The Subset Principle, Markedness
and the Acquisition
of a Superset Foreign Language

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It is common knowledge – not only within the field of second language acquisition research, but by anyone who has tried to learn a foreign language – that some linguistic items cause severe trouble and take a lot of time before being acquired, whereas others seem to pose no difficulty whatsoever. In this article, I will discuss the possibility of predicting areas of difficulties arising when learning a foreign language – focusing on Norwegian learners of Japanese conditional expressions. I will argue that this can be done by applying the concept of markedness defined in terms of the Subset Principle.

1 .The Subset Principle and the Subset Condition

The Subset Principle was motivated by learnability considerations of first language acquisition (Berwick (1985), Wexler & Manzini (1987)). It is generally assumed that children learn their first language on the basis of limited data and without receiving or taking note of negative evidence. Consequently, first language acquisition must be achieved on the basis of positive evidence. When children pick a parameter setting for the language they are acquiring, they must somehow be protected from making incorrect hypotheses, which can not be disconfirmed by positive evidence. The Subset Principle is thought to interact with principles of Universal Grammar during acquisition to guide the settings of Universal Grammar parameters, and ensures that children start with the smallest language compatible with the language input. Let's use reflexives as an illustration. A reflexive must have an antecedent, because they lack their own reference. However, what can be the proper antecedent of a reflexive differs across languages; it is subject to parametric variation. In English, both subjects and

non-subjects are allowed to be the antecedent of a reflexive, while Japanese in comparison only allows subjects to be the antecedent. Consequently, a sentence like *Jane showed Mary a picture of herself* will by a native English speaker be interpreted either as *Jane showed Mary a picture of Jane* or as *Jane showed Mary a picture of Mary*, while a Japanese learner of English most probably will interpret it as *Jane showed Mary a picture of Jane* only. In this case, English and Japanese meet the Subset Condition, and are in a superset/subset relationship. This means that English allows the sentence types allowed by Japanese, and additional ones as well. In other words: The Japanese structure is contained within the English grammar. The parameter setting which generates the subset language is defined as unmarked, while the superset language is defined as marked.

Now, since Japanese is a subset of English with respect to the property in question, Japanese children must be prevented from arriving at the conclusion that both subjects and non- subjects can be the antecedent of a reflexive in Japanese. Since the learners will not encounter positive evidence showing that also non – subjects can be the antecedent of a reflexive in Japanese, they will be guided by the Subset Principle not to arrive at an overinclusive grammar, by adopting the subset, unmarked value for this parameter. The English – speaking child will on the other hand at some point encounter positive evidence, showing that non – subjects also can be the antecedent of a reflexive, and will from that point on change the parameter value to the superset, marked value.

The Subset Principle has also been applied on second language acquisition. A number of papers have looked at situations where the learner's first language has a parameter that generates a superset of the sentences allowed by the target language (White (1989), Hirakawa (1990)). In the absence of negative evidence, it should not be possible to move from a grammar generating a superset grammar to one generating a subset grammar. However , since studies have shown that this is exactly what second language learners are doing, it has generally been concluded that the Subset Principle is not operative in second language acquisition. Even so, the principle that one can move from the grammar of a subset language to that for a superset language through positive evidence still holds. In other words: if the target language is a superset of the learner's first

language, the learner should successfully be able to reset the unmarked parameter value of his native language to the marked parameter value of the target language.

Let's now turn to Norwegian learners of Japanese conditionals.

2.1. Conditionals

Conditional sentences consist of two constituents - the first of which I will call the antecedent, and the second I will call the consequent. For the sake of simplicity, one can say that the consequent expresses what will/would/might be the case if the condition mentioned in the antecedent is /was/ to be fulfilled.

Example: *If you can't come tonight, give me a call.*

In this English sentence, *if* is the conditional marker. However, descriptive studies of languages over the world tell us that there exist ways of marking a conditional substantially different from the English construction.

2. 2. Conditionals in Japanese and Norwegian

First turning to Japanese, it is generally agreed that Japanese has several different conditional patterns. It should also be well known that Japanese conditionals can function as temporals as well as conditionals, according to the context. This is however not the point I want to focus on, but since Japanese conditional expressions will be in focus in the following, I will define these as expressions where one of the four Japanese conditional particles *to, tara, ba, nara* is used in order to connect the antecedent to the consequent. Example: *Suki de wa nai nara, tabenakute mo ii desu yo.*

Liking NEG COND not eat PERMISSIVE

If you don't like it, you don't have to eat it.

In the above sentence, *nara* is used as a conditional marker. Out of the four possibilities, *tara* and *ba* could also be used to convey exactly the same meaning. However, using *to* in this context would result in an ungrammatical sentence. This means that *to, tara, ba, nara* respectively requires special surroundings in order to materialize. Sometimes they overlap, in the sense that more than one alternative is acceptable in a certain context – and sometimes the use of one or two, or even three of the conditional markers will be

excluded. There have been fairly many studies on the uses and meanings of *to, tara, ba, nara*. Japanese linguists (Akatsuka (1985), Tanaka (1987), Den (1989), Inaba (1991), Maeda (1991,1995,1997) have suggested that the key to fully understand the restrictions on the use of *to, tara, ba, nara* is to be found in the modality expressed in the consequent. It is generally agreed that the classical division into *epistemic* and *deontic* modality is useful for drawing the borderline where the restrictions set in. In Palmer's (Palmer, 1986, p.121) definition, *epistemic* modality "is concerned with language as information", while *deontic* modality "is concerned with language as action". Practically speaking, consequents containing *epistemic* modality will comprise elements like knowledge, beliefs, opinions, inferences, conjectures and so on, while *deontic* modality will express the speakers attitude towards possible actions by himself and others − that is elements like will, desire, invitations, requests, warnings and commands.

Now turning back to Japanese conditional expressions and markers again, the modal restrictions for *to, tara, ba, nara* can be summarized as in Table 1 below. The symbol ○ under respectively *to, tara, ba, nara* means that there are no restrictions within the actual modal area, while × indicates restrictions. The reason for dividing the particle *ba* into *ba1* and *ba2* is the following: the modal restrictions on the use of this particle varies with the nature of the main verb in the antecedent of the conditional sentence. If this is a dynamic verb, only *epistemic* modality can be expressed in the consequent (*ba1*). On the other hand, if the verb is a static verb, the modal restrictions are lifted, and *ba* can be connected freely (*ba2*).

Table 1   *to, tara, ba, nara* and their respective areas of modal tolerance

AREA OF MODALITY	*to*	*tara*	*ba1*	*ba2*	*nara*
EPISTEMIC	○	○	○	○	○
DEONTIC	×	○	×	○	○

Norwegian also comprise several conditional conjunctions, but in contrast to Japanese there seem to be no modal restrictions on their use (Solvang, 1998, p. 64 - 66). This fact

gives rise to hypothesize that Norwegian learners of Japanese will have a hard time before acquiring the Japanese conditionals. In the following, I will try to predict the exact areas of difficulties Norwegian learners will be facing, as well as the areas where no problems are expected to arise. I base these predictions on degree of markedness - the way markedness is to be understood within the theoretical framework of the Subset Principle, as described in the introduction to this article.

To represent Norwegian conditional conjunctions I have chosen the conjunction *hvis,* which is by far the most used conditional conjunction in Norwegian.

3. Hypotheses

First, let's illustrate how Norwegian and Japanese meet the Subset Condition, when it comes to modal restrictions on the use of conditional markers. As already stated, the Japanese conditional particles *tara*, *nara* and *ba2* coincide with the Norwegian conditional conjunction *hvis*, in the sense that both *epistemic* and *deontic* modality can be expressed in the consequent. In contrast, the use of *to* or *ba1* in the antecedent excludes *deontic* modality in the consequent.

Figure 1   The relationship between modal restrictions in Japanese and Norwegian

Japanese

Parameter A : *to, ba1*

Norwegian

Parameter B :

hvis, tara, nara,

ba2
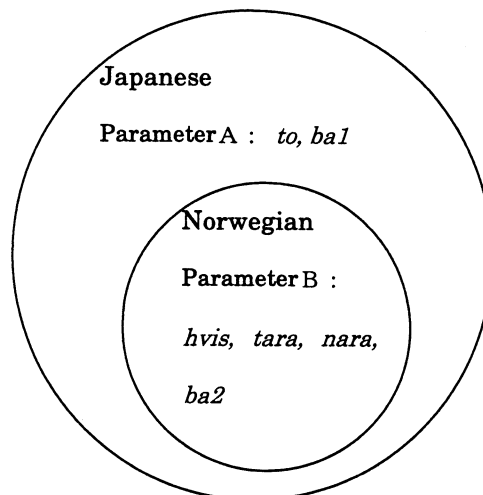
Modal restrictions   :   Parameter A

No modal restrictions : Parameter B

Japanese ⊂ Norwegian

Since the grammar that generates parameter value A also generates parameter value B, as illustrated, Norwegian grammar is contained within Japanese grammar regarding the linguistic property in question. In other words: Norwegian is a subset of Japanese. The parameter setting generating the subset language is the unmarked, while the setting generating supersets are marked. Hence, Norwegian is unmarked, while Japanese is marked.

From a learnability point of view, one can imagine that both Norwegians and Japanese start with the unmarked language. They will use conditional markers without giving the contents of the consequent any thought. At some point, positive evidence will motivate Japanese speakers to reset the parameter to the marked value, whereas Norwegians will have no reason to undertake such an operation.

When it's the case of Norwegians learning Japanese, one can assume that the acquisition of conditionals will cause trouble. I will make the prediction that the degree of difficulty will reflect the difference in markedness between Norwegian and Japanese conditional expressions, in the sense of modal restrictions. In the first place, I will make the hypotheses that Norwegians learning Japanese will not be facing trouble when acquiring the unmarked properties – which means that *tara* and *nara* will be readily accessible. Because the parameter value of *tara* and *nara* coincide with the parameter value of the Norwegian unmarked *hvis*, the learners will not have to reset the Norwegian parameter value in this case. As for *to* and *ba* – the conditional markers that are exposed to modal restrictions in Japanese, a careful examination will show that they do not share exactly the same parameter value. One subset of *ba* – *ba1* – is exposed to the same modal restrictions as *to*, which means that they are two of a kind when it comes to parameter value. But the other subset of *ba* – *ba2* – can be combined with any kind of modality in the consequent, just like *tara* and *nara*, and has a parameter value identical to these. Due to this subdivision of *ba* into *ba1* and *ba2*, the degree of markedness in *to* and *ba* can not be said to be identical. In Table 2 below I have marked the Japanese conditional particles with either 1 or 0. The number 1 indicates modal areas where the actual particle can be materialized, whereas 0 indicates modal areas where the actual particle is exposed to restrictions.

Table 2   The pattern of modal restrictions − *to, tara, ba, nara*

Conditional particle		Area of modality	Parameter
tara		Deontic	1
		Epistemic	1
nara		Deontic	1
		Epistemic	1
to		Deontic	0
		Epistemic	1
ba	dynamic verb+*ba* (ba1)	Deontic	0
		Epistemic	1
	static verb+*ba* (ba2)	Deontic	1
		Epistemic	1

According to the information that can be read out of Table 2 above, I will suggest three parameter values for the Japanese conditional particles related to modal restrictions.

Parameter value 1: no modal restrictions − *tara* and *nara*.

Parameter value 2: no modal restrictions and modal restrictions − *to*.

Parameter value 3: dynamic verb = modal restrictions

non-dynamic verb = no modal restrictions − *ba*.

These three parameter values are contained within each other, in the sense that the sentences based on value 2 (*to*) contain all the sentences resulting from value 1(*tara, nara*), plus additional sentences, and the sentences based on value 3 (*ba*) contain all of the sentences resulting from value 2, plus additional sentences.

Consequently, I will suggest a scale of markedness, where *tara* and *nara* (and the Norwegian *hvis*) constitute the less marked, whereas *ba* constitutes the most marked.

Table 3   Japanese and Norwegian conditional markers on a markedness scale

Most marked ←——————— Markedness ———————→	Less marked
ba *to*	*tara* ・ *nara* ・ *hvis*

Furthermore, I will make the hypotheses that the difficulties Norwegian learners of Japanese will encounter when learning Japanese conditional expressions will reflect the markedness scale shown in Table 3 above. This means that the Norwegian learner will face more trouble and spend relatively more time in order to acquire the use of *ba*, compared to the acquisition of the use of the particle *to*. Practically, before deciding if he

can use *ba* or not in a special situation, the learner must take two matters into account: 1) whether the modality in the consequent is epistemic or deontic, and 2) whether the main verb in the antecedent is dynamic or non-dynamic . In the case of *to*, he only has to consider the modality in the consequent. Anyway, in both cases the learner will have to exceed the Norwegian parameter value, and reset it to the marked values. If he for some reason doesn't manage to make this necessary parameter value shift, he will be stuck with the unmarked parameter value. Consequently, he will be using *to* and *ba* as conditional particles, even in cases where the consequent contains deontic modality. But the learner will have some positive evidence available along his way, and since he is learning Japanese in a classroom situation – which I will come back to in a moment – he will also have negative feedback as a guide to make the parameter resetting.

4. The experiment

The experimental group consisted of 12 Norwegian students, attending a two years course (4 semesters) in Japanese at Bergen University in Norway. The students received 120 hours of instruction each semester (1 hour = 45 minutes). I tested them at two occasions – the first time by the end of the first year, and the second time just before the end of the course.

The test was composed of two parts: a grammaticality judgement test and a translation test. As for the grammaticality judgement test, I asked the objects to combine antecedents containing *to, tara, ba, nara* with consequents containing *epistemic* and *deontic* modality. The example below is an attempt to reproduce a part of the test in English, just to give an impression of it's design. In this case *ba* was used as the conditional particle in the antecedent.

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A : I've wanted that CD for a long time...
B : If you want it that much ( ) you can just take it.
                            ( ) you must be a great fan of his.
                            ( ) why don't you buy it?
                            ( ) I'll give it to you.
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I asked the objects to give a circle to an acceptable combination, and a cross to an unacceptable one. Since the main verb in this example is non-dynamic, all the combinations are acceptable.

As for the translation test, the objects were presented 24 Norwegian conditional sentences − out of which 18 were containing deontic modality, and were asked to translate these into Japanese.

5. Results

Due to limited space, I am not able to review the results in detail. As for the grammaticality judgement test arranged by the end of the course, the correct answer rate for each item was as follows: *tara* 88%   *nara* 84%   *ba2* 80%   *to* 56%   *ba1* 36%.

Considering the test design, there is always a possibility that the objects for some reason judge correct sentences as incorrect, and therefore reject them. However, a breakdown of the answers show that the low rate of correct judgements concerning *ba1* and *to* can be ascribed to the fact that the objects do not consider modality restrictions. Another interesting observation is that some objects seem to have exchanged the parameter value of *ba1* for the parameter value of *ba2*.

Turning to the translation test, the individual results for both tests (1. and 2.) are shown below. The objects are marked with alphabetic letters from A to L. The number below each conditional particle indicates how many times it was applied. The number within the parenthesis indicates how many times it was applied incorrectly. Since *tara, ba2* and *nara* simply cannot be applied incorrectly with this test design, as they have no modal restrictions, the interesting information is to be found in the rows for *to* and *ba1*.

Table 4   The translation test

Object	to 1.	to 2.	tara 1.	tara 2.	ba1 1.	ba1 2.	ba2 1.	ba2 2.	nara 1.	nara 2.
A	4(2)	2(1)	13(0)	15(0)	6(5)	2(1)	1(0)	1(0)	0(0)	4(0)
B	6(4)	2(2)	9(0)	13(0)	6(6)	2(2)	2(0)	1(0)	1(0)	6(0)
C	7(5)	2(1)	10(0)	13(0)	4(4)	2(2)	2(0)	1(0)	1(0)	6(0)
D	1(0)	1(0)	16(0)	17(0)	0(0)	0(0)	1(0)	0(0)	6(0)	6(0)
E	5(5)	4(3)	9(0)	9(0)	4(1)	3(0)	2(0)	3(0)	4(0)	5(0)
F	4(2)	3(2)	8(0)	15(0)	5(3)	0(0)	3(0)	0(0)	4(0)	6(0)
G	6(4)	4(1)	8(0)	5(0)	7(7)	11(9)	0(0)	0(0)	3(0)	4(0)
H	2(1)	0(0)	11(0)	19(0)	3(3)	0(0)	2(0)	0(0)	6(0)	5(0)
I	10(8)	5(4)	13(0)	9(0)	1(1)	5(4)	0(0)	1(0)	0(0)	4(0)
J	0(0)	4(2)	18(0)	11(0)	0(0)	1(1)	1(0)	1(0)	5(0)	7(0)
K	4(0)	8(3)	7(0)	16(0)	10(9)	0(0)	3(0)	0(0)	0(0)'	0(0)
L	4(0)	3(0)	8(0)	9(0)	6(6)	7(5)	2(0)	0(0)	4(0)	5(0)
Total	53 (31)	38 (19)	129 (0)	151 (0)	52 (45)	34 (24)	19 (0)	8 (0)	34 (0)	58 (0)

As can be read from the table, many of the objects have not yet been able to reset the parameter from the unmarked value to the marked values, and therefore apply *to* and *ba* within the deontic modality area.

In sum, it can be concluded that *tara* and *nara* pose little or no acquisitional problems, while *to* and especially *ba* give the Norwegian learners a hard time. This shows that markedness relations, defined in terms of the Subset Principle, is an adequate tool to predict areas of relative difficulty in second language acquisition.

References

Akatsuka, N.(1985) Conditionals and the epistemic scale. *Language, vol.61/3,*pp.625 − 639.

Berwick, R.(1985) *The acquisition of syntactic knowledge.* Cambridge,Mass.:The MIT Press.

Den, H. (1989) Jookenbun wo tomonau fukubun. *Tookyoo gaikokugo daigaku nihongogaka nenpoo,11,*pp.59 − 76.

Hirakawa, M.(1990) A study of the L2 acquisition of English reflexives. *Second language Research, 6/1,*pp. 60 − 85

Inaba, Midori (1991) Nihongo jookenbun no imi ryooiki to chuukangengo koozoo. *Nihongo kyooiku, 75,*pp.87 − 99.

Maeda, N.(1991) Jookenbun bunrui − sankoo. *Tookyoo gaikokugo daigaku nihongogaka nenpoo,13,* pp.55- 79.

Maeda, N. (1995) Ba,nara,to,tara. In Miyaji&Nita(eds):*Nihongo ruigi hyoogen no bunpoo,* pp. 483 − 495.

Maeda, N. (1997) Gendai nihongo no jookenbun to sone shidoo. *Nihongo kyooshi no tame no kookai kenshuukooza, dai 13 kai,* pp. 1 − 33.

Palmer, F.R.(1986) *Mood and modality.* Cambridge University press.

Solvang, H. (1998) *Japanese conditional expressions from a Norwegian viewpoint.* Master thesis, Institute of Linguistics, Faculty of Letters, Hiroshima University

Wexler, K. & Manzini, M.R.(1987) Parameters and learnability in binding theory. In Roeper & Williams(eds):*Parameter setting,* pp. 41 − 76. Cambridge University press.

White, L.(1989) *Universal grammar and second language acquisition.* Amsterdam:John Benjamins.