Anglica Wratislaviensia

XXXII

**Edited
by Lech Zabor**

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Applied Linguistics

Renata Barzycka

Complimenting Behaviour in Polish.
Part I: Compliments

The purpose of this article is to examine complimenting in everyday Polish. Data collection strategies have involved gathering naturally occurring compliments and compliment-response sequences. The fieldwork was conducted over 10 months in Wrocław during the academic year 1991/1992. Fieldworkers were students of the Institute of English at the University of Wrocław and students of the English Department of Wrocław Teachers Training College. They were asked to record the compliment, compliment-response, sex of speaker and addressee, their age and relationship. As compliments seem easily recognisable items of discourse, data collectors were not instructed what should count as a compliment. After the material had been gathered, each expression was referred to two formal definitions of a compliment given by Holmes (1988) and by Wierzbicka (1987):

> A compliment is a speech act which explicitly or implicitly attributes credit to someone other than the speaker, usually the person addressed, for some "good" (possessions, characteristic, skill etc.) which is positively valued by the speaker and the hearer (Holmes 1988: 446).

> I perceive something good about Y;
> I want to say something good about you because of that;
> I say: (something good about X and X's Y);
> I feel something good thinking about it;
> I say this because I want to cause you to know that I am thinking something good about you;
> I assume that you will feel something good because of that (Wierzbicka 1987: 201).

As Donna M. Johnson (1992: 55) observes, the core of the two analyses is the act of attributing credit. From various interpersonal purposes compliments may serve the function of pleasing people is selected. All the positive comments in our data set were used for this purpose.

The theoretical framework for this study derives from Brown and Levinson's (1987) sociolinguistic theory of politeness phenomena. According to the theory, paying a compliment is a positive politeness strategy and it satisfies the recipient's positive face. Positive face is a person's desire to be approved of by others. Compliments function as "social lubricants" (Wolfson 1983: 89) as they serve to increase and consolidate solidarity between people. In addition, compliments can be used to redress face-threatening acts (FTAs). Brown and Levin-

son (1987: 71-73) also suggest that compliments (and compliment responses) may themselves be FTAs. They may threaten the recipient's negative face (his/her want to be unimpeded) by expressing desire to have what the addressee possesses.

The corpus comprised 753 exchanges. However, it seemed logical to reduce the data base for the analysis to 534 interactions. Although all of the collected compliments expressed a positive judgment applying to the addressee and constituted perfect compliments, 219 were immediately followed by a question, e.g., *Ladna koszula. Gdzie ją kupiłeś?* "Nice shirt. Where did you buy it?" What follows cannot be analysed as the response to the compliment. It is in fact the answer to the question. The considerable number of questions following compliments is noteworthy. The very pattern makes it possible for the recipient to avoid the dilemma whether to agree and to accept the compliment or to reject in (Pomerantz 1978). The complementee may just ignore the compliment and provide the speaker with the piece of information which is required. The complementers who choose this formula, i.e. compliment + question, seem to be very considerate about the recipients' needs. Outstanding popularity of this pattern suggest that many Polish complementers are aware that their positive judgments, though apparently nice, are also embarrassing. They offer the addressees the possibility of side stepping compliments entirely. The aim of the present study is to examine how people react when forced either to accept or reject the compliment. Therefore 219 interactions are not included in the data base.

Similar research was conducted for American (Manes and Wolfson 1980, Wolfson 1983), New Zealand (Holmes 1986) and South African English (Herbert 1989), where fieldworkers were also university students penetrating their own social milieu. Researchers examining compliment behaviour in different varieties of English have found that compliments are highly formulaic both in their syntactic form and in the lexical items that carry the positive evaluation. Manes and Wolfson (1980, 1981, 1983) observed that 85% of their material (American English) consisted of 3 basic syntactic patterns:

1. NP is/looks (really) ADJ.
2. I (really) like/love NP.
3. PRO is (really) (a) ADJ NP.

Only 5 adjectives: *nice, good, pretty, beautiful* and *great* accounted for two thirds of all the adjectives used in adjectival compliments. *Like* and *love* were the only positively evaluative verbs in 86% of the nonadjectival compliments. Holmes' findings (1986) are strikingly similar. She found that the same syntactic patterns accounted for 78% of the New Zealand data. Lexically most of the adjectival compliments depended on 6 semantically positive adjectives (all the "American" ones + *lovely*), whereas nonadjectival used *like* and *love* to carry the positive semantic load for 90% of the New Zealand data. The same formulaicity was found in South African English by Herbert (1989). One may conclude that the fixedness of compliment forms extends across different English speaking communities.

Herbert's (1991) contrastive study of Polish and English compliments tested the phenomenon of prepatterning in cross-cultural perspective. The results corroborate general findings for English, emphasizing the universal character of formulaicity. Polish compliments make use of syntactic and semantic formulae, too. Of course the patterns for English and Polish are different because of syntactic differences in the two languages (adverbial compliments in Polish vs adjectival compliments in English). Herbert distinguished 4 most commonly occurring syntactic patterns in the Polish data:

1. (INT) ADJ masz (you have) NP — 35.75%.
2. (Jak) ADV V — 24.5%.
3. (Co za/jaki/ale) ADJ NP — 13.75%.
4. NP jest (is) (INT) ADJ — 9.75%.

Herbert's findings are replicated in the present study with slightly different proportions. Again, the most frequent patterns are:

1. ADJ masz (you have) NP, e.g. *Świetną masz spódnicę* — 37.08% (198),

and

2. ADV V, e.g. *Świetnie wyglądasz* — 20.04% (107).

The other patterns are:

3. NP jest (is) ADJ or ADJ jest NP, e.g. *To jest piękne.* "This is beautiful"; *Śliczna jest ta broszka.* "This brooch is lovely" — 11.98% (64).
4. ADJ NP, e.g. *Śliczna suknia.* "What a beautiful dress" — 6.93% (37).
5. ADV PRO PREP NP, e.g. *Ładnie ci w tym.* "You look pretty in this" — 5.06% (27).
6. ADJ jak (like) ADV, e.g. *Elegancki jak zwykle.* "Smart as usual" — 3.93% (21).
7. ADJ, e.g. *Świetna!* (o spódnicy). "Great!" (about a skirt) — 3.93% (21).
8. ADJ NP V, e.g. *Znakomity obiad zgotowałaś.* "You've made an excellent dinner" — 3.37% (18).
9. (PRO) V jak (like) NP, e.g. *Wyglądasz jak Claudia Schiffer.* "You look like Claudia Schiffer" — 2.05% (11).

In the present study we found a number of idiosyncratic patterns (5.61%), which are not at all predictible, for example: *Czas się dla ciebie zatrzymał.* "Time has stopped for you". Most of these favourable comments, however, are inplicit compliments, in which, as Herbert (1991: 383) points out, "the value judgment is presupposed and/or implicated by Gricean maxims".

One reason why the syntactic pattern MASZ ADJ NP (1) occurs so frequently in the corpus is that the compliment encoded in the formula is not so personal and direct as for example *Świetnie wyglądasz,* "You look terrific". In formula 1 the credit is shifted from the addressee to the object or ability she/he possesses. It is easier for the recipient to accept comments which are indirectly

complimentary. The high frequency of such compliments seems to suggest that, again, choosing this formula speakers care about complementees' needs and offer the least embarrassing pattern.

Lexically, too, the majority of compliments in our data depend on a very restricted range of items. The total number of adjectives used in the corpus was 41, but very few of them were used with high frequency. The eight most frequently occurring adjectives were: *ladny* (pretty), *świetny* (terrific), *fajny* (great), *śliczny* (lovely), *piękny* (beautiful), *dobry* (good), *wspaniały* (wonderful), *znakomity* (excellent). 18 items occurred without repetition in the data. Within the group of adverbial compliments even fewer words were regularly exploited: *ladnie, świetnie, ślicznie, dobrze, pięknie, fajnie.*

The use of a syntactic and semantic formula minimizes the risk of misunderstanding. A more original compliment often turns out a very akward one. It makes the recipient feel very uncomfortable and creates the social distance. For example:

A. Obłędna jesteś, wiesz?   A: You are crazy, you know?
B: (upset) Słucham?   B: Excuse me?
A: Coś ty! To komplement.   C: Come on! It was a compliment.

The word *obłędny* is used by many young speakers in Poland in a positive sense and it means *świetny* (terrific). For a number of people, however, *obłędny* is synonymous with *obłąkany* (mad), which is the meaning attested in *The Dictionary of the Polish Language* (*Słownik języka polskiego* 1963, Vol. 5: 487).

With respect to topics 4 categories have been distinguished in the literature: appearance, ability (performance/skill), possession, personality. In American English (Manes and Wolfson 1980) as well as in New Zealand English (Holmes 1988) addressees receive compliments mainly on their appearance, less often on ability or skill, occasionally on possessions (especially new ones) and quite rarely on personality. The high frequency of appearance topic reveals that attractiveness or, more precisely, deliberate efforts to improve one's looks constitute a social demand both in America and New Zealand. Positive comments on performance also seem rooted in the Anglo-Saxon educational system, which teaches through encouragement and relies on positive reinforcement.

Herbert's findings (1990: 393) concerning Polish data are considerably different with respect to the proportions related to different topics:

appearance   — 32.25%,
ability   — 11.75%,
possessions — 49.25%,
personality — 1.25%,
other   — 2.5%.

The overwhelming number of Polish compliments on possessions, usually new ones, is the most conspicuous point of contrast. Herbert (1990: 397) relates

the high incidence of this topic to life in the consumer-troubled society Poland was when the data for his study were collected. Consumer goods were not generally available and acquiring them was regarded as an achievement of some sort. Complimenting a newly acquired possession was socially expected and very often congratulatory.

Times have changed but the incidence of possession compliments is still very high as has been shown in the present study:

appearance   — 37.08% (198),
ability —   10.11% (54),
possessions — 51.68% (276),
personality — 1.12% (6).

Poland is no longer consumer-troubled, at least not in the sense it used to be. There is an abundance of goods in shops. It does not necessarily mean that the society is affluent. People often cannot afford a lot of things that are apparently available. One may thus speculate that the centrality of possession compliments reflects the fact that this huge appetite for consumer goods has not as yet been satisfied.

An alternative interpretation is proposed here. The analysis is based on the close examination of the compliments encoded in MASZ (you have) ADJ NP. The question is whether all such expressions should be classified as compliments on possessions. The following ones undoubtedly represent the appearance category:

Śliczną masz fryzurę. "You've got a lovely hairdo".
Świetne masz dziś włosy. "You've got great hair today" (referring to someone's hairstyle).
Piękną masz cerę po tym zabiegu. "You've got a beautiful complexion after the treatment".
Masz zniewalający uśmiech. "You've got a disarming smile".
Similarly, *Masz talent do języków*, "You've got talent for languages" or *Masz talent kulinarny*, "You've got talent for cooking" are skill compliments.

The problem arises with a comment like: *Masz piękną wodę po goleniu*, "You've got beautiful aftershave." Is it really a possession compliment? It certainly looks like one. But what it implies is that the addressee smells beautiful, which seems to be an aspect of attractiveness. Herbert (1990: 392) observes that whereas American speakers feel obliged to compliment their close acquaintances on changed physical appearance, Polish ones report an obligation to comment positively newly acquired possessions, especially items of apparel or decoration. For a number of speakers in our study these two situations are strongly connected. A newly acquired item of apparel usually brings about some change in physical appearance. When people say: *Masz ladną sukienkę*, "You've got a nice dress," the message is that this is the first time they have seen it and

that they recognize and appreciate the recipient's efforts to look attractive. That is why many data collectors in the present study perceived compliments like the ones above as related to appearance rather than to possession. Thus two syntactically identical comments: *Ładne masz mieszkanie*, "You've got a nice flat," and *Ładną masz sukienkę*, "You've got a nice dress," are viewed as representing two different categories in terms of the topics involved. In the light of the above considerations the proportions of appearance and possession compliments are different:

appearance   —   55.43% (296),
ability   —   10.11% (54),
possessions —   33.33% (178),
personality —   1.12% (6).

The above pattern reveals that Polish compliments reflect and reinforce such cultural values as personal attractiveness and new acquisitions. If a Polish speaker is complimented on a possession it is his/her taste which is admired. Sometimes his/her financial status is recognized or envied. But expressions of approval referring to possessions no longer function as congratulations on the accomplishment that any purchase used to be in the past. Poland is moving towards a consumer-oriented economy. This fact seems to be mirrored in the lower frequency of possession compliments in the present analysis compared to Herbert's findings (1990) and in their changed meaning.

There still remains one point of contrast between the English and Polish data sets, i.e. the category ability/performance/skill. This subtype accounts for 30.6% of Holmes' sample (1988: 455) for New Zealand English. But only 11.75% of Herbert's corpus for Polish and 10.11% of our data set represent this category. One reason for this considerably lower incidence of ability compliments in Polish might be the fact they were collected among university student populations. Interactions between equals are most frequent within such groups. If there is no status difference compliments are likely to relate to appearance rather than to performance (cf. Holmes 1986, 1988). Skills are usually a topic of downword compliments between superiors and subordinates (boss–employee, teacher–student). Yet scarcity of performance compliments in Polish appears to be a culture specific phenomenon. Wolfson (1983: 87) observes that compliments are part of American educational traditions and rules of classroom behaviour. The style of teaching through encouragement is so common that it becomes easily transferrable to many situations outside the classroom. It would be an exaggeration to maintain that the strategy of encouraging praise is nonexistent in Polish schools, but generally Polish teachers seem not so generous in praising their students. The anecdotal yet authentic example of cross-cultural educational misunderstanding is the case of Polish students complimented on the progress they were making during the semester by their American teachers. Confident that their work was just "great," the students were quite surprised at the final grades they obtained, not so "great," as they had expected.

Compliments have also been the subject of research on gender differences. The most important studies here are those by Holmes (1988) and Herbert (1990). The general findings are that women give and receive more compliments than do men, women compliment women more than they do men and that men also compliment women more than they do men.

534 compliment events in the present study have the following sex-based distribution: M–M — 52, M–F — 118, F–F — 255, F–M — 109. Total 534.

Syntactic features of compliments have been analysed according to the sex of the complementer, but no statistically significant differences have been found. The first two formulae are used by both men and women equally often. The majority of Polish compliments have second person focus regardless of the complementer's sex.

When the distribution of compliment topics by sex is examined there is an evident tendency for women to receive compliments on their appearance and to offer such comments to other women. Of all the compliments women received 64.34% (240) were positive evaluations of their looks. Within the F–F group as much as 67.45% (172) related to appearance, whereas only 17.30% (9) of all compliments between males referred to the way they looked like. Men compliment other men mainly on possessions (61.54%, 32), sometimes on ability (21.15%, 11) and appearance (17.30%, 9). Holmes (1988: 456) attested the significant male preference for complimenting women on ability (44% of all M–F interactions). In our data men tend to compliment women on appearance (57.62%, 68), almost always using the same formula *Ślicznie/Ładnie/Pięknie/Fajnie wyglądasz*, "You look lovely/nice/beautiful/great." It is interesting to note that when praising women's skills men usually referred to their talents as cooks or hostesses at parties, occasionally to their proficiency in sport and quite rarely to their academic abilities.

The predominance of appearance compliments in women's interactions is easily understandable. As Holmes (1988: 455) observes, the most obvious interpretation of such comments is that they are positively affective speech acts which serve to increase the solidarity between the speaker and the addressee. As signals of solidarity they are more likely to occur in same-sex interactions than in cross-sex interactions. This is definitely true for women. In our data appearance compliments in the F–F group often serve to initiate a conversation and are almost always part of greeting routine. They represent a social strategy on the part of the speaker to create and maintain rapport with the recipient. Holmes (1988: 452) suggests that the scarcity of male–male interactions is due to the fact that complimenting is not a preferred male strategy for expressing solidarity and that men tend to perceive compliments as FTAs in same-sex interactions. Holmes' illuminating interpretation seems to be reinforced by men's greater use of possession compliments in the M–M group. Such compliments may imply that the speaker envies the recipient or desires the object the addressee possesses. Therefore even though they express positive judgments they can be regarded as potential FTAs. Our data strongly contrib-

ute to Holmes' analysis. Polish males relatively rarely compliment other males, but when they do it is usually a possession that is admired. But, as Herbert (1990: 219) notices, the high frequency of possession compliments in this group may be due to serious constraints on appearance comments between male interactants. It is important to note here that men receive numerous compliments on possession from female speakers for whom complimenting acquisitions is more "neutral" (less flirtacious or intimate) than complimenting appearance. Since the incidence of possession compliments in the Polish data set is relatively high one may conclude that the topic is socially acceptable. Thus positive evaluations referring to possessions are not threatening. This may be a culture specific phenomenon. As comments on new acquisitions are generally expected it is possible that for Polish male speakers possession compliments are part of what they think is the societal norm of politeness.

There are, however, significant differences between the New Zealand and Polish samples. Whereas Holmes (1988: 456) observes the male predominance for complimenting women on ability, 57.62% of all compliments given by males to females in the present study concern appearance. For New Zealand men positive comments on appearance are too intimate and thus inappropriate in cross-sex interactions. The tendency of Polish males to express approval of women's looks reflects a folk belief that it is socially appropriate or even required to compliment women on their appearance. Though flirtacious in character such comments are regarded as part of acceptable chivalrous behaviour.

One may conclude that Polish male speakers do not use compliments as solidarity signals or expressions of friendship. It seems that compliments from men occur only as an element of courtship or when men feel that positive evaluations are required by societal politeness rules. This also applies to a few ability compliments present in our material. As has been mentioned above most of them follow either meals served by women or parties organized by them. These are the situations when conventional expressions of approval are naturally expected (together with thanks) by politeness rules. On the other hand, numerous compliments Polish women give to men, most of which fall into the appearance category (39.45%, 43), seem to represent positive politeness strategies and are offers of solidarity.

The data set for the analysis consisted mainly of compliments between status equals. The high incidence (67.6%, 361) of such interactions may be the methodological artefact as the setting explored for the analysis was relatively homogeneous with respect to status and age of interlocutors. But it is consistent with Wolfson's (1983b: 91) observations based on the research depending upon a much bigger and more diversified sample. The finding is that most compliment events take place between people of the same age and status.

The analysis of Polish compliments in relation to status and sex of participants corroborates Holmes' (1988) results and reveals that higher status women are more often complimented than higher status men. The sex of the complementer is immaterial. Holmes (1988: 457) observes that, regardless of

status, women are less intimidating as potential recipients than higher status men. Women are less likely to rebuff the complementer. The reason why the risk seems lower with females is that they perceive compliments as positively affective speech acts, whereas men may see them as FTAs.

As has been mentioned above, appearance is the most common topic between equals. Unequals refer to ability or performance. But in the present study sex identity overrides status differences between women. The majority of compliments both upwords and downwords focus on appearance in the F–F group. In Holmes' study (1988: 458) appearance compliments did not occur in cross-sex pairs of different status. In the present analysis women were complimented on their looks by different status men but higher status men were never offered such compliments by lower status women. Lower status men received very few appearance compliments from higher status women. This means that both male and female complementers recognize the risk of complimenting men on appearance if participants differ in status. But it also means that in male–female interactions sex of the addressee is more important than her status. Higher status men are generally perceived as the least appropriate recepients of compliments of any kind. Possession and performance comments dominate in unequal encounters involving lower status recipients of both sexes.

Between equals compliments are most likely to relate to appearance for groups F–F, M–F and F–M and to possession in M–M interactions. It is interesting to note that male addressees are complimented by their female friends on possession as often as they are o appearance (the difference between the two subgroups is not statistically significant). It seems that the sex of the recipient is the crucial factor in the choice of the compliment topic. For female complimentees the tendency is to be positively evaluated on the looks regardless of relative status. Male addressees tend to be praised for their possessions. In cross-sex interactions between equals, however, they may as well be complimented on appearance.

Distribution of compliments by status, sex and topic

Recipient is:	F–N (255)	M–F (118)	F–M (109)	M–M (52)
Lower in status				
— appearance	38 (14.9%)	8 (6.78%)	3 (2.75%)	2 (3.85%)
— possessions	7 (2.74%)	6 (5.08%)	10 (9.17%)	8 (15.38%)
— ability	3 (1.17%)	10 (8.47%)	2 (1.83%)	9 (17.31%)
Equal in status				
— appearance	108 (42.35%)	47 (39.83%)	44 (40.37%)	7 (13.46%)
— possessions	60 (23.53%)	9 (7.63%)	40 (36.69%)	23 (44.23%)
— ability	3 (1.17%)	11 (9.32%)	8 (7.34%)	1 (1.92%)
Higher in status				
— appearance	26 (10.19%)	13 (11.01%)	0 (0%)	0 (0%)
— possessions	9 (3.53%)	3 (2.54%)	2 (1.83%)	1 (1.92%)
— ability	1 (0.39%)	5 (4.24%)	0 (0%)	1 (1.92%)

Conclusions

Polish compliments are syntactic and semantic formulas. Four topics are represented: appearance, possession, ability and personality. Personal attractiveness and new acquisitions are regarded as socially valuable aspects of life. There are statistically significant relations (test χ^2, $\alpha = 0.01$) between the sex of the recipient and the topic of the compliment. Female addressees tend to be given positive evaluations of their appearance. The tendency for male recipients is to be complimented on possessions.

The distributional analysis suggests that men and women in Poland perceive and use compliments differently. For female speakers paying compliments is a preferred strategy for expressing friendship and solidarity. They compliment each other significantly more often than they do men and that men do each other. Women relate to appearance, which is the most appropriate topic between equals and close friends. Male speakers seem to treat compliments as conventional expressions required by politeness.

The combination of male sex with high status makes an individual the least probable addressee of any compliments. For female recipients sex of the addressee overrides her status. Women are complimented on their looks by different status speakers of both sexes. Within the F–F group the identity of sexes decreases social distance and helps to establish solidarity–based relationship. M–F interactions between unequals in which the status of the recipient is disregarded are difficult to interpret. It is possible to view them as patronising linguistic strategies (cf. Wolfson 1984), for quite often they are perceived as FTAs. However, without a thorough analysis of compliment responses the above interpretation is nothing more but a speculation. It is believed here that the follow-up study of compliment responses will shed some new light on how women and men in Poland actually experience compliments.

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Andrzej Krupowicz

Analysis–Through–Resynthesis — The Model for the Teaching of English Intonation to Polish Speakers

1. Introduction

"It ain't what you say, but the way that you say it." This popular saying should by no means be considered trivial as it expresses an important fact about the way we communicate. Communication does not involve merely putting your thoughts or ideas into words but making the listener understand you properly by emphasising these elements of your utterance which you consider most important. This, in turn, may be achieved by means of stressing the most important words or syllables in an utterance and by choosing a proper intonation pattern. Students of foreign languages who fail to realise that will end up being able to use correct grammatical rules and vocabulary items, yet failing to sound "proper" to an L2 ear and being perceived as uttering "foreign" sounds, sometimes referred to as "foreign accent."

1.1. Aims

The aim of this article is to present the recent methods in the study of English intonation which take advantage of the manipulation of the course of fundamental frequency with the aid of the computer. However, before we discuss the modern methods we shall present the brief outline of the history of former approaches to the study of intonation.

We believe that constructing a coherent model of English intonation system and contrasting it with the system of Polish intonation will help enormously with increasing the learners' awareness to the importance of this often neglected field of language learning and teaching. Furthermore, such an analysis will certainly help Polish learners achieve pronunciation as close to native-like as possible. It is worth pointing out here that such a study has already been carried out in Holland (Willems 1982) vastly contributing to better English pronunciation among Dutch learners.

1.2. Intonation

There is undoubtedly a clear relationship between the choice of intonation patterns and the speaker's intended meaning. By using an inappropriate intonation pattern a foreign speaker may unintentionally get a wrong impression upon a listener. To avoid that, it is essential to let the students practise the L2 utterances in context. Furthermore, the students must be made aware which L1 intonation patterns sound most "foreign-like" to an L2 speaker's ear.

Pitch and loudness are the phenomena which both contribute to the notion of prosodic features of the language. Intonation, in turn, constitutes the most important suprasegmental effect of the specific use of pitch and loudness. By the proper use of different levels of pitch in certain sequences the speakers are able to express a number of intended meanings. These levels of pitch are very often referred to as tones, while the sequences in which they are used are very often called tunes or contours. The basic distinction is made between falling and rising tones (as in statements and questions in most languages).

2. The British School

The study of English intonation has been carried out by both British and American phoneticians, with the British school emphasising the educational aspect of teaching intonation. British linguists such as Crystal (1969, 1975) and Halliday (1970) set foundations to this way of research. They came up with elaborate theories trying to establish the relationships between the meanings of utterances and intonation tunes. In their study they relied entirely upon impressions of native speakers of the language. Their study was based on the research carried out by Jones (1918) and Armstrong and Ward (1926). This was followed by the analysis of Palmer (1933), which expressed the tone group approach. This approach introduced the notion of a tone unit with nucleus considered its main part (accented syllable). Heads and tails functioned as the connecting elements between separate nuclei, mounting up to six tone groups recognized by Palmer (1933). This number was later on increased by four new nuclear tones and five more tails introduced by Jassem (1952). Another researcher, Kingdon (1958), divided Palmer's system into "prehead" and "body." Halliday (1970) stressed the grammatical functions of intonation and made the first attempt at placing intonation into a wider context of general linguistics.

Arnold and O'Connor (1973) concentrated on the attitudinal aspects of intonation distinguishing between as many as ten separate tone groups (their work is probably most familiar to Polish University graduates from English Departments). According to Arnold and O'Connor (1973) the main pitch movement ("nucleus") was carried by the stressed syllable of the last accented

word in a tone group. All the unstressed syllables following the nucleus were considered a tail, while the ones preceding it were called a prehead. The first stressed syllable of the first accented word started the head which ended with the syllable preceding the nucleus. Similarly to Halliday's description (1970) the groups were referred to grammatical functions of an utterance. The whole rather elaborate system included five sentence types: statement, wh-question, yes–no question, command and interjection. However, since no sentence type was exclusively used with only one tone group, the complete system distinguished between no less than 160 labels which in many cases overlapped thus failing to perform its primarily educational function.

2.1. The American School

The American school lacked the educational aspect by aspiring to obtain the convincing theory of intonation. This goes back to the works of Bloomfield (1933), Wells (1945), and Trager and Smith (1951). Their theories made an attempt at approaching intonation as carrying its meaning by means of phonemes (pitch movements). Pitch and stress were considered separate components, with stress being regarded as a "function of intensity," or loudness. Since intonation was said to carry meaning, intonation contours had to be equivalent of pitch morphemes and thus pitch movements had to be pitch phonemes.

In most descriptions there appear four separate pitch levels which constitute all relevant distinctions, although Bloomfield distinguished five pitch phonemes and three stress phonemes. Wells, in turn, offered four separate pitch levels. Trager and Smith (1951) agreed on four phoneme levels with the possibility of modifying them by pitch within any given level (allophones). Bolinger (1951) argued that it is impossible to distinguish pitch levels as they are relative and potentially overlapping.

Stockwell (1960), Lieberman (1967), Chomsky and Halle (1968), Halle and Kayser (1971) tried to apply transformational generative grammar principles to the study of intonation aiming at establishing relations between intonation and syntax.

3. The Dutch School

The major drawback of all approaches briefly described above is that they were based on sheer impressions of the listener thus making it impossible to reproduce their outcome. The so-called "Dutch school" (Cohen and t'Hart 1965, 1967) tried to eliminate this hazardous element by using the technique referred to as *analysis–by–resynthesis*. This method enables to analyse the original signal instrumentally in separate components, including its spectral composition, amplitude, fundamental frequency (F_0) and voiceless/voiced indica-

tion. Then, all these aspects may be changed according to the criteria chosen by the researcher. Having done that, it is still possible to return to the original signal (*resynthesis*) to make the signal audible and compare it with the original.

3.1. Institute for Perception Research (IPO) Approach

The *analysis-by-resynthesis* method lies at the heart of the so-called IPO-approach (the "Dutch school" founded in Eindhoven, the Netherlands). In their PhD dissertations Willems (1982) and Pijper (1983) constructed the elaborate systems of British English intonation and British English intonation from the Dutch point of view respectively. Their research takes advantage of the experiments and findings of Cohen and t'Hart (1965, 1967).

The major assumption is that it is possible to reflect recurrent discrete pitch movements in a limited number of these, with the pitch movements being considered as relevant by the listener and thus referred to as "perceptually relevant" pitch movements of a given language. This relevance must be experimentally verifiable in listening tests, thus producing reliable results that are reproducible as opposed to impressionistic approaches.

> We believe that [...] pitch movements that are interpreted as relevant by the listener are related to corresponding activities on the part of the speaker. These are assumed to be characterised by discrete commands to vocal cords and should be recoverable as so many discrete events in the resulting pitch contour, which may present themselves at first sight as continuous variations in time.
>
> (Cohen and t'Hart, 1967: 177-178)

3.2. Discrete Pitch Movements

Both for Dutch and British English intonation it has been possible to construct "perceptually adequate artificial pitch contours that consist of a succession of discrete pitch movements that can be represented by straight lines in visual recordings if F_0 is plotted as a logarithmic function of time" (Pijper 1983: 4). The term "discrete" implies actually generating artificial contours in the form of separate lines, with the immediate possibility of defining each of them separately from the others. Furthermore, it is plausible to prepare an inventory of ten standard movements which is sufficient to generate most patterns of a language. Such a method makes it possible to define the pitch contours acoustically.

3.3. Declination

The study of Dutch intonation proved that the overall pitch tends to decline towards the end of an utterance. This "tendency of pitch to float down over the course of an utterance" (Pijper 1983: 14) is called *declination*. As it is impossible

to leave out the declination line without serious perceptual consequences it has to be considered as a perceptually relevant pitch movement. Bolinger (1964) and Willems (1982) argue that declination could be a language universal.

3.4. Fundamental Frequency (F_0)

Fundamental frequency is identical to the notion of *pitch* which is a perceptual term referring to the acoustic signal. In this context it is "the inverse of the vocal cord periodicity" (Pijper 1983: 13).

3.5. Manipulation of the Course of F_0

The continuous confrontation of the measurement of F_0 with the way in which the speech melody is perceived is the most important feature of the IPO approach (Cohen and t'Hart 1990). Thus, it must be possible to modify the course of F_0 in such a way as to enable close examination of the effect on the perceived speech melody. This can be achieved by means of an *analysis-through-resynthesis* system implemented on a computer based on *Linear Predictive Coding* (LPC). This method makes it possible to come up with close approximations to the original F_0 curve.

3.6. From an Utterance to the Resynthesised Original

The first step is to feed a speech utterance into a computer and store it on a disk. Then it is analysed by means of LPC, with its outcome also stored on the disk. Next, F_0 is measured and the resulting data — time-aligned — are connected to the other parameter values. The measured F_0 curve is displayed on the screen to detect possible errors and carry out close visual inspection. Errors are corrected by means of a computer programme. Thus we can obtain a smooth F_0 curve. The whole file is resynthesised and stored. This version is called *the resynthesised original*. (Cohen and t'Hart 1990).

3.7. Close-Copy Stylisations

Having resynthesised the original, we repeat the whole procedure, this time aiming at a stylised version which ultimately will be auditorily indistinguishable from the original. The only constraint is that it must contain the smallest possible number of straight-line segments. This is what we call a *close-copy stylisation* (or a *close copy*). Such a close copy must contain (by definition) all perceptually relevant pitch movements.

The only way to verify the close copy is to elicit judgements about its perceptual equality with the resynthesised original from a number of independent listeners. This may be carried out in the form of an experiment (Pijper 1983).

3.8. Standardisation

Close copies are used later on as the

> starting point for further stylisation, with the aim of replacing the movements by movements with standard specifications for their various characteristic parameters. The ultimate aim of standardisations is to enable the investigators to make generalisations: to take together, in a restricted number of categories, the various different movements as they are found in close-copy stylisations. A second aim of standardisation, for later application, is to gather a manageable set of precepts for synthesis by rule.

(Cohen and t'Hart 1990: 48)

This, again, must be experimentally verified and tested for acceptability to lead to an inventory of perceptually relevant pitch movements in a set of observed contours.

4. Conclusions

We believe that on the basis of the model analysed above it is possible to describe the Polish intonation system and contrast it with the already existing system of British English intonation (Willems 1982). Such a study will ultimately lead to a course of English intonation from a Polish perspective which takes into consideration specific problems Polish learners of English encounter in their study of the language. This course will not consist in monotonous repetition of particular tones from the tape but will focus on the most striking differences and similarities between Polish and English intonation (or any other language). Furthermore, the students will be able to compare their output both auditorily and visually with a number of models suggested by the computer through the loudspeakers and on the screen respectively. This option is already, to some reduced extent, offered by some commercially available software in Poland. It must be pointed out here, however, that none of these programmes has been based on a thorough research as suggested in this article.

Obviously, further research must be carried out in order to suggest the best possible forms of using the IPO model outcome for educational purposes. However, we feel that there is a need for such a study and hope to carry it out in near future.

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Martyna Macgregor

Differences in Parameter Settings in Polish and English and their Implications for Research and Second Language Learning

Introduction

Universal Grammar (UG) and the parameterised model of language acquisition typified by Chomsky (1981a, b) has been the inspiration of a number of studies of second language acquisition (SLA), Flynn (1987), Phinney (1987) and White (1989) being some recent examples. However, due to problems with their research methodology and difficulties over theoretical definitions none of these investigations have been completely conclusive. Still, linguistic theory offers a refinement of the way second language (L2) acquisition is viewed and improves our understanding of the processes involved in learners attainment of their second language.

One of the assumptions within the parameter theory is that the acquisition device that operates in the learners' first language acquisition continues to operate in the case of L2. Thus, while the learner acquires the appropriate value for the parameters of UG in his/her first language (L1), in the L2 acquisition the task is to acquire the new set of values for these parameters. Coming from this assumption researchers such as White (1986, 1989) and Cook (1988, 1989) go on to suggest that UG may be able to explain and predict incidences of interference from L1 to L2 and transfer errors resulting from it.

Following the investigations of, among others, White and Cook it appears necessary to tackle the question of in what way the implications of UG for SLA research can facilitate the understanding of how languages are learned or, putting it in more practical terms, how they are taught. Considering the information from the UG model of language acquisition on attaining linguistic competence in both L1 and L2, there arises the clear need for utilisation of this data. Some attempts have been made in the field of acquisition of English as a second language for native speakers of Spanish, French and Japanese (Liceras 1985, 1986; Mazurkevich 1984a, b; Phinney 1987; Cook 1988; White 1986, 1989), though the question of Polish learners of English has been largely

ignored. The apparent reasons for this may be the poverty of the linguistic theory of the Polish language and the resulting lack of defined settings for the parameters in the Polish language.

In this article an attempt will be made to implement the findings of the research carried out in other languages in to the domain of Polish learners of English as a second language. With this in mind the present experimental methodology was designed.

The independent variable in the experiment was the pro-drop parameter, with the dependent variable being the scores obtained on a grammaticality judgement test. The reason for choosing this particular parameter for the independent variable was the relatively large amount of research within UG and SLA done on it. Apart from the head parameter which we have chosen as a control group no other parameter has been investigated closely or clearly enough to then be transferred into a language of such scant linguistic theory as Polish.

On the basis of the information from the afore mentioned research we have established that English is a [−pro-drop] and Polish [+pro-drop] language while both of them can be classified as head-initial languages (Willim 1989). The objective of this experiment was to be a comparison between the accuracy of grammaticality judgements resulting from these different parameters. It was proposed that compared to the scores on the sentences incorporating the head parameter (common to both languages), the difference of the settings of the pro-drop parameter will negatively affect the test scores on the sentences containing these parameters. The statistical analysis used to see whether there is a significant difference between the two sets of scores will be a *t*-test with repeated measures in both conditions.

The Outline of Universal Grammar

According to Chomsky's approach UG is an overall system of rules, principles and parameters that apply to all languages. The theory states that UG or LAD, as the terms are often used interchangeably (Chomsky 1981b), is an innate endowment common to all members of the human species. It is seen as the characterisation of the child's initial state in the linquistic competence development, leading to the steady state which is the grammar of the learner's mother tongue (Chomsky 1981a, b, 1986). Chomsky's argument for the innateness of UG is the claim that only the innate rules and principles enable the child to learn his/her L1 (Ellis 1985). The basis for this crucial role that has been ascribed to UG lies in the so-called "poverty of the stimulus" argument which, in short, implies that the child cannot reach the steady state grammar on the basis of input data alone (Ellis 1985). This is because factors such as underdetermination of the input, the degeneracy of the input, and the lack of sufficient negative evidence would seem to have impoverishing influence on the

development of the linguistic competence. Still, the knowledge of L1 attained under normal circumstances is always complete (for more details see White 1989).

The Head Parameter

Generally, languages can be classified into two types, head-initial and head-final. This classification applies to phrase structures of all human languages (Cook 1988). In the head-initial language, the complements of the head Verbs, Adjectives, Nouns and Prepositions will typically occur after their heads as in (Radford 1988):

a) Close [the door] (V + Complement),
b) fond [of Mary] (A + Complement),
c) desire [for change] (N + Complement),
d) in [London] (P + Complement).

English, then, is a head initial language. We find, however, that a converse order holds in a language like Japanese. In the sentence,

E wa kabe ni kakatte imasu
picture wall on is hanging,

the verb *kakatte imasu* is set to the right of the VP, and *ni* (*on*) comes on the right of the PP (Cook 1988). Thus, Japanese is a head-final language. When a child is learning a head-initial language, for example, many simple sentences can trigger the appropriate value for the parameter. Once the parameter has been set on the basis of data from only one phrasal category the rest will follow automatically as a result of the head-initial parameter setting.

The Pro-Drop Parameter

The other parameter to be considered is the pro-drop parameter, or the "Null Subject Parameter" (Chomsky 1981a; Jaeggli 1982; Rizzi 1982). Discussing pro-drop parameter several different explanations have been put forward within Government Binding Theory, coming up with various proposals as to what exactly constitutes it (White 1989). Yet all of them agree with the hypothesis that the pro-drop parameter "…determines whether the subject of a clause can be suppressed" (Chomsky 1988). These are the properties of the parameter that have been most frequently and extensively researched for their role in SLA:

1. Spanish and Italian allow subject pronouns to be omitted. They exhibit the [+ pro-drop] value of the parameter or the *null subject phenomenon*. Languages like English or French require lexical subjects or in some cases a pleonastic pronoun (*it* or *there*) and therefore represent [−pro-drop] value (White 1989). However, exceptions can be found in some dialects of English

permitting subjectless sentences (Cook 1988). In English, imperatives and the second clause of a co-ordinate structure do not require lexical subjects, though those cases do not result from pro-drop parameter.

2. Spanish can have free *subject–verb inversion* in declaratives unlike English where the verb–subject order is usually kept for questions (Liceras 1989), though an exception to this is the auxiliary–subject order, for example, "*Scarcely had he gone...,*" and that adverbials occasionally appear in the subject position, e.g. "*Here comes the sun*" (Cook 1988).

3. Spanish can have violations of the so-called *that-trace filter*. In English, that-trace filter is responsible for the exclusion of the movement of a wh-phrase from the subject position next to the lexically filled COMP:

Quien$_i$ has dicho [PRO] que t_i va a venir?
*Who did you say that is going to come?
Who did you say is going to come?

where t — trace left by the wh-phrase that has been fronted, i — the index to show that *Quien* and t are the same.

Que ("that") has to be placed before the t left by *Quien* ("who") when the wh-movement applies (Liceras 1989).

As Cook (1988) concluded, "...the values for the pro-drop parameter amount to a choice of whether INFL [inflection] is a proper governor or not — whether it acts like lexical category", where

INFL = [[± Tense], (AGR)].

In pro-drop languages INFL has lexical properties as the empty category pro is properly governed by it and can be locally controlled by AGR. In non pro-drop languages INFL can not be a proper governor and AGR can not be a local controller.

The choice whether INFL has lexical properties is said to account for the clustering of phenomena associated with pro-drop parameter, although there is disagreement as to what these phenomena are. The difference in views between such researchers as Chomsky, Liceras, Phinney, Rizzi, White (White 1988) on the one side and Hyams (1983), and Hilles (1986) on the other, concerns the assumption of the former group that subject–verb inversion and apparent violation of that-trace filter are parts of the cluster of properties belonging to the [+ pro-drop] value of the parameter, while the latter ones assume that they are not.

UG and SLA

White, in an article from 1988, suggests that adults are faced with a logical problem of language acquisition in the same way that children are. This means that the input that they are exposed to does not accord with their success in the

target language, namely, the learners acquire those aspects of language that are hard to establish on the basis of the possible data alone.

She proposes the following:

> If interlanguage grammars are natural languages as many have argued... then it is possible that the range of options available to the second language learner is constrained by UG in ways similar to what happens in first language acquisition.

(White 1985a: 3-4)

To find out if the same projection problem appears in the L2 acquisition process, White (1989) examined the three problems with input data that were mentioned analysing the logical problem of L1 acquisition, namely underdetermination, the degeneracy of the input, and the lack of sufficient negative evidence. She established that they all applied in the case of L2 acquisition, which means that it is possible that innate linguistic principles mediate L2 acquisition, though their status in the target language has not been agreed upon.

The Accessibility of UG in L2 Acquisition

The acquisition of the foreign language consists of two languages — the target language and the learners native language. Hence, there are two types of linguistic knowledge involved; the knowledge of linguistic universals, and the knowledge of L2 grammar (Ellis 1985). We can not therefore perceive the role of UG in L2 acquisition as identical with the one that it plays in the process of the acquisition of the learners mother tongue. There are three alternative models of the availability of UG in L2 acquisition presented by Cook (1988); direct access to UG, indirect access to UG, and no access to UG.

The perception of UG as dead or inoperative in L2 acquisition offers a relatively simple explanation of the differences between L1 and L2 leaving us with the assumption that L1 acquisition is totally different from the acquisition of L2. The opposite view of the availability of UG in L2 acquisition sees it as identical to its accessibility in L1 acquisition. Those alternatives seem to be too simplified and extreme in their claims as they do not allow for the possibility the coexistence of certain similarities and differences between the acquisition of L1 and L2 (White 1989).

The third option allows for UG to be available to the L2 learners but with the burden of its L1 instantiation. The influence this fact can have on L2 acquisition can be either positive or negative but it will definitely not be the only source which the learner will utilise during his/her course of learning. This model interacts with many others and the possible failure of L2 learners may originate from these other areas. On the other hand, when we assume that UG is in some way still available to the learner, we can accommodate various differences between L1 and L2 acquisition without having to presume their total identity. There have been a number of empirical investigations on whether L2 acquisition is constrained by UG. White (1989) cites the studies of Schachter (1988, 1989), Otsu & Naoi (1986), Ritchie (1978), and Bley-Vroman, Felix and

Ioup (1988). The common conclusion was that indirect influence of L1 on the acquisition of the target language cannot be totally ruled out. However, the problem has not yet been satisfactorily resolved.

The Role of L1 Parameters in L2 Acquisition

If, when approaching the process of L2 acquisition, the learners still have the access to UG we may assume that the principles and parameters of UG can have some effect on L2 acquisition. According to this option, the learner's hypothesis is that L1 parameter setting applies to L2 data (e.g., Hilles 1986; White 1985a, b 1986). This way of organising the L2 data results in supposed transfer effects in the interlanguage. None the less, eventually the parameter values get reset by L2 input interacting with UG (White 1989). This position is common to much of the work that has investigated the role of L1 parameter setting in L2 acquisition.

The two parameters, pro-drop and head parameter have been the main focus of investigation of the role of L1 parameter setting in L2 acquisition, though there have not been any conclusive results and generally agreed upon conclusions drawn.

The Study

In order to investigate the question of in what way the differences in parameter settings in English and Polish influences the process of SLA, a group of Polish students of English were tested on various constructions of English incorporating the pro-drop and head parameters. The experiment was designed to investigate whether the students would carry over into English any of the aspects of these parameters but with the settings specific to Polish.

Subjects

The subjects of this study were thirty six Polish speakers learning English as a foreign language at NKJO Wrocław, Poland. The subjects' ages ranged from 19 to 29 (mean = 21.8). They were all students in their first year at the college. Their proficiency level was established from the entrance exam that the students had been obliged to take before the beginning of the course. Hence, the level of knowledge of English of each student was comparable and sufficient for the experiment.

Materials

Subjects were asked to respond to a written grammaticality judgement task consisting of 56 sentences. 28 of them incorporated structures dependent on the pro-drop parameter, with the other 28 items containing the head parameter.

The pro-drop group became the experimental group for the research while the head parameter became the control group.

Among sentences from both experimental and control group correct and incorrect sentences were included, proportioning them so that each type of incorrect sentence had its correct equivalent or counterpart. Thus, the amount of correct or incorrect sentences was near to equal. The incorrectness of the English sentences was due to the application of the opposite settings for the parameters to those operating in English (or Polish in the case of the head parameter). The correctness versus incorrectness of the sentences was established by the experimenter. Her opinion was further confirmed by University lecturers of English Philology and a native speaker.

Sentences incorporating the pro-drop parameter represented all three major aspects of the parameter namely the *null subject phenomenon, free subject–verb inversion, and that-trace filter violation*. The various aspects of realisation of pro-drop in English that were tested can be grouped as follows:

1. The null subject phenomenon.

There were eleven sentences out of which five were ungrammatical due to their missing subjects — either a nonreferential *it* or personal pronouns such as *he* or *she*. Those sentences when translated in to Polish either do not require these type of subjects or do not allow for them as in the "atmospheric" sentences which do not have the lexical subjects (Liceras 1989). For example,

 (36) *Mary is greedy. Saves every penny.
       (Maria jest skąpa. Oszczędza każdy grosz.)
 (38) *In winter rains a lot in Britain.
       (W zimie pada dużo w Wielkiej Brytanii.)

2. Free subject–verb inversion.

There were seven sentences that tested the application of subject–verb inversion. Four of them were ungrammatical. For example,

 (2) *Phoned my parents to ask me about it.)
      (Zadzwonili moi rodzice, aby spytać mnie o to.)
 (29) *Ben hopes that will come spring soon.
       (Ben ma nadzieję, że przyjdzie wiosna wkrótce.)

3. That-trace filter.

There were ten sentences incorporating that-trace effect. Of these, five were ungrammatical due to the violation of the filter when the wh-phrase was fronted from the subject position next to lexically filled COMP. For example,

 28) *Who do you think that saw Peter?

Additionally, the grammatically correct sentences incorporating that-trace filter were included in the test on the assumption that Polish subjects might actually insert the complementiser *that* in such cases. For example,

23) Who do you imagine met James?

All the Polish translations of the English sentences sighted above are only possible versions of their English equivalents. Polish, being a free word order language generally allows for more than one version of semantically identical sentences.

As the area of our research is UG, a set of innate linguistic principles, and what we are testing is the *intuitive* application of these principles our priority was to create an environment that would be most conducive to such behaviour. This would mean that the students would not be able to rely on learned rules on which to base their responses. Thus, in order to obtain optimal conditions for the study it was decided to limit the task, asking subject not to correct the sentences but to only mark the parts of the sentences that they recognised as ungrammatical. In this way it was ensured that the sentences were rejected for the reasons predicted in the experimental hypothesis. If the subjects had been asked to give correct equivalents to the supposedly incorrect sentences, the analytical responses that they would therefore give based on their learned grammatical knowledge would preclude responses made on the basis of parametric effects.

Sentences incorporating the head parameter were selected in such a way that allowed us to examine its realisation in different possible grammatical categories (verb phrase, adjective phrase, noun phrase and prepositional phrase). Each category was presented in seven sentences out of which four were ungrammatical and three grammatical. Examples of the ungrammatical sentences in each category are given below.

4. Verb Phrase.

47) *Bob's new car $10,000 costs.

5. Adjective Phrase.

21) *She always gets at her children angry when they swear.

6. Noun Phrase.

50) *John recognised from the supermarket the girl.

7. Prepositional Phrase

8) *Steven found a silver ring his pocket in.

Procedure

Subjects were given a list of 56 randomised written sentences in English. Before the actual task started they were given a written explanation of the procedure to follow with a list of instructions on how to complete the test (a copy of this can be found in Appendix II).

The subjects were asked for each sentence on the test to indicate whether they considered it to be grammatically correct or not by circling the response of *correct* or *incorrect*. Where they decided that a sentence was incorrect they were asked to mark the supposedly incorrect part of the sentence. They were told to approach the sentences with the focus on their grammaticality rather than meaning or spelling.

They were asked to give their first impressions of the sentences without changing their answers after any reconsideration of their decision. The time limit for the test was 30 minutes.

The subjects were divided in to three subgroups of 11, 12 and 13 students. Thus, the test had to be carried out three times, once for each group. The time limit for the test was 30 minutes.

Results

It was proposed that the differences in the settings of the pro-drop parameter for English and Polish would negatively affect the test scores on the sentences which represented it. A *t*-test with repeated measures was deemed applicable to the data obtained from the pro-drop and head parameter conditions, with results being shown to be highly significant ($p < 0.0005$).

Due to there remarkably high significance level it was decided to carry out a *post hoc* analysis of the results. With any *post hoc* analysis one must be slightly tentative but due to the strength of the data obtained it was deemed appropriate in this instance.

It was decided to further investigate the exact nature of the differences *within* as well as between the two groups. As the two parameters both had different types of mistakes within them, an analysis of the amount of mistakes made on each of these different factors appeared to be a useful exercise. Within the head parameter there were four different categories of sentence. Because of the exceptionally low rate of mistakes being made in all of these types of sentences, analysis on them was thought to be unnecessary.

However, by examining the amount of mistakes made by subjects in each of the three different types of sentence within the pro-drop parameter (pronoun deletion, subject–verb inversion, and that-trace filter) we can see a marked difference. Also, because of the high amounts of mistakes made — 71 on pronoun deletion, 12 on subject–verb inversion, and 110 on that-trace filter — the *post hoc* analysis would seem justified (for raw data see Appendix III).

In the context of this experiment in appeared necessary to establish whether the differences in the scores within the pro-drop parameter were significant. Establishing this would have serious implications for the conclusions of this study. It would be possible to go further than the original hypothesis that the different settings for the pro-drop parameter in English and Polish lead to errors and speculate as to the exact aspects of the parameter that detract from

students' progress in SLA. An analysis of variance for the three factors within the parameter with repeated measures in all conditions was the obvious course.

The use of a Classical Split-plot analysis of variance showed that there was indeed a difference between all three of the variables within the pro-drop parameter [F. (2.70) = 58.69, $p < 0.0005$]. Further analysis confirmed this finding. A series of paired sample t-tests with repeated measures were then carried out on the within condition data. This analysis yielded significant differences between all three variables within the pro-drop parameter (variable 1 being pronoun deletion, variable 2 subject–verb inversion, and variable 3 that-trace filter) all with the same exceptionally high significance level ($p < 0.0005$).

These results lead to the conclusion that the different types of sentence within the pro-drop parameter condition elicit different amounts of mistakes from the subjects. By examining the mean scores of the variables which tell us the average amount of mistakes made by subjects' in each part of the parameter, we can see that variable two (subject–verb inversion, mean = 0.33) has relatively little to do with the mistakes made in this condition, as most subjects did not make any mistakes on these sentences, compared to means of 2.0 and 3.1 for variables 1 and 3 respectively. As the other two variables (that-trace filter and pronoun deletion) are significantly different from variable 2 we can suppose that these do have a considerable effect on the parameter in question. However, as these variables are themselves significantly different, the fact that the that-trace filter variable has a higher mean is important as this leads us to think that this variable is the most crucial of the two. Whether this is due to the way these sentences were presented in the experiment, the fact that they are inherently linguistically harder, or whether there is a theoretical flaw their presentation will be discussed later.

Distribution of Mistakes

Having established that the results obtained from the experimental and control groups were significantly different and that all three variables within the pro-drop parameter were significantly different from each other, it would seem useful to see the exact distribution of the mistakes for both parameters. In the light of the results already obtained, it would seem appropriate to give special attention to the pro-drop parameter and its properties.

Mistakes within the Pro-Drop Parameter

a) Results on sentences with missing subjects.

Out of eleven sentences incorporating the pro-drop parameter, five were ungrammatical due to the missing subjects. In total, subjects made seventy mistakes which makes 36.5% of the overall number of mistakes within the pro-drop parameter. The numbers of the responses "correct" to the ungrammatical sentences are given in Table 1 below.

Table 1. Responses "correct" to ungrammatical sentences with missing subject

Sentence Number	Number of Mistakes
6	19 (27.1%)
18	18 (25.7%)
33	12 (17.2%)
36	8 (11.4%)
38	8 (11.4%)
Total	65 (92.8%)

In the remaining six sentences that incorporated the pro-drop parameter four misjudgements were observed. In sentences number 10 and 19, two subjects judged them as incorrect suggesting the deletion of the non referential *it*. Apart from this, one of the subjects estimated sentences number 29, which in fact was not designed for the pro-drop parameter examination, and proposed the insertion of *it* as the subject of the embedded complement, the sentence being of an "atmospheric" type. In general, forty four (62.8%) of the mistakes were made by the misjudgements of the sentences with non referential *it* while twenty six (37.2%) in the sentences with missing pronouns.

b) Results on sentences with VS word order.

Out of seven sentences meant to test this factor of the parameter, four were ungrammatical due to the application of VS word order. Twelve mistakes were made in this group which makes up 6.2% of the total number of mistakes in the pro-drop parameter. The presentation of the results on this type of sentence is given below in Table 2.

Table 2. Responses "correct" to ungrammatical sentences with VS word order

Sentence Number	Number of Mistakes
2	1 (8.3%)
7	10 (83.3%)
25	1 (8.3%)
29	0 (0%)
Total	12 (100%)

As the Table shows, the only sentence that caused problems was sentence number 7 where subjects made 83.3% of all the mistakes within VS word order sentences.

c) Sentences with the apparent violation of that-trace filter.

There were ten sentences incorporating that-trace effect. Five of them were ungrammatical due to the violation of the filter. Subjects made on hundred and

ten mistakes in their judgements on those sentences, which makes up 57.3% of the total score in the pro-drop parameter. The specification of the results on this aspect of the parameter is given below in Tables 3 and 4.

Table 3. Responses "correct" to the sentences violating that-trace filter

Sentence Number	Number of Mistakes
17	12 (10.9%)
28	2 (1.9%)
32	6 (5.4%)
35	10 (9.1%)
39	8 (7.2%)
Total	38 (34.5%)

Table 4. Responses "incorrect" to sentences with no violation of that-trace filter

Sentence Number	Number of Mistakes
4	3 (2.7%)
11	31 (28.2%)
23	11 (10%)
52	5 (4.5%)
56	22 (20%)
Total	72 (65.4%)

We can see in Table 4 that, apart from sentence number 29 mentioned under the sentences with missing subject, that-trace effect was the only one out of the three properties of the pro-drop parameter, in which the subjects misjudged correct sentences and gave the answer "incorrect." Sentences number 11 and 56 seem to have caused the most problems to the subjects. It is interesting to note that in the case of sentence 11 it was actually 86% of he subjects that misjudged it. Similarly, sentence number 56 was misjudged by the majority of subjects. Those high numbers do, however, have a very specific explanation. In both cases the subjects crossed out the complementiser *that* from the complement. This means that even though the version that they proposed is grammatically correct, although Chomsky (1981a) treats this type of a sentence as marginally acceptable, their judgement about the grammaticality of the sentences was not right. Hence their answers were treated as mistakes.

Interestingly, three subjects suggested intrusion of the complementiser *that* in sentence number 4. Whether we can draw any conclusions from so very few instances is questionable though.

Discussion

The Head Parameter

Looking at Table 5 presenting the raw data from both conditions for all subjects (see Appendix III), the difference seems unquestionable. Interestingly, when looking at the results for individual subjects it can be seen that the minimal amount of misjudgements for the pro-drop condition is 2, while the same score is the maximum for the head condition. Furthermore, the subjects that made any mistake in the head condition (the majority made none) cover only 30% of the overall number of subjects. This can be explained purely by the fact that both English and Polish have activated the same setting for the head position parameter, namely head-initial. This is why sentences such as number 30 presenting a head-final configuration for PP

*the key *the door to*

would hardly ever be accepted by a Polish student who not only has the head-initial setting for the parameter instantiated in his/her mother tongue, but also due to the level of proficiency had enough linguistic experience to realise that the same setting is required for English as his/her second language.

Another consideration is that in the case of Polish subjects the head-initial position is the basic unmarked feature of the language, as in the case of English. Hence, very little positive evidence is necessary for the learner to establish that there is no need to reset the value for the parameter and, in consequence, the head configuration within an English sentence will not cause particular problems for a Polish learner. Therefore, it can be concluded that this principle must be one of the earlier acquired ones and, in the course of learning, most established one.

There is, however, one detail within the experimental results which might throw doubt on the above arguments. There is a question as to why the results for NP and AP structures for head parameter sentences do not count as significant when they do not differ considerably from the results in SV inversion sentences in the pro-drop condition. First, it must be appreciated that, in fact, the score is almost 50% higher for the SV inversion sentences and, secondly, the results for AP and NP structures come from literally two sentences in which the students did significantly worse than in the remaining twenty six sentences of the head condition. It is submitted here that sentence number 43 could have been problematic to judge due to its ambiguous meaning. As for sentence number 21 it was found to be difficult to give any reasonable justification for the relatively larger amount of mistake made on it. For sentence number 27, which exemplifies almost identically incorrect structure with the same type of AP, we obtained only one incorrect judgement which can justifiably be attributed to chance.

Taking into consideration all the arguments and criticisms of the data obtained, a very strong basis to qualify the claim that the accuracy of grammaticality will not be negatively affected when the parameter setting for Polish and English is the same was arrived at.

The Pro-Drop Parameter

In the pro-drop condition subjects performed markedly worse than in the head condition and, what is more, the majority of them made more than five mistakes. Five subjects misjudged the grammaticality of the sentences on ten or more occasions. These numbers show that the scores can not be accidental.

As presented previously, the choice whether INFL has lexical properties or not has a direct result on which of the values for the pro-drop will be instantiated in a given language. It has to be remembered that although the Polish speakers approached the test with [+ pro-drop] setting, due to the intuitive and inherent character of UG, they had no idea of not only why their language allowed for the suppression of the subject of the clause, but also they could not know the exact reasons for it not being allowed in English. This was clearly shown by the experimental results. Furthermore, what is also shown is the fact that the rules that they must have been taught during their education in English as a L2 did not prevent them from making very basic mistake of deleting the pronouns or inversion of SV order. It becomes very clear that the opposite value for the parameter negatively influenced the scores.

Phinney (1987) and Liceras (1989) in the discussions of their studies on the properties of the pro-drop parameter conclude that [+ pro-drop] instantiation constitutes the unmarked case, as argued for L1 acquisition by Hyams (1983). This must have very strong implications for the results obtained in the present research. The Polish students of English seem to be faced with what we can call 'double preference' for the [+ pro-drop] setting hypothesis when learning English. Not only their approach will be conditioned by the [+] value for the parameter in their mother tongue, but also by the fact that if [+ pro-drop] is indeed the unmarked case, then the subjects had perfect reasons to initially treat English as a pro-drop language. There is no agreement, however, as to markedness of the parameter. White (1986) classifies [+ pro-drop] setting as marked and [− pro-drop] as unmarked, therefore suggesting that the difficulty comes because of the required negative evidence. Thus, missing pronouns are said not to be definitely irradicated until such evidence is available.

As has been suggested in many studies cited previously, it is claimed that the students do transfer the parameter settings from their native language but they also tend to reset them after they have achieved appropriate evidence to do so. This could justify why our subjects made so many mistakes in sentences incorporating the pro-drop parameter but not in all of them. Naturally, with their level of proficiency, the process of resetting the value from [+] to [−]

must have started a long time ago, though the steady state has not been achieved yet as they still show the inclinations for the [+ pro-drop] instantiation. What is more, according to Phinney's directionality hypothesis it is more difficult for a learner to switch form an unmarked L1 structure to a marked L2 structure, because the marked L2 value is harder to acquire as it requires additional positive evidence.

All of these arguments and the evidence from comparison of the results confirm the expectation that Polish, like other languages such as Spanish, Italian or Japanese, shows considerable differences in its parameterised grammar as compared to English. The ability to draw such a conclusion could have very serious and specific implications for SLA research in the domain of Polish. This is why further and much more detailed investigation of Polish within the parameterised model of UG is absolutely essential. In the next section an attempt will be made to specify the significance of the results on the particular parts of the pro-drop parameter in order to examine how and to what extent those properties relate to the same aspects of the pro-drop parameter in Polish. It has to be aknowledged, however, that this analysis will surely lack the precision and completeness that the subject requires, this being due to the poverty of the linguistic theory in the Polish language. Coupled with the fact that this part of the experiment was *post hoc* in nature, we can see that generalisations based on it must be tentative.

Post hoc Discussion

The relatively high scores for the pronoun deletion and that-trace effect aspects as compared to SV inversion, indicate that some properties must have been less problematic than the others. This leads to the question of how crucial they were to the overall score in the pro-drop condition. Choosing the properties of the pro-drop parameter that would be tested, we included, apart from pronoun deletion, SV inversion phenomena and that-trace effect, which were approached tentatively because of the disagreement among the researchers as to what extent, if at all, they are related to the pro-drop parameter.

Pronoun Deletion

All of the researchers agree on the major aspect of the parameter, namely pronoun deletion. In accordance with this, the results on this property seem to confirm the earlier predictions of the researchers' and the present experiment. Interestingly, the scores on the individual sentences are distributed evenly which means that there was no particular sentence which, due to its ambiguous meaning or structure, would influence the total score. The fact, however, that almost twice as many mistakes were made in sentences with missing non referential *it* as compared to those with missing lexical pronouns is worth examining.

The omission of pronoun *it* has been reported in production data (e.g., Cancino, Rosansky and Schumann 1974; White 1977; Schumann 1978) and it has been suggested that this is a phonological error. However, the amount of mistakes in the sentences with a lexical pronoun shows that the above suggestion by Cancino et al. (1974) does not cast any doubts on out results.

One of the major differences between English and Polish is the usage of pleonastic pronoun *it* i English, which is an overt counter-part of the empty category *pro* in pro-drop languages. This is the result of the constriction of the Empty Category Principle saying that an empty category must be properly governed. This constriction is met in the pro-drop languages where INFL is a lexical category and AGR is coindexed with *pro*. Because INFL in non-pro-drop languages does not have lexical properties, English has to resort to using the pleonastic pronoun *it*. This phenomena could serve as the explanation why the majority of misjudgements were made in sentences with the missing pronoun *it*. Due to the [+ pro-drop] value in Polish, the subjects transferred this instantiation of the parameter rather than obey ECP and insert the pronoun which does not exist in Polish.

This would seem to confirm the suggestions from Phinney (1987) and Liceras (1986) that the null subject phenomenon takes the unmarked status which, in consequence, is more difficult for the learners to reset. We could also conclude from the distribution of the misjudgements among sentences with missing pleonastic pronouns and those with missing lexical pronouns, that the former are more marked than the latter and hence more difficult to acquire.

The above conclusion seems to be further confirmed by two instances of deletion of the pleonastic *it* from its subject position, as this indicates that learners still do not seem to be accustomed with the presence of the pronoun *it* in a sentence structure. However, this might be a controversial conclusion to draw on the basis of such scant data.

An opposite case to the one just discussed was the proposal for the intrusion of *it* as the subject of the embedded complement in a sentence of an atmospheric type. Although we have only one case of this kind we could speculate that it is an instance of overgeneralisation of a hypothesis made about the learner's L2. It seems that enough positive evidence has been found to reformulate the initial hypothesis and is going through the stage of overgeneralisation or overcorrection. Again, one instance is not sufficient grounds for any far reaching conclusions.

All of the above considerations and speculations as well as the obtained results lead us to conclude that the null subject property of the pro-drop parameter had a significant influence on the subjects' performance in the experimental test, giving us evidence for the claim that the pronoun deletion is a very important if not crucial aspect of the parameter. The opposite value of the parameter in this property is then a major interference factor for the learners of English as second language.

Now let us turn to the remaining two sects of the pro-drop parameter, namely the SV inversion and the that-trace effect. The association of these two factors with the other properties of the parameter raise many theoretical questions. Because the scores from the sentences including these two factors differ considerably in our experiment, it was deemed necessary to analyse them separately and decide on their status within the pro-drop parameter.

Subject–Verb Inversion

The only aspect of the pro-drop parameter which seemed to cause no problems was VS word order, which was rejected with a high degree of accuracy, suggesting that the three properties of the parameter do not in fact have the same status in the interlanguages of our Polish subjects. The only sentence that caused any problems was sentence number 7 in which subjects made over 83% of the overall number of mistakes in this aspect of the parameter. The reason for this peculiar distribution is difficult to establish. Whether the sentence turned out to be ambiguous in meaning is hard to predict.

The observation that the VS word order did not cause problems requires some further qualification and, hopefully, some more precise opinion on whether this is a phenomenon belonging to the pro-drop cluster of properties. Chomsky (1981) claims that the free inversion of subject is permitted in pro-drop languages. He explains it by the fact that the inversion leaves the NP-trace which is coindexed or "locally controlled" by AGR, a component of INFL. Later, Willim (1989) states,

> [...] Polish displays quite a wide variation with regard to the order of sentence elements at the level of surface structure. Of the six theoretically possible orders of subject, verb and object, all six orders may be observed in surface structure, although not all possible orderings are equally common. [...] Since, furthermore, Polish is a rich inflectional language and the syntactic functions of NPs are in general unambiguously signalled by the inflectional case endings regardless of sentence position, Polish is generally regarded as a language with free, although not unconstrained, word order.
>
> (Willim 1989)

Further on, she proposes to treat Polish as a language with a relatively free word order formation.

Taking those two views as the basis, although admittedly a very limited one, for the specification of SV inversion as belonging or not to the cluster of properties of the pro-drop parameter, we may tentatively assume it to be related to some extent to the parameter. Still, the question remains why the scores on this particular aspect of the parameter were so low.

One of the possible explanations can be derived, again, from the work of Ewa Willim. In her discussion she assumes that the underlying word order is subject–verb in Polish as well as in English. Furthermore, she concludes that SV order is also the order for UG. This in consequence would indicate that SV

word order has an unmarked status in UG as well as in Polish and English. If this is the case, we have a situation where the subjects approached the test obeying an unmarked rule of Polish which coincided with the rule of an unmarked character in English. Following the predictions of White (1986) we see that the learners do not need to verify their initial hypotheses and consequently will not need to re-set the value for the parameter, which in turn facilitates their process of L2 learning.

There is also another possible explanation for the low scores in this aspect of the parameter. In the hierarchy of the acquisition of grammatical features in L2, based on Dulay and Burt (1975) confirmed by the studies of Krashen et al. (1978) and Larsen-Freeman (1976), word order together with the case distinction between subject and object pronouns, constitutes the first stage of linguistic development. This information could be vital for the analysis of our results. The subjects of the experiment represented high-intermediate level of proficiency, which means that the chance for the word-order feature of English to be problematic in as simple sentences as have been presented in the test was very low. We must clarify here that simplicity and clarity of the sentences was their major criterion. In this way any outside interference on the subjects' judgement was avoided. This argument indicates that the grammaticality judgement test for sentences with VS word order could bring much more satisfactory results when given to subjects with a lower level of proficiency.

Another consideration comes from White (1986) who points out that parameters of UG proposed to account for the L1 acquisition of a number of related structures, in some cases are not, in fact, relevant to L2 acquisition. Whether this is the case with VS word order can not be determined on the basis of the present results alone. It would seem necessary to investigate other principles of UG which show parametric variation, and then see if similar relations do or do not hold. This, as well as the possibility that VS word order should not be included as part of the parameter, evidently calls for much more extensive investigation of the precise content of the parameters of UG and, further on, their operation in SLA. The fact that a number of researchers have found the evidence for principles of UG operating in SLA (Flynn 1981; Liceras 1989; White 1989) encourages one to believe that UG is still relevant and that the investigation of the interaction of UG and SLA is called for.

That-Trace Filter

The last, and as turned out, most startling in its results, aspect of the pro-drop parameter was that-trace effect. This is the other phenomena whose applicability to the cluster of properties resulting from the parameter has been heavily questioned and criticised. However, the results obtained would seem to powerfully refute these charges. In the light of the contradictory data obtained in

this experiment in relation to *some* of the previous research, it was decided to closely analyse, firstly, the sores, secondly, the relevance of that-trace effect in Polish and, thirdly, how it refers — if it does at all — to the pro-drop parameter.

Among the rest of the misjudgements of the sentences with the correct application of that-trace filter there were three instances of intrusion of the complementiser *that* in the position prohibited by that-trace filter, which, together with the deletion of *that* in sentences 11 and 56 proposed by the subjects, shows inconsistency of their hypothesis regarding the application of that-trace filter in English.

The interpretation of the scores from the remaining sentences, namely 23 and 52, appear slightly controversial as to the origin of the misjudgement. These sentences were estimated as "incorrect" with an underlined part of a sentence from which complementiser *that* has been deleted due to that-trace filter. This way of marking the part of the sentence that was judged by the subjects as "incorrect" turned out to be not totally sufficient in the case of the examples mentioned here. The subjects' indication does not clearly give the reason for their decision, because two possible reasons have to be considered. On the one hand, the students could have suggested that the complementiser that was missing, in this way going against the restrictions of that-trace filter, or, on the other hand, they could have judged the construction of an indirect question as peculiar and therefore incorrect. This can also be confirmed by the estimation from Cazden's (1972) order of development for interrogatives in L1 acquisition which later on was confirmed by Ervin-Tripp (1974) among others, for SLA, that the instantiation of the embedded wh-questions comes as the last stage. In the test questions, wh-phrase was additionally fronted making it even more complicated. As regards the scores obtained from the ungrammatical sentences the individual distribution of the mistakes seems well proportioned.

In general, the results obtained from the that-trace sentences confirm the experimenter's prediction by indicating that subjects have serious problems with establishing when to use the complementiser *that* and when not to. It would seem, from the sentences with the correct application of the filter that they are more inclined to accept sentences with no complementiser, though the sentences with the violated filter where *that* is not deleted seem to be equally acceptable to them.

This inconsistency leads us to the investigation of how these scores can be explained in terms of the Polish transformational grammar. Here we are confronted with very interesting and crucial findings. Willim (1989) states that Polish differs from English in that it does not allow freely long-distance wh-movement out of a tensed indicative complement, where the wh-word is an object NP, a subject NP or an adjunct phrase. This type of movement is only possible marginally. Thus, a relative of an English sentence,

28) *Who do you think that saw Peter?

a) *Kto myślisz, że widział Piotra?

is an ungrammatical sentence. However, the ungrammaticality of it does not stem from the violation of that-trace but from the extraction of wh-word out of a tensed indicative complement. Willim then suggests that one of the possible versions of the above sentence could be predicted as follows,

b) Myślisz, że kto widział Piotra?

Willim submits that sentences such as 28b are available in Polish as genuine requests for information. She assumes that sentence 28a is an unacceptable relative to the sentence 28b. However, she also points out that sentences like 28a with long-distance wh-questions are acceptable to some speakers of Polish although they are not truly available in core Polish.

As regards sentence 28b, it appears that it is a complex sentence where the embedded complement is composed of a complementiser *that* and a direct--wh-question. This, however, seems to have nothing to do with the effects of that-trace filter in English. Even the marginally accepted sentence 28a can not serve as any sound evidence for a Polish learner for the violation or non--violation of the filter in English. It seems that it is the fact that that-trace filter is simply inapplicable into the structures of Polish wh-questions that then influences the inability to apply it in the English sentences.

Furthermore, we have to remember that, as pointed out by Willim (1989), neither wh-movement of an object NP or of a subject NP out of a tensed indicative is possible in Polish. Hence, either of these sentences will not be grammatical:

*Co$_i$ Jan wie, że Maria kupiła t_i?

*Kto$_i$ Jan wie, że t_i odwiedza Marię?

This leads us to another problem that Polish learners face in the course of learning English. As suggested by White (1989), the question that concerns us is whether L2 learners of English know the distinction between extraction of subjects and objects, particularly whether they know that sentences like 28 are ungrammatical, when their L1 (as in the case of Polish) does not allow for such structures. This could be established by examining the English input and whether it is sufficient to make the ungrammaticality of 28 obvious to the learners. In fact, following White's speculations, the input containing sentences like,

This is the man that I met yesterday,

This is the man I met yesterday

or,

I said that he could come,

I said he could come

would suggest that the presence of that is optional in English. The only indication that it is not always optional is the non-occurrence of structures like 28. Yet, it must be remembered that it is impossible for learners to detect such non-occurrences without negative evidence (Berwick 1985).

One could conclude then that in Polish that-trace filter is non-existent and therefore the Polish learners of English get no indication in their native lan-

guage about the possibility of any such limitations. In other words, the difference in the that-trace filter aspect of the pro-drop parameter is no longer binary with values [+] or [−]. The difference is between a language which does not have that-trace effect and the language which does and additionally puts on it constraints in the form of a filter. This would mean that the high scores in the that-trace filter sentences do not result from the violation of the filter in Polish as a pro-drop language and that that-trace effect does not depend on the pro-drop parameter.

Chomsky (1981) tackles this question thoroughly, starting off with his initial assumption about relatedness of the apparent violation of that-trace filter in the pro-drop languages to the parameter itself. Throughout his discussion in the course of numerous permutations of that-trace filter components, conditions and effects, he comes to the conclusion that rethinking the structure of the cluster of properties that are characteristic of the pro-drop languages is called for. He eventually concludes that only missing subject phenomena and free inversion of S and V in simple sentences properly belong to the cluster, and that the pro-drop languages actually observe the constraint blocking that-trace filter exactly as the non-pro-drop languages do.

Following Rizzi's (1980) argument that the fundamental property of the pro-drop languages is the permission of free inversion, Chomsky claims that in those languages the wh-movement of the subject is actually form the post-verbal position rather than the subject position. This means that, contrary to appearances, wh-movement does not observe the that-trace filter in pro-drop languages. In effect, Chomsky (1981) concludes:

> [...] The that-trace phenomena and related matters are independent of whether the language is or not a pro-drop language.

Because this statement is so weighted with its possible implications not only on the transformational grammar but also SLA research and other related disciplines, it needs to be re-examined, confirmed and given a final status, commonly agreed upon by the appropriate researchers.

The results from the pronoun deletion sentences give a clear indication of their importance within the parameter, the SV sentences also have clear results and implications for the level of learner targeted in this study, but the that-trace filter results are highly ambiguous. This shows that the whole area of the pro-drop parameter needs re-examination and reformulation to then be satisfactorily applied in a much broader scope of languages than has been done to date. Unless this is established, the research in this area is bound to be impoverished and lacking in any firm arguments for further implications, though the importance of these should never be understated.

The character of our study is very limited and narrow but despite all the theoretical downfalls that we endeavoured to deal with and possible criticisms that we will still receive, we managed to gather sufficient evidence for the initial

hypothesis put forward, showing that the difference in the setting for the pro-drop parameter in English and Polish would negatively influence the experimental results. Such an outcome to this research piece can serve as firm reference in further examinations of the remaining and numerous parameters in Polish which, together with the pro-drop, require thorough and complete investigation.

Implications

The inspiration for our experiment was the number of studies done on the parameters of UG and their contribution to SLA research. These studies, however, were concerned with languages such as English, Spanish, Italian and Japanese with no instance of research in Polish. However, because the parameters discussed above belong to a broad notion of UG it means that the implications from the research refer not to the acquisition of a particular language but to the acquisition of any second language no matter what the L1 or L2 might be.

As we have seen from the research done in this field, this constant revaluation and reformulation of the UG hypothesisis absolutely essential. This could be clearly noticed from the number of theoretical traps that have been encountered in the present study in trying to establish even the most rudimentary of the aspects of UG in the domain of Polish. There are too many questions left unanswered and controversial claims with insufficient evidence for the theory to be completed at its present stage. This is one of the major problems for researchers investigating the role of UG in SLA as any change in the theoretical assumptions within UG affect predictions concerning its implications for SLA research.

The results obtained in this experiment showed significant differences between all three tested factors of the pro-drop parameter which would indicate that they all vary in how influential they were on the subjects' performance. In this event each property of the parameter requires a different approach in the language classroom. The two properties whose origins appeared not fully established are probably too controversial to decide on their possible ramifications in second language teaching. However, as regards pronoun deletion it seems quite clear that this aspect of the parameter is a crucial factor within the occurrence of transfer errors. Thus, what is being proposed here, following suggestions from White (1985b), is that linguistic universals, generally used to account for similarities in L2 acquisition by speakers of varied backgrounds, can also account for the differences if the parameter-setting view is taken into account.

Since current syntactic description is directly related to learning, the specification of what students have to learn should take into account what kind of knowledge the students are equiped with when they approach the course. If speakers' knowledge consists of a set of parameterised principles rather than rules, the teaching syllabus and classroom techniques for teaching grammar

need to be reconsidered. Furthermore, in then follows that L2 teacher training should become more compatible with the Chomskyan approach.

There is, however, one major condition before any such enterprise is undertaken. As could be seen from our experiment, certain expectations based on the UG model do not always seem to apply in practice, whether for theoretical of methodological reasons. This should be treated as a signal for extreme caution when applying UG assumptions into practical situations. Not only does the theory itself require highly advanced specifications, but also once this is done the teacher who wishes to utilise it in their profession must be absolutely sure that they know the exact reasons that they are doing it, how it may possibly effect the students' learning process, and what is the final goal to be achieved. Any misconceptions or misjudgements can dramatically slow down the students' progress, involvement, and consequently their success. This, however, is the primal consideration to be taken into account before any teaching, no matter what its theoretical background, begins.

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Appendix I

AGE:

HAVE YOU EVER BEEN TO AN ENGLISH SPEAKING COUNTRY BEFORE? IF SO, FOR HOW LONG?

1) John stole the loaf of bread because he did not have any money.
CORRECT   INCORRECT

2) Phoned my parents to ask me about it.
CORRECT   INCORRECT

3) John the book put on the table.
CORRECT   INCORRECT

4) Who do you think will get to the finish first?
CORRECT   INCORRECT

5) She was happy to hear the good news.
CORRECT   INCORRECT

6) Seems that the weather is changing.
CORRECT   INCORRECT

7) On Saturdays' concert played Zalewski my favourite suite.
CORRECT   INCORRECT

8) Steven found a silver ring his pocket in.
CORRECT   INCORRECT

9) The good old days of Big Beat are gone forever.
CORRECT   INCORRECT

10) It worries Helen when her son does not eat his breakfast.
CORRECT   INCORRECT

11) Who do you think that Bill saw?
CORRECT   INCORRECT

12) She loves to touch of her fur coat the soft collar.
CORRECT   INCORRECT

13) I was to hear she got married surprised.
CORRECT   INCORRECT

14) Maria's daughter is a very clever young person.
CORRECT   INCORRECT

15) Of literature the students will not be al-lowed in the cinema.
CORRECT   INCORRECT

16) Don't stay there too long. You will be tired.
CORRECT   INCORRECT

17) What do you think that would help you win?
CORRECT   INCORRECT

18) My mother is very tired because has wor-ked a lot recently.
CORRECT   INCORRECT

19) Today it is very windy outside.
CORRECT   INCORRECT

20) Every winter Jane to see her friends goes.
CORRECT   INCORRECT

21) She always gets at her children angry when they swear.
CORRECT   INCORRECT

22) The audience looked at the falling acrobat.
CORRECT   INCORRECT

23) Who do you imagine met James?
CORRECT   INCORRECT

24) She did not know why she had to close her eyes.
CORRECT   INCORRECT

25) Arrived many guests to our wedding recep-tion.
CORRECT   INCORRECT

26) Holden is writing letters to the White House.
CORRECT   INCORRECT

27) The Smiths are of their beloved son John proud.
CORRECT   INCORRECT

28) Who do you think that saw Peter?
CORRECT   INCORRECT

29) Ben hopes that will come spring soon.
CORRECT   INCORRECT

30) The key the door to was lost in the park.
CORRECT   INCORRECT

31) Mrs. Spencer has always been to everybody kind.
CORRECT   INCORRECT

32) Who did she think that was coming?
CORRECT   INCORRECT

33) Surprises me that you do not like red wine.
CORRECT   INCORRECT

34) They came to wish us merry Christmas.
CORRECT   INCORRECT

35) Which man does Mary hope that will choose her?
CORRECT   INCORRECT

36) Mary is greedy. Saves every penny.
CORRECT   INCORRECT

37) The main witness for the prosecution has disappeared.
CORRECT   INCORRECT

38) In winter rains a lot in Britain.
CORRECT   INCORRECT

39) Which girl do you think that will get mar-ried first?
CORRECT   INCORRECT

40) He was sad the holidays all the seaside about.
    CORRECT   INCORRECT
41) I saw Linda's beautiful Japanese jewellery collection.
    CORRECT   INCORRECT
42) Mary believes that her sister will get married next year.
    CORRECT   INCORRECT
43) In Las Vegas those crazy nights will stay in my memory forever.
    CORRECT   INCORRECT
44) I was very sorry about the loss of her cat.
    CORRECT   INCORRECT
45) I told Mark to take the flowers the table from.
    CORRECT   INCORRECT
46) Mr. Douglas works on his project every night.
    CORRECT   INCORRECT
47) Bob's new car $10,000 costs.
    CORRECT   INCORRECT
48) The boss did not seem very interested in this scheme.
    CORRECT   INCORRECT

49) On Wednesday's match I saw my favourite footballer.
    CORRECT   INCORRECT
50) John recognised from the supermarket the girl.
    CORRECT   INCORRECT
51) Last week I bought a book of quotations from Steinbeck.
    CORRECT   INCORRECT
52) Who did they say wrote this letter?
    CORRECT   INCORRECT
53) They will be in trouble if they don't report it to the police.
    CORRECT   INCORRECT
54) Everybody is happy to see the summer coming.
    CORRECT   INCORRECT
55) Susan a lot of shopping every night does.
    CORRECT   INCORRECT
56) Which city do you believe that Mary has gone to?
    CORRECT   INCORRECT

Appendix II

Instructions given to subjects prior to the test:

Przed rozpoczęciem testu proszę państwa o bardzo zwięzłe odpowiedzi na 3 pytania umieszczone na początku testu.

Przy rozwiązywaniu testu proszę kierować się następującymi poleceniami:

1. Proszę stwierdzić, czy każde z podanych w teście zdań jest według państwa gramatycznie poprawne czy nie:

2. W zależności od państwa opinii, proszę zakreślić:

    "CORRECT" dla zdań poprawnych,

    "INCORRECT" dla zdań niepoprawnych.

3. W wypadku zdań niegramatycznych proszę o zaznaczenie tej części zdania, która według państwa jest niepoprawna.

4. Proszę o odpowiedź dla każdego zdania zawartego w teście.

5. Proszę o podanie państwa pierwszych, oryginalnych reakcji na gramatyczność/niegramatyczność zdań.

6. Proszę o wzięcie pod uwagę wyłącznie gramatyki zdań, a nie ich znaczenia czy ortografii.

7. Na ukończenie testu mają państwo 30 minut.

Appendix III

Table 5. Scores for each subject in each aspect of both experimental "pro-drop" condition and control "head" condition

Subject	Pro-Drop Parameter			Head Parameter		
	Pronoun Deletion	Subject–Verb Inversion	That-Trace Filter	Adjective Phrase	Noun Phrase	Verb Phrase
1	4	0	6	1	0	0
2	0	0	3	0	0	0
3	0	1	4	0	1	0
4	1	0	3	0	0	0
5	0	1	2	1	0	0
6	1	1	3	0	0	0
7	0	0	2	0	0	0
8	1	0	2	0	0	0
9	3	1	3	0	0	0
10	2	0	2	0	0	0
11	0	0	1	0	0	0
12	2	0	3	0	1	0
13	3	1	4	1	0	0
14	3	0	2	0	0	0
15	2	0	1	1	1	0
16	1	0	1	0	0	0
17	3	0	1	0	0	0
18	4	1	5	0	0	0
19	4	0	5	0	0	0
20	1	1	3	0	0	0
21	2	0	3	0	0	0
22	3	1	5	0	0	0
23	2	0	2	0	0	0
24	1	0	3	1	0	0
25	1	0	3	0	1	0
26	1	0	2	0	0	0
27	4	1	6	1	0	0
28	5	1	2	0	1	0
29	1	0	2	0	0	0
30	4	0	3	0	0	0
31	5	0	6	1	1	0
32	1	0	4	0	0	0
33	0	0	3	0	0	0
34	3	1	2	0	0	0
35	1	0	2	0	0	0
36	1	1	3	1	0	0
Total	70	12	110	7	6	0

Lech Zabor

How Do We Measure Foreign Language Aptitude —
A Review of Theories and Testing Techniques

1. Foreign Language Aptitude Testing in Historical Perspective

In one of the numerous articles on foreign language aptitude (FLA)
Carroll (1981) notes that:

> Intimations of a concept of foreign language aptitude appeared as early as 1515 in a treatise
> entitled *Examen de Ingenios* (Examinations of Aptitudes for the Sciences), by the Spanish
> physician Juan Huarte, but it was not until the twentieth century that efforts were made to
> devise measures of foreign language aptitude.

Carroll (1981:87)

Before that time initial attempts to identify successful and unsuccessful
second language students appeared to have focused primarily on the concept of
intelligence (Henmon 1929). Intelligence testing was popular in psychology and
education at the beginning of the twentieth century and the language pro-
grammes were highly academic in nature. Besides, it would be expected that
individual differences in intelligence would relate to achievement in most
second language courses, as they would in most persuits. Such relationships
presumably are due to the fact that the more intelligent students more readily
comprehend explanations provided by the teacher and are more likely to
deduce principles and develop techniques to facilitate learning.

In the 1920s, however, the first attempts at developing "prognosis tests"
were made. Investigations by Henmon (1929) and Symonds (1930) demonstrat-
ed that in fact such tests correlated more highly with achievement in a foreign
language than did indices of intelligence. The first FLA measures relied chiefly
on tests of ability and achievement in the learner's native language or on
work-sample tests involving short lessons and excercises in the language to be
studied, or in an invented language. A few of the tests attempted to diagnose
the student's ability to discriminate foreign language sounds or to learn foreign
language materials by rote, but most of them were exclusively paper-and-pencil
tests (Carroll 1981). The theory underlying those tests was that foreign lan-
guage learning was essentially an intellectual exercise that drew on somewhat
specialised talents. In fact, foreign languages were at that time usually

taught by the grammar-translation method and the objective was usually limited to teaching the learner to read and translate a foreign language. The aptitude batteries developed at that time turned out to be merely "linguistically weighted intelligence tests" (Kaulfers 1941).

One example of the early tests is *The Foreign Language Prognosis Test* (FLPT) Form B (Symonds 1930), which consisted of four parts. In the first subtest, word translation, students were given ten minutes to compare a paragraph written in Esperanto with its English equivalent and, based on this material, to identify the English equivalents of thirty Esperanto words. The second subtest was in an artificial language. It required twelve minutes, during which students read vocabulary items, grammatical rules, and four sample sentences, and then translated twenty sentences, ten from English into the artificial language, and ten from the artificial language into English. Subtest three was sentence translation and required twelve minutes to complete. Students examined twenty six vocabulary items and then completed a multiple choice test in which they were given an English sentence and four possible Esperanto translations. As they progressed through the items, they were given additional information about Esperanto such as verb endings for tenses, rules for pluralisations, forms for interrogative and possessive pronouns. The fourth subtest, formation of parts of speech in English, allowed students to change fifty words to other parts of speech, such as nouns to verbs or verbs to nouns. Although the underlying abilities were not identified, it is clear that much of this test was oriented towards language as a grammar-translation activity, which characterised many language programmes of the day.

Other foreign language prognosis tests were produced in the 1920s, but they are not used today. These include *The Iowa Foreign Language Aptitude Examination* (Stoddard and VanderBeke 1925), *The Luria–Orleans Modern Language Prognosis Test* (Luria and Orleans 1928), *The Barry Prognostic Language Test* (Rice 1929) and others.

Although test construction techniques have developed considerably since the 1920s, there is still a remarkable similarity in the types of tests in use then and now. The early tests tended to involve measures of English language skill or "miniature" language learning exercises, and current tests assess comparable skills. The present-day tests had their beginnings in the 1950s when researchers became interested in the concept of human ability. The aptitude batteries then available seemed inappropriate, especially when many schools were starting to break away from the grammar-translation method and to move towards new types of courses, particularly those inspired by the audio-lingual method.

During the Second World War the United States Army became interested in finding methods of selecting people for foreign language training. The best way appeared to be a short "trial course" in some language, not necessarily the language in which they were eventually to be trained (Frith 1953). It was assumed that whatever aptitudes for foreign learning might exist, a trial course

will put them to the test. The trial course method was in fact an effective way of selecting people with high aptitude for foreign language learning yet, it was very expensive and troublesome.

One of the earliest efforts to devise direct measures of components of FLA was a project conducted for the United States Army by Dorcus, Mount and Jones (1953). On the whole, this effort was unsuccessful, it failed to predict success in intensive Army Language Training Courses any better than previously available instruments, yet it is interesting to note the underlying abilities examined in this project, such as span of apprehension, facility in symbol manipulation, word assimilation or understanding speech patterns. A more detailed description of the kinds of aptitudes and the types of measures of this battery and some other tests discusses in this paper can be found in Appendices A to E.

With the failure of this project, the United States Army went on to develop another aptitude battery, artificial language test, composed of fifty nine four-alternative multiple choice items that required the examinee to learn the vocabulary and certain grammatical principles of the artificial language, all of which were to be applied in the translation of sentences either from the artificial language to English, or vice versa (Berkhouse, Mendelson and Kehr 1959). More recently, members of the U.S. armed forces who study languages have typically been required to take *The Defense Language Aptitude Test* (DLAT), or its new version *The Defense Language Aptitude Battery* (DLAB) (Petersen and Al-Haik 1976).

2. The Current Foreign Language Aptitude Tests

There are currently a few aptitude batteries commonly used, the most popular of which is still *The Modern Language Aptitude Test* (MLAT) (Carroll and Sapon 1959). The MLAT consists of five subtests: (1) number learning, (2) phonetic script, (3) spelling clues, (4) words in sentences, and (5) paired associates. Testing time for the full battery is approximately 65 minutes. The number learning test is described as a measure of both a memory component and general auditory alertness. Subjects hear a new language for numbers, and, after some practice using this language, are required to translate from the new language to English. The phonetic script measures both phonetic coding and memory. In this test, subjects hear sets of four similar speech sounds which are paired with an orthographic script. Following a series of such tests, subjects are asked to indicate one speech sound which is repeated from each set.

The spelling clues test depends upon English vocabulary knowledge and phonetic coding ability. It looks like a vocabulary test in that subjects must choose, from five alternatives, the word which is nearest in meaning to a test word. It is unique in that the test word is spelled as it is pronounced. Here is the example quoted in Stern (1983):

kataklzm = (1) mountain lion,
              (2) disaster,
              (3) sheep,
              (4) chemical reagent,
              (5) population.

The words in sentences test measures "grammatical sensitivity" (Carroll 1981, 1982). Subjects are presented with a set of key sentences in each of which a word or phrase is underlined, and subjects must select the one that performs the same function as the item from the key sentence. No grammatical terminology is used in this test. Here is the well known example:

He spoke VERY well of you.
Suddenly the music became *quite loud.*
   (1)   (2)   (3)   (4)

The paired associates test assesses rote memory. Subjects are given four minutes to memorise twenty four Kurdish–English pairs. Retention is tested by means of a multiple choice test in which the Kurdish words are presented as stimuli and the response alternatives are five of the English words in the original list.

The Pimsleur Language Aptitude Battery (PLAB) (Pimsleur, 1966), is another widely used FLA test, and appears similar to the MLAT in many respects. It consists of six sections, the first two depend simply on verbal report. Part one, grade point average, includes the learners' recent year-end grades in English, mathematics, science and history (or social science). Part two, interest, is based on the students selfratings on a five-point scale of their interest in studying a foreign language. Part three consists of a vocabulary test. Part four is the language analysis test. In this test subjects are presented with a list of words and phrases in a fictitious language and their English equivalents. From these, testees must deduce how to say other things in the unknown language and select the correct answer from alternatives provided. In Part five, sound discrimination, subjects are taught, by means of a tape recording, three similar-sounding words in a foreign language. Then they hear sentences spoken in the language and must indicate which of the three words each sentence. Part six is the sound symbol test. Students hear a two-or three-syllable nonsense word and must indicate which of the four printed alternatives it was.

The abilities tested on the two standard aptitude batteries can be briefly summarised:

1. Ability to discriminate, remember, interpret and produce the phonic substance of another language. Auditory alertness, the ability to relate the phonology to forms of graphemic representation.

2. Ability to pay attention to morphological, syntactic and semantic features of a language to relate linguistic forms to each other, and to develop patterns, regularities and rules from linguistic material (grammatical sensitivity and inductive learning ability).

3. Memory ability, the capacity to memorise and recall words in a new language, rote memory. MLAT only, not tapped by PLAB.

4. Word knowledge, lexical competence in PLAB only.

5. PLAB contains a general school achievement and motivational component, not considered in MLAT as part of the concept of FLA.

Other current forms of FLA measurement have not gained such popularity among teachers and educationist, although both MLAT and PLAB have been often criticised. Most alternative aptitude test are quite similar to the older batteries. They also focus on analytic skills or inductive abilities in learning fictitious or exotic languages. *The York Test*, for example, is a measure of the pupil's ability to produce forms in an unknown language (Swedish) on the analogy of the forms presented (Green 1975). In other words it is a test of inductive learning ability. Similarly, VORD, developed by Child in 1973, was based on an artificial language structurally similar to Turkish. The original form of the test contained 32 items. The first ten items were designed to test nominal morphology; the second ten verbal morphology; and the remaining twelve phrase and sentence-level syntax. The items were designed to be progressively more difficult. The nominal morphology items called for simple suffixes to be added, and the verbal morphology items required subjects to select quite complex strings of correct verbal forms on a multiple choice test. On the phrase and sentence-level syntax items, subjects supplied forms to establish sentence patterns. Here are some examples (Parry and Child 1990):

1. Nominal morphology:

...to the plan... a. kolbon   (plural objective),
                        b. kolbora*   (singular benefactive),
                        c. kolbordon   (singular ablative),
                        d. kolb   (singular objective),
                        e. kolbom   (singular instrumental).

2. Verbal morphology:

It was not completed...,
a. dravazunadi (Past Passive Negative Nominalizer),
b. dravunadi   (Past Active Negative Nominalizer),
c. dravazunaki (Future Passive Negative Nominalizer),
d. dravazunad* (Past Passive Negative Finite),
e. dravunad   (Past Active Negative Finite).

3. Phrase and sentence-level syntax.

Dravazunaki kolb... a. The plan which will not be completed*,
                          b. The plan is not to be completed,
                          c. The plan is not completed,
                          d. The incomplete plan,
                          e. The plan will not be completed.

(The asterisk marks the correct answer.)

The combine object of these task was to measure analytic skills, i.e., the ability to internalise and use grammar rules.

Another modern example of an exercise which measures this kind of linguistic skill is "Novish." It was originally designed to demonstrate programmed learning techniques (see Howatt in Allen and Corder, 1974). Bell (1981) suggests that the artificial language "Novish" might be used as an aptitude test for foreign language students. The only change required to turn the materials into a test is to mask the answers — in the right-hand column — and, perhaps, add a final question along the lines of "why does Novish use *gru* and *stil* in short answers?" All you need to know about the language is that "sademane" = "this is" and "min" = "man". The meanings of other nouns will become clear as you do the test, since each is introduced by a picture.

1		Ki poi sademane?	Ye, gru.
2		Ki min sademane?	Ye, gru.
3		Ki weimin sademane?	Ye, gru.
4		Ki pooni sademane?	Ye, gru.
5		Ki min sademane?	Ye, gru.
6		Ki tre sademane?	Ye, gru.
7		Ki tavl sademane?	Ye, stil.
8		Ki bukh sademane?	Ye, stil.
9		Ki pokit sademane?	Ye, stil.
10		Ki tavl sademane?	Ye, gru.

It is interesting to note that most of the aptitude batteries discussed here are based on artificial or uncommon languages. However, some aptitude tests rely entirely on the proficiency in the native language. An example of such a test is quoted in Bell (1981). It is referred to as "scrambled sentences" and it basically measures the syntactic analysis capacity. The five sentences below were originally proposed as a possible way of testing reading comprehension. In this exercise the testee is expected to put the words into an acceptable order, which requires of him some knowledge of lexical collocation and some intuition of what can reasonably be expected to go with what. Speed is a good indicator as some testees complete the task far more rapidly than others, however, the norms should be taken as no more than suggestions of the time one might expect an educated adult native speaker of English to take.

Here are these sentences:

1. Can a defined ignorance of safely sheer authority the and young wishful-thinking be as towards the mixture attitude of.

2. On which conscious from reading an only a superior grammar can and command intelligent of come mastery a language depends of vocabulary.

3. Repression of always likely totalitarian into a government activity nearly measures suspects against extreme subversive alarms.

4. Since shy publisher has ever poverty-stricken finding many of writers a willing manuscript are notoriously for a despaired writer of his publishers.

5. Who stanzas most takes a life of the man a view compresses personal and few it is into a poet introspective.

These "answers" consist of one of the several possible solutions which are available in almost all cases:

1. The attitude of the young towards the authority can be safely defined as a mixture of wishful-thinking and sheer ignorance. (19 words — 3 minutes)

2. A superior command of language depends on a conscious mastery of vocabulary and grammar which can only come from an intelligent reading. (22 words — 7 minutes)

3. Subversive activity nearly always alarms a totalitarian government into measures of extreme repression against likely suspects. (16 words — 7 minutes)

4. Many a writer has despaired of ever finding a willing publisher for his manuscript since publishers are notoriously shy of poverty-stricken writers. (22 words — 10 minutes)

5. A poet is a man who takes the most introspective personal view of life and compresses it into a few stanzas. (21 words — 20 minutes)

3. Foreign Language Aptitude Testing in Poland

Unlike the United States and some other countries where commercial aptitude batteries have been used for almost half a century, in Poland language aptitude testing is practically non-existent. Similarly, FLA research did not generate much interest among linguists and psychologists. To my knowledge there have been only two attempts to investigate the FLA — achievement relationship.

The first one was carried by Niżegorodcew (1979). She examined the role of FLA in secondary school students. The best battery used in the study was modelled on Carroll and Sapon's MLAT and included several components measuring language analysis ability, ideational fluency, sound discrimination, sound-symbol association, paired associates, auditory and visual memory. In terms of language analysis capacity she used two tests. The first one was based on an artificial language and measured inductive learning ability; the other one, similar to Carroll and Sapon's "words in sentences" measured ideational fluency, i.e., the ability to find suitable words in a sentence context. In spite of relatively high correlations she recorded Niżegorodcew does not claim that the battery researched might be a reliable measurement of school achievement in foreign language study, suggesting that other factors such as motivation, attitudes and methodology used play a far more important role (personal communication).

The other research was carried out by Zabor (1989). The study focused on the language analysis component and the aptitude–achievement relationship in adult learners. Although the correlations were slightly lower or similar to those recorded for the existing FLA batteries, the test components used in the experiment were different to some extent from other aptitude tests. This research was based on the assumption that the most adequate explanation of the foreign language learning process was offered by the Consciousness–Raising Theory. The central issue of this approach, as in almost any other language learning theory, is the place of grammar. It is viewed as "an aid" to learning and not as "an end." This comes from the rejection of the belief that language is built up of sets of discrete entities and that language learning consists of the steady accumulation of such entities by the learner (Rutherford, 1987: 154-155). If we adopt that view of language and language learning we may notice that the traditional aptitude measures such as MLAT and PLAB greatly overemphasise the knowledge of structure and inductive learning. We would rather think that FLA facilitates adaptation to a new language system in the process of grammatisation, i.e. alterations in the interlanguage which leads to the attainment of the target language. Aptitude measurements, therefore, should aim at examining the basic aspects of grammatisation, such as *syntactic–semantic distance* (relating grammatical form to meaning), *topic and subject* (reorganisation of early topic-comment as later subject-predicate) or *word order.*

The choice of the test components reflects to a large extent those aspects, although grammatical categories, such as temporal relations and definiteness–indefiniteness are also tapped on the test. The underlying assumption on which the battery is based is that it should not merely measure "grammatical sensitivity" but rather "semantic sensitivity," i.e., the essential ability to understand and produce meaningful utterances in a foreign language and not only analyse and manipulate grammatical structures.

Part one of the test — word order — measures the students ability to produce forms in the unknown language on the analogy of the forms presented. It is a measure of inductive learning ability, similar, e.g., to Pimsleur's PLAB — Language Analysis Component. The testees are required to complete the missing sentences according to the pattern. They must be able to rearrange the word order, delete some elements in the sentence and/or insert new ones.

Example:
This is the man about   → This is the man
whom I told you.   I told you about.
This is the man with   → ——————
whom I'm in love   ——————
Answer: This is the man I'm in love with.

Part two — conversion — consists in interpreting sentences which contain verbs derived from nouns. It measures the ability to establish semantic relations between parts of the sentence. The students are required to translate ten sentences from English into Polish. They are given the meanings of the English words used as nouns, but not as verbs whose meanings they must figure out.

Example:
blanket — koc, bed — łóżko
Adam blanketed the bed.
Answer: Adam nakrył łóżko kocem.

Part three — compounding — examines the learners' ability to understand compound nouns and phrases. In order to interpret such constructions successfully they must be able to establish meaningful relations between members of such compounds. Naturally, testees are given the Polish equivalents of the foreign words used in the test.

Example:
wind — wiatr, mill — młyn
windmill — ——————
Answer: wiatrak

Part four — temporal relations — measures the ability to determine temporal relations within complex sentences. The testees are required to arrange clauses in ten sentences in chronological order, from left to right.

Example:

Janek obiecał, że pożyczy mi książkę, którą kupił w Londynie.
    (A)   (B)   (C)
Answer: C — A — B

Part five — definiteness/indefiniteness — examines the learners' perception of definite and indefinite nouns in Polish. This subtest is preceded by an extensive introduction which clarifies the requirements on the part of testees. In brief, they must mark certain nouns in the passage as definite (+) or indefinite (−).

Example:

Zanim *(a) ludzie* wymyślili pieniądze, przez długi czas wymieniali *(b) towary.* Nie był to najlepszy *(c) system*, ponieważ nie było łatwo znaleźć kogoś, kto miał i godził się wymienić poszukiwany towar.
Answer: (a) −, (b) −, (c) +

In this paper, we have looked at the ways of measuring FLA. A seemingly simple term, it is actually a very complicated concept. Traditional dictionary definitions say that aptitude is a natural tendency, an ability, capacity or talent. Difficulties arise, however, in tryig to measure aptitude, particularly in the language learning area. A commonly accepted definition is that FLA is a student's score on a language aptitude measure like MLAT. That definition is not very informative, because many language aptitude tests focus on analytical skills and not on the student's potential for the development of more global skills needed for communication. Thus, there is a great need to redefine language learning aptitude. In order to do this we might need to broaden the narrow concept and include such factors as learning style and field dependence/independence or perhaps other cognitive and affective dimensions. Undoubtedly, we are still far from answering the question "what is a knack for languages?"

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Appendix A

Components of the Foreign Language Prognosis Test (Symonds, 1930).

TEST TASK DESCRIPTION	ABILITY ASSESSED
Compare a paragraph written in Esperanto with its English equivalent	Word translation
Identify the English equivalent of thirty Esperanto words	
Read vocabulary items, grammatical rules and four sample sentences	Sentence translation
Translate ten sentences from English into the artificial language and ten sentences from the artificial language into English	
Change fifty words into other parts of speech	Formation of parts of speech in English.

Appendix B

Components of FLA in the U.S. Army project (Dorcus, Mount and Jones, 1953)

TEST TASK DESCRIPTION	ABILITY ASSESSED
Vocabulary test of word meaning	Word assimilation
Scrambled word test of verbal fluency	Symbol manipulation
Reading test involving random punctuation, spacing and capitalisation	Verbal persistence
Digit memory test	Span of apprehension
Test of code learning	Associative learning
Recall test of code learning	Recall of associatively learned material
Sound test of distorted speech	Understanding distorted speech patterns
Sound test of statements read against a multiple speech background	Understanding speech superimposed on additional extraneous speech patterns
Sound test of similar sounding words and nonsense syllables	Discrimination of distinct speech inflections
Personality questionnaire of interests	Personality factors

Appendix C

Constituents of MLAT

TEST TASK DESCRIPTION	ABILITY ASSESSED
Learn word for numbers	Number learning
Listen to sounds and learn phonetic symbols for them	Phonetic script
Decipher phonetically spelt English words and identify words with similar meanings	Spelling clues
Recognise syntactic functions of words and phrases in sentences	Words in sentences
Learn and recall words in an artificial language	Number learning paired associates

Appendix D

Constituents of PLAB

TEST TASK DESCRIPTION	ABILITY ASSESSED
Learn phonetic distinctions and recognise them in different contexts	Sound discrimination
Associate sounds with written symbols	Sound-symbol association
List as many words as possible that rhyme with four given words	Rhymes
Make judgements with the help of translations about the meanings and rules of use of an unknown language	Language analysis
Identify the meaning of different words	Vocabulary
Information gathered by testers	Grade-point average in academic areas
Short questionnaire	Interest in learning a foreign language

Appendix E

Constituents of VORD

TEST TASK DESCRIPTION	ABILITY ASSESSED
Add correct suffixes to the nouns	Ability to internalise and use grammatical rules after studying samples of the unknown language
Select correct verbal forms from multiple-choice listings	
Supply suitable forms to the established sentence patterns	

Reviews

T.S. Parry and C.W. Stansfield:
Language Aptitude Reconsidered.
Prentice Hall, Englewood Cliffs, 1990, 265 pp.

Reviewed by Lech Zabor

This book is a collection of papers presented at the conference on prediction of adult foreign language learning organised by the United States Government's Interagency Language Roundtable, the ERIC on Languages and Linguistics and the Center for Applied Linguistics. It was held in May 1989 in Washington D.C. The topics discussed include language aptitude testing and other predictive measures, the role of affective factors, cognitive style, learning strategies, personality, and brain hemisphericity.

This volume contains six of the eleven papers presented at the symposium. It begins with an article, *Cognitive abilities in foreign language aptitude: Then and now*, by John B. Carroll. He reconsiders language aptitude testing thirty years after the publication of his MLAT. He remains rather sceptical about the possibility of improving the existing test batteries. However, he offers some observations on how to make minor improvements to them. The major limitation of the MLAT, in Carroll's view, is the unavailability of a second, parallel form of the test. In addition, he proposes extending currently available language aptitude tests to several new domains of ability that are considered to have predictive value, such as, grammatical sensitivity, rote memory ability, and inductive learning ability. This extention would be accomplished by refining discrimination among broad abilities through the addition of new tests. Carroll suggests, in particular, tests of auditory abilities that may be predictive of success in foreign language learning. He also recommends further study of the cognitive operations involved in foreign language learning. He notes that an understanding of these operations could help the construction of test items that would be analogous to "work samples," as they would reflect the operations that actually take place in learning a foreign language.

In the next paper, *Preliminary investigation of the relationship between VORD, MLAT, and language proficiency*, Thomas Parry and James Child report on the findings of the correlational validity of a new language aptitude test called the VORD. This study is one of the few recent experiments with new measures foreign language aptitude. VORD is the artificial language used in the test. Examinees are required to learn the language to demonstrate their

language aptitude. The authors examine the correlational and predictive validity of the test by administering it and the MLAT to a group of subjects enrolled in a language training programme. Analysis of the data shows moderate correlations between MLAT and VORD scores ($r = 0.70$). The correlation between the VORD and end-of-training speaking proficiency was 0.46 and 0.35 with reading proficiency.

The following article, *Styles, strategies and aptitude: Connections for language learning* by Rebecca Oxford is one of the most interesting in this volume. The author defines and differentiates between several interrelated cognitive constructs that relate to successful language learning. The major constructs are language aptitude, learning style (the learner's preferred mode of dealing with new information), and cognitive style (the learner's preferred or habitual mode of mental processing). Among these traits are field independence–dependence, reflexivity–impulsivity, ambiguity tolerance, sensory modality preference, and cognitive complexity–simplicity. Oxford reviews the research on all of these traits and discusses the interrelationships between styles and language aptitude. She begins by discussing the good language learner, demonstrating that good language learners use a greater variety of strategies than poor learners, and use those strategies more frequently. She then reviews a number of factors that can affect the choice of a strategy. These include the target language, course level, degree of individual self awareness, age, sex, attitudes, motivational intensity and orientation, personality characteristics, language teaching methods, and task requirements. Oxford claims that cognitive strategies are more often used in learning a foreign language than metacognitive, social, or affective strategies. Finally, she discusses the implications on styles and strategies for improving our ability to predict success in language learning.

Madeline Ehrman, in her paper, entitled *The role of personality type in adult language learning: An ongoing investigation*, discusses the relationship between language learning styles, preferred student learning strategies and method of instruction used with Foreign Service Officers and other U.S. Government employees. The model used is Carl Jung's typology of conscious functioning in a personality measure, the Myers–Briggs Type Indicator. It classifies an individual's personality of four bipolar dimensions, which are related to preferred activities, ways of approaching problems, interactions with other people, and general behaviour. The author evaluates the relationship of these dimensions to the formal language learning context. The article helps us better understand the construct of psychological type which seems to function in a parallel manner to the construct of language aptitude.

The next paper, *Attitudes, motivation and personality as predictors of success in foreign language learning*, by Robert Gardner, examines the relation of attitudes/motivation and personality characteristics to achievement in a second language. In the author's view there is little evidence for a significant relationship between personality traits and second language acquisition. On the other

hand, the evidence indicates a clear relationship between attitudinal/motivational characteristics and second language acquisition. Gardner speculates that the poor results of possible personality correlates could be due to the fact that researchers generally do not construct their personality measures in relation to the language learning context. Measures of anxiety, for instance, do not relate consistently to achievement in a second language. However, measures of language classroom anxiety and language use anxiety do relate to second language achievement. Gardner also shows that attitudes and motivation form one variable class that is relatively independent of language aptitude and that both attitudes/motivation and aptitude are consistent correlates of second language achievement. The last paper in this volume is entitled *Predictors of success in an intensive foreign language learning context: Correlates of language learning at the Defense Language Institute Foreign Language Center*. The authors, John Lett and Frank O'Mara, describe how the Defense Language Aptitude Battery is used to select learners of a particular foreign language at the Defense Language Institute in Monterey, California. They also present a study of variables associated with second language acquisition and attrition. These variables include general intelectual ability, age, sex, level of education, brain hemisphericity (left or right handedness), prior language learning experience, attitudes and motivation, learning strategies, personality (extraversion/introversion), cognitive style (field dependence and ambiguity tolerance), and language aptitude. The results show that language aptitude was more important for success in difficult languages than in comparatively easy ones. General ability and other cognitive factors, attitudes and motivation, and the use of a variety of learning strategies also played important roles.

This paper and the remaining articles in this volume provide a valuable glimpse at the complexity of the task of improving the prediction of successful foreign language learning. They also provide useful insight to teachers, students of linguistics psychology and researchers. We may hope that the book will generate a new discussion of the construct of language aptitude and the prediction of successful language learning.