 “...he's a friend of someone” correct in the same sentence as wrong. 3P.sing.pres + reduced

P.1 L.18 “...the punishment was...” correct usage of 3P.plur.past

P.1 L.20 “...there's three warnings...” micro-lect appropriate: 3P.sing.pres + reduced

P.1 L.20 “...that was only one...” correct usage of 3P.sing.past

P.1 L.28 “Are you recording...” correct auxiliary inversion and selection of 2P.sing.pres

P.1 L.35 “...there's a girl...” correct usage of 3P.sing.pres + reduced

~~P.1 L.35/36 “she's... she” too close to call, subject selects for 3P.sing.pres + reduced BUT then pauses and rejoins the conversation with a pro-dropped clause (and any reduced auxiliary would be lost. This example is for this reason voided:~~

~~"cos she's, she, when I do, uh...she, a little, ahh, [*she/she's*] a little bit of a geek"~~

P.1 L. 37 "...she not, not really..." incorrect no selection of 3P.sing.neg.pres

P.1 L. 37 "...she a tell-tale" incorrect no selection of 3P.sing.pres

P.2 L.39 "...she's in fact a horrible..." correct usage of 3P.sing.pres + reduced

~~P.2 L.39/40 "...I were talking to her..." maybe maybe dialect appropriate (most middle class kids who go to English comprehensive schools are in a state of diglossia, RP types at home and 'rude-boy' at school). I won't count it as wrong or right for this reason~~

P.2 L.44 ""well that isn't exactly proof"" first correct usage of any auxiliary with a negative, it may be unimportant but he is quoting from memory of what someone else said, it's still counted, if it is the case that he's memorised a line with phonetic material of an auxiliary before the negation phrase then it will prove to be un-statistically relevant. 3P.sing.neg.pres

P.2 L.44 ""that just crazy"" incorrect no selection of 3P.sing.pres

P.2 L. 53 " Cos I just seen it" incorrect no selection of 3P.sing.past, is his verb inflected for tense? seen in English requires the perfective 'have' which is absent.

P.2 L.75 "I don't believe that is true" correct selection of 3P.sing.pres, the previous clause is negative but it isn't 'I believe that isn't true' which is more marked anyway.

P.3 L. 95 "jesus would be called" correct selection of 3P.sing.inf

P.3 L.112 "it would be really" correct selection of 3P.sing.inf

P.3 L. 117 "who else could it be, God" correct selection of 3P.sing.inf

P.3 L. 136 "no i not!" incorrect no selection of 1P.sing.neg.pres

P.3 L. 140 "I mean that why..." incorrect no selection of 3P.sing.pres

P.3. L.140 "... God is so vengeful" correct selection of 3P.sing.pres

P.3 L.140 "...he's fed up" correct selection of 3P.sing.pres + reduced

P.3 L.140 "...he's made," correct selection of 3P.sing.pres + reduced

P.4 L. 142 "...his son had murdered..." correct selection of 3P.sing.past

P.4. L. 143 "he would be" correct selection of 3P.sing.inf

P.4 L. 154 "...that why he sends..." incorrect no selection of 3P.sing.pres

P.4 L. 165 "I'd rather it to be Jesus..." correct selection of 3P.sing.inf

2.4 Analysis of the Data

2.4.1 findings, general

Here I simply want to get a very general look at the distribution of his auxiliary verb 'to be'. I will look at things like its frequency, grammaticality and instances of constructions it is involved in such as yes-no-questions and something that seems to become important later: auxiliaries + negative sequences.

This being a small pilot study nothing can be assumed to be statistically significant although there will be tendencies in the data some of which seem to be very important irrespective of sample size (ie. the proportion of ungrammaticality due to auxiliary omission is doubtfully 'overrepresented' by this being a small sample).

All the figures above are given first as the actual number found in the sample then in square brackets as a percentage from the total relevant samples and finally in curly brackets are given the number or percentage of the same thing occurring in the speech of the adult control. A breakdown of the control's occurrence and type of auxiliaries used in the same conversation are listed in appendix (a2).

Total number of relevant examples: 26	{24}
Total number of grammatical examples: 18 [69.2%]	{100%}
Total number of ungrammatical examples: 8 [30.8%]	{0%}
Total of auxiliary + negative sequence: 5 [19.2%]	{20.8%}
Total of auxiliary inversion: 1 [3.8%]	{4.2%}

2.4.1.1 notes on general findings

2.4.1.1.1 similarity between George and control

We can instantly see that George, in a 13:08 min conversation creates just as many environments for the obligatory use of the verb 'to be' as the normally developing control. This possibly should not surprise us as we saw previously how very similar George's speech is to that of the control's. Other similarities between George's use of auxiliaries and the control's are in the frequency of the subject-auxiliary inversion structures used 3.8% of the time by George and 4.2% by the control.

2.4.1.1.2 differences between George and control

In marked, difference, however, are the results of George's grammaticality in sentences which obligatorily require the auxiliary verb 'to be'. George's grammatical sentences with the auxiliary verb 'to be' are at 69.2% while 30.8% of these sentences are ungrammatical. The control's use of auxiliary verb 'to be' are on the other hand perfect, this is particularly important because in both cases a self-correction counted as grammatical. Typically developed individuals of Southern British English don't ever seem to make mistakes like George's: P.1 L. 37 "*...she a tell-tale*" and this is clearly and unambiguously ungrammatical. All this to say that native speakers of Southern British English never drop the auxiliary verb 'to be', this isn't a prescriptivism, there is no London dialect which drops the auxiliaries and in fact the control's speech was completely absent in this feature

while George omitted the auxiliary verb 'to be' 30.8% of the time.

This will I predict will remain statistically significant with larger samples. If the figure (likely to change to some extent) remains similar it means the impact on George's general language is enormous. George's portion of the dialogue was comprised of 44 utterances, 18 of which should be excluded being comprised of one or two words, the remaining 26 utterances, ie. those that contained more than 2 words almost all contained an occurrence of the auxiliary 'to be'. That is to say almost every sentence of conversation contains an element which George misses 30.8% of the time rendering a vague approximate of 30% of this sentences ungrammatical. As huge as this figure would be, this isn't even the end of the story as already shown in the introduction George's speech is not only ungrammatical for this reason so the actual number of ungrammatical and odd sentences he produces will be a very high figure indeed, and all this on a verbal I.Q of 119.

Interestingly for later but possibly a coincidence, George produced the auxiliary + negative sequence only 11.5% of the time while the control used this sequence 20.8% of the time. This may, as already stated, be a total coincidence but it is a grey area because as we will see in the analysis of the ungrammatical portion of examples, the auxiliary + negative sequence suddenly doubles in frequency pointing to a possible incompatibility in George's speech for the auxiliary verb 'to be' occurring with a Neg head such as /n't/. If this is true then his use of auxiliary + negative sequence only half as frequently as compared with the control may be reflective of some kind of compensatory strategy.

2.4.2 findings, miscellaneous

2.4.2.1 tense

Total number of present tense examples: 17 [65.4%] {100%}

Total number of past tense examples: 4 [15.4%] n/a

Total number of infinitive examples: 5 [19.2%] n/a

It just happens to be the case that George (due to the fact that he told stories of his day) used a larger array of tenses. Tense in terms of ungrammatically doesn't make much sense as we will see later, however, what is noteworthy is the fact that at the moment he produces the infinitive auxiliary 'to be' 19.2% of the time (about the same as the past tense) and as we will see his error rate with this tense is 0%.

2.4.2.2 number

Total number of singular examples: 25 [96.2%] {95.8%}

Total number of plural examples: 1 [3.8%] {4.2%}

Apart from the fact that his singular to plural rates are very similar to the control's there isn't much to say about this particular aspect of meaning in the auxiliaries

2.4.2.3 person

Total number of 3rd Person examples: 24 [92.3%] {91.6%}

Total number of 1st Person examples: 1 [3.8%] {8.3%}

Total number of 2nd Person examples: 1 [3.8%] n/a

The person of the auxiliary becomes more important when looking at reduction for which George seems to have acquired some rules in accordance with Southern British English grammar.

2.4.3 findings from reduction

In Southern British English auxiliaries in the present and future can optionally reduce onto the pronoun in all persons (except the first person present singular: *[amn't]). This means that all present tense auxiliaries (minus the one instance with the 1st person) are possible reduction environments.

Total number of possible reductions: 16 [61.5%] {91.6%}

Actual number of reductions (out of possible sites): 6 [37.5%] {68.2%}

Grammatical reductions: 6 [100%]

2.4.3.1 disparity between George and control's reductions

George never overregularises reduction of the auxiliary verb 'to be' each and every instance of it is grammatical. In this sense he patterns with a control who also never reduces inappropriately. However, the similarities end here. In the environments in which reduction is possible we see the control reducing 37.5% of the time while George only reduces 68.2% of the time, this seems noteworthy and begins to shed light on the fact that despite George not reducing inappropriately he does seem to be less inclined to do so generally. The control reduces in the possible environments roughly doubly as often as George.

2.4.4 findings from within his ungrammatical speech

Independent examination of the ungrammatical set is intended to highlight features of auxiliary verbs that are more prevalent in the ungrammatical set when compared to the sample as a whole. The logic follows that if someone's general selection of element x occurs 5% of the time but that within his ungrammatical examples this same element occurs 25% of the time it points to the fact that the subject in question has a particular problem with element x. It is five times more frequently present when the sentence is ungrammatical. Conversely, a subject may be seen to have no problem with feature y because its frequency within the total and ungrammatical sets remains about the same and *ceteris paribus* you would expect there to be no difference. When, therefore, we see a disparity between the frequency of an element between a total and un ungrammatical set things are not equal. This element (x) found with higher frequency inside an ungrammatical set is part of that ungrammaticality and a possible reason for said ungrammaticality, at any rate, there will be a connection between ungrammaticality and element x.

The first thing that struck me as I was transcribing the audio-recordings was that George seems to have a much higher frequency of auxiliary + negative sequences within his ungrammatical set than in his overall set:

2.4.4.1 negative

Ungrammatical auxiliary + negative: 3 [37.5%] (aux + neg in net tot: 19.2%)

In this case we see a near doubling of the frequency of the auxiliary + negative sequences from his total set of examples into his ungrammatical set. That is to say: when George meets environments for auxiliaries before negatives he tends to get them wrong (3/5) 60% of the time.

A lot more data is needed but this is still noteworthy as George's auxiliary + negative sequences are nearly doubly as common in his ungrammatical as in his grammatical set begging the question: will this continue to be this statistically significant in larger samples? and if it is: what does it tell us about the state of functional categories George's grammar? and finally: is this idiosyncratic to George or do the findings he produces help us see something intrinsic about the auxiliary verb and negatives within UG as a whole? These questions are larger than the scope of this pilot study but it is encouraging that interesting questions are being generated by this admittedly primitive stage of the research.

2.4.4.2 tense

Ungrammatical with present tense: 7 [87.5%] (present in net tot: 65.4%)

This particular increase surprised me as theoretically I can't see a reason for this to be any higher than ungrammaticality with past tense which stayed about the same in the ungrammatical set:

Ungrammatical with past tense: 1 [12.5%] (past in net tot: 15.4%)

All I say at this point against these two cases (present and past) being different from each other is that I don't expect their difference to hold out when more data is added, particularly a data set rich in past tense. If, however, the difference is upheld then we will have the confusing case of the present tense auxiliaries behaving differently to past tense auxiliaries. This behaviour difference would point to differences in their syntactic derivations in George's grammar.

What did behave as expected was the frequency of the auxiliary verb 'to be' in the infinitive within the ungrammatical set, at least it differentiated itself from the finite forms of the auxiliary verb 'to be'. George despite using 'to be' 19.2% of the time never has this form crop up in his ungrammatical examples:

Ungrammatical with infinitive: 0 [0%] (infinitive in net tot: 19.2%)

Here the infinitive is linked to ungrammaticality by virtue of its absence, or rather, the inverse, it is linked to grammaticality. This may well be a key clue (if this fact holds in future data) towards understanding his problems with auxiliaries.

2.5 How are George's uses of auxiliary verb 'to be' ungrammatical

Firstly, noticing that George never produces ungrammaticalities when his auxiliary verbs are in the infinitive we instantly we ask ourselves, is movement into the inflection tiers itself to blame? This seems to be a logical question as it is the manner in which most accept auxiliary verbs are marked with tense (from Johnson 1988 (?)).

I believe this argument is quickly discarded by noticing the method in which George's auxiliary selection leads to 30.8% ungrammaticality. George is never found misplacing an auxiliary verb

reflecting over-zelous movement or lack thereof: *[she often is horrible], *[she is must horrible]. George, as shown in previous sections, seems to have no problem with syntactic movement moving the auxiliary verb into C when appropriate: P.1 L.28 "*Are you recording this conversation?*" just as you would in a subject question (Rizzi 1996:65). This we can argue is true movement and not some memory or inductive compensatory strategy as he doesn't overapply it producing sentences like: ?? [ya know what was the punishment?][15], as opposed to: P. L.18 "*...ya know what the, the, uh, the punishment was*?".

The sole ways we can understand the ways in which George outputs ungrammaticalities involving the auxiliary verb 'to be' is by analysing it as non-selection or deletion. At this point in time I cannot descern which of these two things is happening, however, in a later section we will see that his auxiliary + negative sequences seem to imply that he actually doesn't present a TP specified for tense at all in some instances, this would point to an analysis in which he doesn't select for elements housed in T^o for in these clauses he has no T^o at all.

2.5.1 what features of George's speech to compare to UG

We have to explain why 30.8% of the time George doesn't select his auxiliaries although he never misses to select an infinitive form or when a question is involved. This leaves the problem set being narrowed down to finite uses of this auxiliary in declaratives. Also, it would be appropriate to explain the doubled percentage of auxiliary + negative sequences in ungrammatical sentences. *A propos* understanding whether George's speech is captured by UG or outside of it, this gives us the first observation from which we can explore:

-Are there existing languages or normally developing acquistion patterns in which the infinitive of the auxiliary verb 'to be' is obligatorily yet optional in present tense declaratives and yet forbidden before negative elements?-

The caveat produced by 'normally developing acquistion patterns' is necessary because children, more or less, go through the same stages of acquistion cross-linguistically and as such a normally developing child can/does, temporarily, output a particular feature even if this isn't a feature of his target language z. For example, all children go through a fase in which they drop pronouns eventhough not all languages allow pro-drop such as English and French (Guasti 2002). This pro-drop in English or French is part of the normal development of the normally developing UG eventhough it isn't part of the adult grammar of the language. Accepting the previous statement, George, eventhough (9;11), could produce errors completely consistent with the normally developing acquistion patterns of normally developing children. In this case there would be no synchronic way to tell whether his linguistic pattern is devious or simply retarded.

With the specific question, introduced in this section, the next section will start to explore the basic question behind George's language faculty: is it containable within UG or not?

3 Are there existing languages or normally developing acquistion patterns in which the infinitive of the auxiliary verb 'to be' is obligatorily yet optional in present tense declaratives and yet forbidden before negative elements?

Lets take this question bit by bit. Firstly, I will show that George's error types are actually identical to the error types in a normally developing population, this population, though, are between (2;0) and (2;5) years old.

15 do support is not widely used feature of his North London micro-lect

3.1 Infinite 'to be' is present while finite 'to be' is omitted in English L1 Acquisition

Schütze (ms.) shows 'be'-omission in a number of children aged between (2;0) and (2;5), it seems that auxiliaries in finite positions were dropped around 13-32% of the time which is very comparable to George's figure which was 30.8% (Schütze ms.:9). Also, just like George, Schütze's experiments show children only omitting infinite 'be' $\leq$ 3% of the time, this was a single token (ibid.). These results are actually not rare. It is a well known observation that finite forms of 'to be' are omitted from children's speech much more regularly than infinite forms of 'to be' (Brown 1973, Ingram 1974, Schütze ms.). What I find particularly important, however, is that finite auxiliary omission is not black or white, on or off, it is 66% frequent in one study (Joseph et al. 2002) and 21% in one of Schütze's case-studies (Schütze ms.:4). This optionality towards an end target is reminiscent of analyses such as the 'now you see it, now you don't' phenomena behind truncation theory (Rizzi 1994) and maturational views of L1 acquistion (Borer and Wexler 1987) and as such it may come in future research of George's linguistic behaviour.

The connection between George and this general pattern of acquistion is, of course, far from proven, the striking similarities, however, do point towards a position in which we assume that George could be delayed in his L1 acquisition as opposed to actually being intrinsically grammatically impaired. This still may or may not be the case, however, the philosophy behind the strong form of the Uniformity Principle of Government Phonology would provide us with a nascient hypothesis of the nature of George's syntactic 'knowledge': 'identical behaviour across grammars should be explained by the same means' (my own wording of Kaye's 1992 conclusions). Hence, whatever appears to be a valid explanation for finite auxiliary omission and infinite retention in L1 acquisition could put us on the right track when explaining George's grammar which behaves identically.

3.1.1 infinite-finite omission asymmetry and possible explanation

A lexical account could be possible based on the assumption that children sometimes demonstrate simple lexical inadequacies produced by number of underived allomorphs of the finite auxiliaries: [am, are, is, was, were]. Conversely, the infinitival morpheme is invariably: [be] and as such is quicker to acquire (similar arguments for non-target L1 output is found in Guasti 2000). This argument however, in relation to George and subjects like him, cannot hold for he clearly is aware of the allomorphy by producing finite forms of the auxiliary verb 'to be' 60.8% of the time.

A semantic argument to explain this pattern is also unworkable. The logic follows that children delete elements from sentences which are semantically vacous in a form of damage limitation under performance pressures (Brown 1973). The argument is refuted on the grounds that infinite 'be' would be a far better candidate for such a deletion as it doesn't encode features (such as tense and person) which in the finite cases would be unrecoverable after such deletion. The infinite form, therefore, would be expected to be deleted over the finite contra the actual events (Schütze ms.:3).

The remaining argument is therefore syntactic which presents itself as the only viable alternative and seen as we're dealing with specifically finite 'be'-omission we can suppose that this will be a relationship between the auxiliary and the element I or Tense (Pollock 1989 in Chomsky 1995:134).

3.1.2 two syntactic analysis

Seen as George's Move-α seems to be intact this leaves us with (at least) two possible theoretical explanations.

The first possible explanation we could consider is based on 'truncation theory' (Rizzi 1994???) in

which grammatical elements can be present or absent depending on the height of the projection of the tree which in child grammars could be truncated at certain points, the CP, TP or VP. In some instances, it could be argued, that George's clauses are not projected higher than the VP and thus lacking the T and C layers, in these instances the auxiliary verb would not be present in its finite form as for it to surface as marked for tense it would be required to raise at least as high as T^o. While infinite uses of the auxiliary 'to be' such as: P.4 L. 143 "*he would be*" are not subject to ungrammaticallity as the verb 'be' is *in situ* inside the VP.

Truncation theory would be disproved if in clauses that are claimed to be truncated we could find elements that belong above the VP layers at SF. At first glance it could seem this is the case in: P.1 L. 37 "...she a tell-tale" and sentences like it. /She/ could be seen as evidence of a T layer as pronominals acquire nominative case by moving into Spec-TP at SF. Conversely, /She/ could still be in its base generated position inside the VP (Koopman and Sportiche 1991) and the nominative case could be based on a deductive but extralinguistic rule such as 'for first DP use 'nominative' morpheme' which is similar to the analysis of case in tiers (Yip et al. 1987???). Such a compensatory strategy when failing would also produce the illegal pro-drop found in George's speech. Similarly, truncation theory would make the prediction that in clauses truncated just above the VP a NegP head could not be present (which resides over TP (Pollock 1989, Zanuttini 1996)), this in fact seems to be fully borne out in the data. Truncation theory could also begin to explain illegal 'that' omission with the CP being lost due to truncation.

The second hypothesis we could consider is the one offered by Schütze's study to explain data identical to that outputted by George. Schütze starts with the assumption that auxiliaries are actually never moved into the T layers at all and are always inside the VP (Schütze *in press*) importantly however, this doesn't preclude the existence of T as essential to its presence. According to this hypothesis the auxiliary verbs are nothing but manifestations of a verbal requirement induced by the T^o (which is possibly c-selecting the VP). As a product of a formal requirement for a verb an auxiliary is only used when no other verb is present in the clause, also Economy of Representation demands that if tense features are specified in a clause they don't have to be/should not be specified twice as this is superfluous. These explain the auxiliary patterns similar to 'he loved mary' vs. *'he was love mary' and *'john tired' vs. 'john is tired' (Schütze ms.:11). In this model and assuming (contra Kayne 2000) that modals are in fact generated in T these don't count as verbs and so don't satisfy the verbal requirement hence: 'he should be happy' vs. *'he should happy'. However, what is also true (and seen in Kayne 2000) is that modals, by virtue of being in T^o, carry tense specification therefore economy of respresentation will preclude the auxiliary verb following a tense bearing modal from itself carrying tense features, this is why only infinitive forms of the verb are found after tense bearing modals: *'he couldn't is happy' vs. 'he couldn't be happy'.

The argument proposed therefore is that when T is lacking in features specified for tense features its verbal requirement is weakened to the point of not applying (Schütze ms:11). Therefore, in cases in which the auxiliaries themselves must bare the tense specification such as 'he is fine' the T^o will be phonetically empty, unspecified for tense features and thus its verbal requirement will be dropped. The paradox ensues that eventhough the auxiliary must carry the tense features the auxiliary itself isn't obligatorily in the clause leading *'he fine' to be a valid output albeit non-target output (Schütze ms:11).

Infinitive uses of 'be' are saved from auxiliary dropping by virtue of the fact that they very frequently follow modals in English. That is, when T^o is filled with an element with tense specifications (a modal) the verbal requirement will be as strong as in the adult target grammar and so a sentence like *'she must fine' will be ungrammatical even by the standards of the child's grammar (ibid.). The child's grammar will hold that *'she must fine' doesn't satisfy the verbal requirement principle imposed by T^o and as such a 'dummy' verb is inserted, a form of 'to be' (ibid.).

Economy of representation will then decide the exact form of this auxiliary verb and as tense features are alrady specified in the clause they will be ruled out from being expressed again, this leaves the only option for the auxiliary to be the infinitival /be/: 'she must be fine' (ibid.)

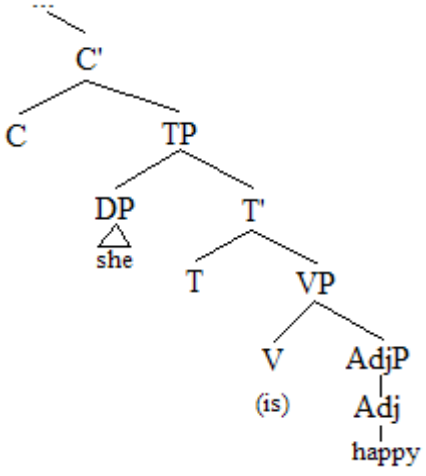
This analysis seems perfectly harmonious with George's data patterns and explains perfectly why his finite auxiliaries are omitted while his infinite auxiliaries are never omitted. Schütze's study, however, doesn't (need to) explore a complicated issue raised by George: why is his finite usage of auxiliaries always perfect in his question formation?

3.2 lack of auxiliary omission in questions

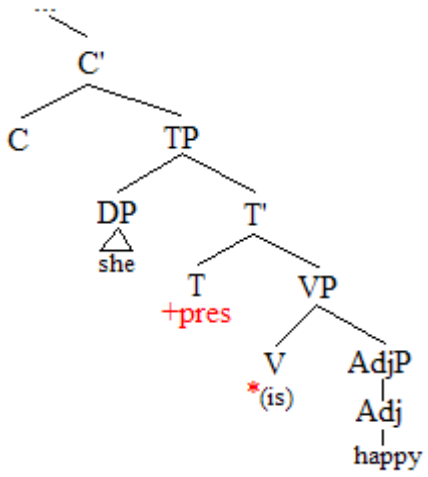
The issue here raised is the following. For simplicities sake we will look at yes-no questions of finite clauses without a main verb (eliminating do support considerations). The standard assumption *a propos* the derivation of yes-no questions is that an auxiliary verb is moved from the VP into T^o and then subsequently into C^o: [he is_i happy] --> [is_i he t_i happy] (Rizzi 1996:67). As we've seen already, from an admittedly small sample, George seems to have no problem with these yes-no questions. The logical quagmire this presents is considerable. If George's grammar, like the subjects in Schütze's study, has no formal requirement for the auxiliary to be present in the underlying form *and* we know that 30.8% of the time he omits this auxiliary, then 30.8% of the time George should have no auxiliary to move into the CP layers. This should mean that a third of the times he is required to perform this movement it should produce ungrammaticallities such as: 'she happy?'. This doesn't seem to be the case and as such we should ask ourselves: how can George know that he must move an auxiliary into C^o when a third of the time he doesn't even have a requirement for the auxiliary to be present in the clause in the first place? This argument holds identically for wh-questions without a main verb such as: 'why is she happy?' a third of the time we would expect his output to be: 'why she happy?'. Again, this doesn't seem to be case.

In order to maintain Schütze's hypothesis which neatly explains George's auxiliary omission in declaratives we must still maintain that his auxiliary omission in declarative clauses is caused by a lack of a verbal requirement (when the T^o is lacking in tense specifications). Contemporaneously, in order to explain the seemingly opposing idea that in interrogative clauses without main verbs his auxiliaries are always obligatory we must assume that the verbal requirement is present. To posit this we must say that T^o has tense specification and as there is no lexical or phonetic material in T^o [16] we are forced to posit that this tense specification is simply a feature attached to T^o itself and a part of George's interrogative underlying form as seen in structure two (s2):

(s1) /she is happy/ (UR and SF)



(s2) /is she happy?/ (UR)



16 and continuing to accept that auxiliaries are in the VP not T^o

In the above structures we can see that the lack of tense features in T^{o} in (s1) mean that the verbal requirement is not enforced and subsequently the auxiliary is optional in George's grammar, represented on the tree as being in parentheses. In (s2), however, we see that T^{o} is specified for Tense features and as such the verbal requirement is enforced as it would be if a modal was sitting in that position this causes the auxiliary to be obligatory even in George's grammar and unlike (s1); this is represented on the tree with an asterisk in the same colour as the tense feature which indicates that removal of the element in parentheses leads to ungrammaticallity, not for the structure in (s2) *per se* but for the structure which is derived from it.

In other terms, (s1) is the underlying form of the declarative while (s2) is the underlying form of the interrogative. George's particular grammatical behaviour requires that the two structures be different although the principle of economy would prefer them to be the same underlyingly. If the two structures were the same underlyingly, in terms of the verbal requirement you would have to have either (s2) being the underlying form of all declaratives and interrogatives (a) or (s1) being the underlying form for all declaratives and interrogatives (b). The conclusions would follow:

a) the verbal requirment always enforced and so all auxiliaries in similar positions become obligatory (this is a correct assumption in the adult grammar)

b) the auxiliary is never obligatorily and as in the declarative George omits it a third of the time, *ceteris paribus*, a third of his questions would also be ungrammatical.

Clearly, for George, neither one of these options (a) or (b) can explain his output and so we're left with the forced assumption that he indeed does have both underlying forms. In isolation this hypothesis actually states nothing new about the adult grammar and says nothing new extra to the hypothesis proposed by Schütze for the child grammar. Even the notion that two different underlying forms are stored at once is unsurprising considering that all the children in Schütze's study sometimes produce the correct auxiliary based output (thus using (s2)) while other times producing incorrect output (thus using (s1)). What is peculiar and new to understand is that George's syntax exhibits the normally developing variation of an approximately 2;5 year old child, in the declarative switching from the correct (s2) to (s1) and back again at a ratio of 3-1 respectively *plus* a seemingly totally acquired underlying form (s2) for the interrogative. Essentially, George's syntax seems to be a mix of adult and child like behaviours a perfectly regular example of both types.

3.3 is his auxiliary omission captured by UG

The question as to whether George's lingusitic pattern is possibly captured by UG seems more complicated now than ever, he doesn't seem to be fit into a neat yes or no. His auxiliary is a) regular and b) matches a well documented normally developing L1 acquisition pattern. This acquisition pattern in typically developing children is found at approximately (2;0) to (2;5) years whereas George is (9;11) and thus at the very least clearly delayed in his acquistion, however, as late as this acquisition is, it is captured by UG and as such not obviously devious. What confounds the situation is that George forced us to assume that he presented differing underlying structures for two clause types which are usually seen to be derivationally related: the declarative and the interrogative. To add to the force of this observation is that the motivation to keep the underlying forms for declarative and interrogative separate is based on a purely logical coenundrum and not at all theory-internal. Even so his correct usage of auxiliaries in interrogatives is also clearly accounted for by UG. Much more research should still be carried out but a provisory hypothesis is that George's linguistic pattern can be captured within UG, eventhough, part of it is reflective of a normally

developing acquistion process as opposed to the target adult UG.

3.4 George's negation and tense

3.4.1 some conditions on negation (in English)

From an admittedly small set of data in George's pilot study we can also see a very interesting implication for a theory of negation proposed in Zanuttini (1996).

Zanuttini, following Kayne (2000:195-196[17]) claims that the contracted form /n't/ in English differs from /not/ in syntactical type as well as phonological form. The syntactic behaviour or /n't/ mirrors the Italian type[18] negative marker: /non/, meanwhile English /not/ patterns with the Piedmontese[19] negative marker: /nen/ (Zanuttini 1996:193).

The claim is that /n't/ and /non/ are Neg-heads while /not/ and /nen/ are simply adverbials. Zanuttini goes on to claim that Neg-heads in Romance and English obligatorily take a TP as their compliment. An effect this has is that the NegP element must not be separated by any element other than objects housed in Spec-TP:

Italian (a,c,d,e and f are from Zanuttini 1996:various)

a. Maria **non parla** molto	/mary non talk much/	'mary doesn't talk a lot'
b. *Maria **non** sempre **parla** molto	/mary non always talks much/	
c. *Maria **parla non** molto	/mary talks non much/	
d. *Maria **ha non** parlato molto	/mary did non talk much/	
e. Maria **non ha** parlato molto	/mary non does talk much/	'mary doesn't talk a lot'
f. Maria **non** gli **parla** molto	/mary non him talk much/	'mary doesn't talk to him a lot'

(a) and (e) are both grammatical and share the feature that NegP is taking TP as its compliment, conversely, (c) and (d) are both ungrammatical for the very reason that NegP isn't in a position to take TP as its compliment, likewise, the adverbial phrase in (c) blocks the possibility of NegP taking the TP as its compliment and therefore the structure fails. Conversely, the pronoun intervening between the /non/ and the tensed verb in (f) doesn't constitute a blocking because the pronominal is housed in Spec-TP and as such NegP can still take TP as a compliment.

Adverbial negation, such as that in Piedmontese, doesn't have to be adjacent to the main verb and as such doesn't display the positional constraints as shown in a-f. The Piedmontese opposite to (b) ie. the neg element separated by the main verb is grammatical and the position /nen/ occupies is shared with other adverbials (Zanuttini 1996:183):

Piedmontese (ibid.)

g. Maria a **parla nen**	'mary clitic talks neg'
h. Maria a **parla** anco/pì/**nen**	'mary clitic talks still/no more neg'

In English we see that /n't/ behaves like a Neg-head while /not/ behaves like an adverbial:

17 first appeared in (1989)
18 along with Spanish, Catalan, Portuguese, Romanian etc... (Zanuttini 1996:183)
19 along with Occitan, Fraco-Provencal, Milanese etc... (Zanuttini 1996:183)

English (i, j, Zanuttini 1996:193)

i. She couldn't not have noticed it
i'. She could$_i$n't t$_{(i)}$ not have noticed it
j. * She could haven't noticed it
k. She could have not noticed it
l. She could have often/never/occasionaly/quickly/ noticed it
m. *She could quickly/occasionally/never/often-n't have noticed it

In (i) and (i') we see Zanuttini's proposal based on Pollock (1989:397) that /n't/ is a functional head which requires phonological support and thus to save the structure /could/ raises into NegP creating the visual semblance of English's TP being higher than its NegP (cf. Zwicky 1970). (j) shows that, just as in Romance, the Neg-head /n't/ cannot occur below the TP rendering the structure ungrammatical. On the other hand, (k) shows that no such restriction limits /not/ and as such this can be analysed as a Piedmontese like adverbial negator and as such /not/ occurs in positions shared by adverbials while (m) shows that this is certainly not an option for /n't/.

3.4.1.1 relevance to George

One of the questions to be asked in this pilot study was why it was that negative clauses where doubly more common in George's ungrammatical set. With Zanuttini's research linking tense and negation we can start to have an answer. The conclusion relevant to George lies in the fact that according to Zanuttini (1996:200) a Neg-P head requires 'the presence of tense' ie. 'a functional category expressing tense'.

George's negation

P.1 L.14 *"*...and it also not fair...*"
P.1 L. 37 *"*...she not, not really...*"
P.3 L. 136 *"*no i not!*"
P.2 L.44 ""*well that isn't exactly proof*""
P.2 L.75 "*I don't believe that is true*"

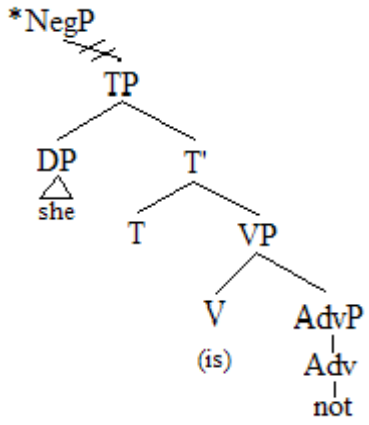
Firstly, it should be remembered that we gave a provisory explanation of George's auxiliary omission as being caused by a lack of an element encoding tense features in T^o and as such weakining the verbal requirement (s1). It is conceivable, therefore, that in the clauses like these ((s1)) a NegP could not be licensed and negation would have to be accomplished with adverbial negation. This seems to be born out by the data where George *never* produces a Neg-head in absence of Tense:

hypothetical P.3 L. 136' *"*no i'nt*"
hypothetical P.1 L. 37' *"*shen't really*"

Conversely, we only ever see /n't/ in fully grammatical clauses with tense specified in T^o such as in (s2). This pattern shows a UG requirment obeyed even in George's ungrammatical sentences i.e. his ungrammatical sentences don't violate UG. We saw that in the previous section that George's declaratives were a third of the time unspecified for tense, this creates the position in which a third of the time his clauses could not license a Neg-head and therefore have to make do with an adverbial negation. This, in itself, doesn't render the sentence ungrammatical, however, the very reason why the NegP cannot be licensed causes the verbal requirement to be weakened and thus opens the possibility of George outputting sentences like: P.1 L. 37 as opposed to sentences like hypothetical "she isn't".

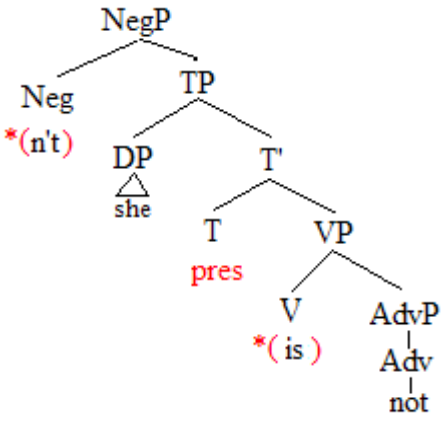
“She not” (based on P.1 L.37)

(s3)



“she isn't”

(s4)



(s3) lacks tense specification and as such NegP can't be licensed and the auxiliary is optional in the second structure there is tense specification and as such the NegP is licensed and the auxiliary becomes compulsory. The point to be made here is that George further supports the Zanuttini's theory that NegP and Tense (and so the auxiliary) are interrelated and as such affecting T also affects Neg. What we should remember though is that the effects of Neg are actually symptomatic of something else, lack of tense specification in the T^{o} head, which is a normally developing aspect of children's grammar and therefore perfectly captured by UG.

3.5 A test for the hypotheses of part three

A general, future, test for the hypotheses presented in part three lies in a one shared general prediction. If it is the case that lack of tense specification jointly causes auxiliary omission and failure to license the NegP head *and* George's interrogatives are claimed to invariably contain tense features then it follows that a) he shouldn't illegally omit auxiliaries in questions and b) he shouldn't have a problem with having NegP heads in his questions and never produce ungrammaticalities involving neg elements in interrogatives.

(a) was already shown to be true and (b), however, is unluckily untestable in this pilot study. In the appendix (a1) we can actually find no examples of interrogatives using a negative and an auxiliary verb 'to be' although I'm definitely sure that George produces them and future recordings will hopefully strengthen these hypotheses at least showing that in George's speech his declaratives are frequently ungrammatical while his interrogatives are paradoxically fully acquired.

4 Conclusions and Future Research

From this pilot study we have to draw tentative conclusions and nothing certain can be ascertained, what is possible, however, is for this study to point to possible answers and future research questions. The general aim was to find out whether or not George's linguistic patterns could be captured by universal grammar (UG) or whether he demonstrated a truly damaged language faculty.

To start this I first offered a general description of George's cognitive and linguistic profile, a list of bullet points of his common linguistic abnormalities all towards demonstrating his mind's modularity (Fodor 1983). With dislocated intelligence and linguistic function (cf. (but opposite) Yamada 1990) and dislocated semantics and pragmatics from syntax (cf. (but opposite) Smith and Tsimpli 1995).

The first analytical part of this study was concerned with ascertaining whether George had a recognisable type of specific language impairment (SLI) as defined by Coltheart (ms.). After eliminating a number of subtypes it was concluded that George's linguistic deviance could, possibly, be captured by grammatical SLI (G-SLI) although, this challenged the notion that the disorder's central feature was a deficit with Move-F(α) (van der Lely and Battell 2003). George and people like him (possibly 20% of van der Lely and Battell's study) seemed to call for a modularity within G-SLI itself with *all* affected members omitting grammatical function words and 80% of this population *also* having a deficit with a sub-module determining Move-F(α).

This study was naturally focused by looking at only a certain characteristic of George's speech: the auxiliary omission. I started by setting up a pilot study in which I created a mini-corpus of George's speech in a transcription of a recording of naturalistic, un-elicited speech. In this same section I also extracted all relevant examples of the auxiliary verb 'to be' which occurred or should have occurred and worked out some numbers and patterns from that. It was found out that he never omitted infinite auxiliaries while he omitted finite auxiliary verbs 30.8% of the time. Confusingly, his auxiliary selection was not correspondingly ungrammatical, a third of the time, or at all, in his questions. We also found that his negative clauses were doubly more common in his ungrammatical set as opposed to his grammatical set. This part of the study gave rise to the specific distribution and patterns of the auxiliary verb 'to be' in his speech, this gave us a concrete question we could now push: could UG cover *this* particular data pattern.

Part three showed that indeed George's auxiliary omission was identical to patterns found in a non-impaired impaired population, it just happened that this population was between (2;0) and (2;5) (Schütze ms.). Discovering an identical data pattern pointed towards a hypothesis explaining his pathology. It was shown that by demonstrating that George's T^o unspecified for tense features created a weakening of the 'verbal requirement' and in such a grammar: 'she lovely' would be an acceptable surface form. This analysis which explains George's auxiliary omission in declaratives perfectly also produces a logical paradox: many theories of linguistics consider the interrogative a diathetic derivative of the declarative. However, we claimed and showed that George's declarative was, 30.8% of the time *sans* an auxiliary, unexpectedly, his questions never lacked T to C movement. This forces the observer to claim that the underlying form for the declarative in his speech must be different from the underlying form of his interrogative. This, it seems to me, is the only way to represent this antisymmetry.

Part three went on to show the reasons to explain the fact that his negative clauses were doubly as common in his ungrammatical set as his grammatical set. It was argued that this had everything to do with a hypothesis by Zanuttini (1996) which claims that a Neg-head must take as its compliment a phrase encoding tense features. As previously discussed in part three we saw that a third of the time George's clauses lacked tense specification and a further syntactic effect produced by a lack of tense features in the T^o is that this cannot license a Neg-head. As such, we have an explanation as to how the absence of tense features in T^o could have an effect on elements in a different head (Neg). Part three ended with a test which would add validity to the hypotheses presented within it: if Neg heads are dissallowed for the same reasons as auxiliary omission and this reason is not present in interrogatives then it follows that George's questions will always be grammatical for both auxiliaries and negative elements.

The conclusion to be drawn from all of this is that, although more research is obviously required, it seems that George's language faculty, on the topic of auxiliaries and their interaction with negative elements, seems to be intact and captured by UG. Essentially, all George's linguistic behaviour is part of English and its typically developing acquisition proces, parts of it reflect English at a much younger age than his chronological age while other parts are adult like. Essentially this leaves us

with an answerable question within a non longitudinal study: is his deficit temporary (and maturational) or permanently delayed (although still captured by UG)? This is where future longitudinal studies would be exceedingly illuminating to our knowledge of linguistic development of SLI.

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Appendix One (a1) 'the transcript'

Sound File Transcription for:

'1GS: class mates, the scientific method and christian dogma and religion'

Made on:

19 October 2006, 19:03:42

Participants:

George (9;11), male, caucasian, dyslexic, orally dysphraxic IQ: 110 (verbal), 80 (written)
Shanti, (20;09), cousin, male,
Julia, (49;09), mother, female,

Environment:

Kitchen table of Georges house, casual chat, while dinner is baking in the oven. On the table is a 2 by 1 inch black device which records the conversation. Casual register, naturalistic speech.

Lasting for:

13:08 minutes, George mean length of utterance: 14 w/p/u. Shanti m.l.u.: 13.9 w/p/u.

1) S: Isn't that awful though!
2) G: Yah!
3) S: So, let's see what's her name?
4) G: Saffy
5) S: Saffy,
6) G: yah
7) S: ok, so uhhh, has she been allowed back to school?
8) G: yah
9) S: so have you been...
10) G: ...she only got excluded for one day,
11) S: I see, for attacking another student and making them bleed
12) G: yah
13) S: do you think that that's fair
14) G: no, and it also not fair, ah, ah, a girl, a boy in my class, he's a friend of someone, and this
15)friend of someone, his best friend, he said 'you lost another point' then he smashed his head
16)behind a, a, a fire extinguisher...
17) S: ahh...
18) G: and ya know what the, the, uh, the punishment was?
19) S: what?
20) G: one warning, there's three warnings til you get out of the class. And that was only one.
21) S: he could kill him before his third warning
22) G: yeah!
23) S: that's awful, you know george this doesn't happen in Italy, this kind of violence in schools,
24) G: ahh, no!
25) S: there are many bad things but that isn't one of them
26) G: yah
27) S: um
28) G: Are you recording this conversation
29) S: um maybe, no yes I am!
30) G: urghhh,
31) S: no but it's good, it's fantastic, you have such a beautiful vocabulary, you know so many
32)words, you know more words than every other kid in your class put together.
33) G: umm no i don't
34) S: ahh, is there somebody that knows more words than you
35) G: there's a girl, called marutha and she really really gets on my nerves cos she's, she, when I
36)do, uh...she, a little, ahh, [she] a little bit of a geek, well she pretends to be a nice girl but she
37)not, not really, she tells on everyone, she a tell-tale...

38) S: um.
39) G: and as soon as someone acts good she acts bad, so she's infact a horrible girl and one time I
40)were talking to her about if aliens exist and she said [*imitates her voice*] “well logically
41)aliens can't exist...
42) S: ahh
43) G: cos we don't actually have some proof”, “how bout the proof, the proof, the british got” and
44)she said “well that isn't exactly proof, i bet it was a movie put on with a bit of special effects”
45)and I said: “that just crazy” and she said: “teacher, he called me crazy” [*laughs*]
46) S: [*laughs*] that's really funny, umm, the thing about aliens is that, this is what is called, this is a
47)kind of logic, George, you see this spoon right [*shows spoon on table*]
48) G: yeah
49) S: yeah, right, now look, [*hides spoon up sleeve*] now you can't see the spoon any longer, right,
50)ok, now can you, now let's see, can you prove that it exists
51) G: yeah!?
52) S: how?
53) G: Cos I just seen it and no one can absorb things
54) S: ahhh, so, so you find the spoon and you say: ahh look it's up there: it exists ok
55) G: yeah
56) S: now lets imagine another thing, like maybe a pen in here or something [*points to a near by*
57)*draw*] now imagine you can't open it to see it right, you can't open this draw can you prove it
58)[*the pen*] doesn't exist?
59) G: no, not really!
60) S: exactly, so just because you can't see it and you can't prove that this exists doesn't mean it
61)does not exist.
62) G: yeah
63) S: it's what's called: evidence of absence... sorry, absence of evidence is not evidence of
64)absence.
65) G: yeah,
66) S: so, you can never ever prove that something doesn't exist by not finding it
67) J: [*mother buts in*] say that again
68) S: you can never prove something doesn't exist by not finding it, you can prove it doesn't exist
69)by...
70) J: [*mother buts in again*] by finding it, no wait sorry,
71) S: blah blah blah diagnositcs, behaviour, 'it should be there but we can't see it so it doesn't exist'
72) J: [*upping the ante*] can you prove god doesn't exist, we can't prove god doesn't exist
73) S: we can't prove god doens't exist, you'd have to scrape each and every atom of the universe for
74)it, and you can't do that so no,
75) G: well i actually don't believe that is true, cos proof of god does exist, [it] would be like...
76)proof of god does exist when I... say 'oh my god i wish i had a chocolate eclaire and a chocolate
77)eclaire comes up'
78) S: So a miracle
79) G: yeah, a miracle really, but, but
80) S: so one question I should ask is that at the beginning, when there was no faith in God, God
81)sent his son down and his son formed blatant, public miracles to prove that god exists,
82) G: yeah... but that was...
83) J: hang on Shanti was asking a question
84) S: so now equally, and he says: “right that's it” he's gone now, and everyone believes, because
85)jesus christ the water turned into wine in front of their very eyes, but now we're in a state where
86)everyone is talking about 'can we really prove that god exists, so...
87) G: yeah cos you can't actually prove he did turn water into wine
88) S: so why can't god send another little son down yeah, and he could...
89) G: how bout, but to have a son, even with god, you have to... have, ahh, sex really,

90) S: I don't think that's the case, just because of the immaculate conception
91) J: but 'conception' mary gets impregnated by god
92) S: yes, but i'm pretty sure he didn't come down as an adonis
93) J: no no no, but the angel must have...
94) S: nooooh, the angel [*laughs*]
95) G: then jesus would be called 'the son of some regular angel'
96) J: yeah son of gabriel
97) S: god, but George but god is, god is GOD! If you believe that he created the universe it's not
98)hard to believe that he could go 'bang' and then suddenly... you know
99) G: yeah
100) S: he could make babies grow from tables if he wanted to
101) J: yeah
102) G: yeah, but he don't really want to do that
103) S: no, I know, but he doesn't have to have sex like a regular individual,
104) G: yep
105) J: no, that's quite true,
106) S: so... why not! why not in this age...
107) J: it's amazing anyone believes in god at all frankly
108) S: well yeah, because George, but i mean he doesn't make it that easy, he doesn't make people
109)predesposed to believe and he doesn't make umm himself very visible
110) J: lets ask him, why do you believe in god
111) G: well I, believe in god I suppose, cos somethings happen when I thinking the... I think, i
112)thinking, i think of, it would be really embarassing if i did a fart right now in the middle of my
113)maths test and suddenly i do a fart or something I believe those little kind of miracles
114) J: I don't get that
115) S: umm no i think that's very interesting
116) J: why would that make you believe in god?
117) G: cos who else could it be? God!
118) J: what who ovverides your will at that point, you're willing yourself not to fart but you do,
119) G: yeah
120) J: so you think it's god
121) S: interesting though
122) J: really
123) S: yes, one of the most beautifully profound things ever
124) J: why is that profound?
125) S: why is that profound! That could be a line in any film, a really good film, that's really kind
126)of cool,
127) J: is it
128) S: it is, because what overrides, because, you guys, you psychotherapists you see the
129)representation of god as the super-ego don't you?
130) J: yes
131) S: but that [what George as describing] sounds much more like the id or...
132) J: yes
133) S: so, isn't, shouldn't that be like satan
134) J: yes, oh my god
135) S: George are you worshipping satan
136) G: no i not!
137) J: but it is that little bit of himself which he doesn't have... control over...
138) S: ... control over... but you don't have control of two layers don't you?
139) J: no, no it's true, because that's the more naughty or destructive...
140) G: I mean that why, that why God is so vengeful cos he's fed up, he's made, he makes human
141)beings spends hours perfecting them and look after them and care for them and when a human

142)murders he feels very fed up, [*he*] feels like a mother hearing his son had murdered someone,
143)and he would be really angry with the son, wouldn't you...
144) J: ...yeah...
145) G: he brings him up and what does he get?
146) J: she, oh he, he's god [*catching on to the co-reference*]
147) G: yeh, he [*the son*] turns out to be [*ravenous??*] murderer
148) S: I see
149) J: right, isn't that about, yes, that's right
150) S: yeah, I mean I prefer this idea of god anyway, but god should be above such petty human
151)emotions
152) J: yeah, its a very narcissistic wound really
153) S: yeah, very much, totally narcissistic
154) G: well that why he sends Jesus down to find out more about his children
155) J: yes and try and put them all straight
156) G: yeah
157) J: no, maybe
158) S: this certainly marks a maturation in his god's own psychee he goes from being a child to
159)essentially a wise old man,
160) J: accepting that maybe that difficulty,
161) S: maybe, he's all about 'turning the other cheek' and the exact opposite of the beginning, his
162)'eye for an eye for an eye'
163) J: yes exactly,
164) G: yeah well wouldn't you agree if you done something really bad and someone famous in
165)legend had to come up I would rather it to be Jesus than God
166) J: yes!
167) S: yes that would be good!
168) J: [mubles]
169) G: he'd banish us
170) S: that means something but i can't remember what it means
171) J: [mubles]
172) S: what's that reference
173) J: [mumbles] so, shall we...

recording ends