Grammatica una et eadem est secundum substantiam in omnibus linguis, licet accidentaliter varietur : Reflections on Universal Grammar and the importance, or otherwise, of Language Diversity

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——Reflections on Universal Grammar and the importance, or otherwise, of Language Diversity——

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The notion of a 'Universal Grammar' has a long tradition in Western European thought, stretching back at least as far as the work of the 13th Century English philosopher Roger Bacon (1214-1294), who provided the Latin title to this piece[1]. In the present era, the idea of Universal Grammar (or 'UG') is most closely associated with Noam Chomsky and his followers, and is illustrated by the following quote:

> 'All languages, known and conceivable, are cut from the same pattern. ([1]' /Or consider this from Steven Pinker's book *The Language Instinct*:
>
> 'According to Chomsky, a visiting Martian scientist would surely conclude that apart from their mutually unintelligible vocabularies, Earthlings speak a single language ([2]: 232).'

This proposition has often been challenged. Throughout the history of linguistic thought, an opposing view has been propounded, namely, that there are fundamental and irreconcilable grammatical differences between languages, such that the underlying syntactic and semantic rules and categories that determine the grammar of one language are simply inapplicable to many others. Each language is *sui generis* ('its own kind'), as Latin scholars might say. As noted by Steiner (1972), this counter-proposal has also had a long tradition, from the Biblically-inspired thinking of medieval philosophers such as Pierre Helie in the 12th Century, through the writings of the German linguist Alexander von Humboldt, to the current work of linguists Nicholas Evans and Stephen Levinson, whose rejection of Language Universals is based on extensive fieldwork in ethnographic linguistics, rather than on religious authority.

Evans & Levinson (2009) begin their paper, appropriately entitled 'The Myth of Language Universals', with the following assertion:

> Languages are much more diverse in structure than cognitive scientists generally appreciate. A widespread assumption among cognitive scientists, growing out of the generative tradition in linguistics, is that all languages are English-like but with different sound systems and vocabularies. The true picture is very different: languages differ so fundamentally from one another at every level of description (sound, grammar, lexicon, meaning) that it is very hard to find any single structural property they share [3].

In the last century, rejection of language universals and of Universal Grammar was closely associated with the American Structuralist tradition: for example, with Martin Joos (1907-1978), who wrote: 'Languages (can) differ from each other without limit ... and in unpredictable ways (Joos 1957: 96)'; and, especially with the American linguist Edward Sapir, and his student Benjamin Lee Whorf, whose names combine to give the Sapir-Whorf (or Whorf-Sapir) Hypothesis, which not only assumes that languages are fundamentally different from one another, but which claims that these differences have a determining influence on the way we think, shaping our categories of thought, and constraining the ways in which we are able to perceive reality.

Perhaps the most often cited quotation concerning this proposal comes from Sapir (1929):

> The fact of the matter is that the 'real world' is to a large extent unconsciously built upon the language habits of the group ... No two languages are ever sufficiently similar to be considered as representing the same social reality. The worlds in which different societies live are distinct worlds, not merely the same world with different labels attached. ([4])

This quote highlights a profound implication of the strong relativist approach: *if* languages can vary without limit—and *if* the language we speak determines the shape of our concepts, the form and range of our thoughts—then speaking a different language implies a different way of seeing the world, not just a different way of communicating experience. It also suggests that translation, even by the most skilled interpreters, can never be fully successful: if you were to read this in Japanese, the message you would receive would not be exactly what you would have understood had you read it in English, not merely because we use different words, but because we operate with different conceptual categories. We can never really understand each other.

However, such a prospect should not be a cause for concern, since—to anticipate matters somewhat—the conclusion of this article will be that neither of the above premisses is true: that is to say, languages do *not* vary without limit, and the evidence that the language we speak fundamentally determines the thoughts we can entertain is in fact rather slim, despite indications to the contrary.

From a lay perspective, perhaps in the view of most readers, it seems obvious that the rejectionist position is correct. Languages surely are very different from one another at many levels, in their phonology (sound patterns and pronunciation), morphology (patterns of affixation and word-formation), and above all in their lexicons (their vocabulary). All of these differences present often insurmountable challenges to second language learners, most of whom struggle for years, spending a considerable amount of time, money and effort, to achieve a measure of fluency in, and mastery of, a language that is literally 'child's play' for any four year-old native-speaker. And almost all of us fall short of even this modest goal: only a tiny percentage of second language learners can ever 'pass for native'. The reasons why children acquire languages so easily are largely the subject of another lecture, though the fact that they do so uniformly provides significant motivation for the Chomskyan position, as we shall see.

What concerns us immediately, though, are the obvious difficulties that adults face. Surely, you may think, these difficulties are due to the fact that the *grammars* of natural languages are so different from one another. After all, if it was simply a matter of learning new words for things, Japanese learners of English should be at a great advantage over many other foreign learners, given the fact that Japanese has borrowed tens of thousands of English words into common usage (*gairaigo*), where many other languages have adapted native words to translate English terms.

Yet in spite of borrowing more English words than most other developed nations, this has not improved learning outcomes. Indeed, just the opposite seems to be true: in terms of English proficiency scores such as TOEIC, for example, Japan ranks close to the bottom in international league tables. Of course, there are some reasons for this that have nothing to do with language *per se*. Proportionately, many more Japanese than Chinese take the TOIEC exam—often before they are ready—and they repeat it over and over again, thus lowering the average. Nor is it clear that proficiency tests of this type have any genuine validity, if we are really concerned with knowledge and use of language, as opposed to standardized testing. But that is a debate for another day. In any case, problems with learning other languages are by no means restricted to Japanese learners. Native Anglophones fare little better: most monolingual British and American speakers' abilities in languages other than English are woeful, bordering on the abysmal. So there must be some other, more fundamental, reason why English is so hard for you; conversely, why Japanese is so difficult for me. Our grammars—perhaps even our modes of thought—must be really different. That's right? *Deshoo*?

In the rest of this article, I shall examine some of the evidence for and against Universal Grammar. Beginning with the Old Testament (Genesis 10-11), I will examine how the notion of Universal Grammar has developed over time, according to the religious, social and political views of contemporary commentators, and—more importantly—according to the available empirical evidence. I focus on two kinds of putative universal. First, I consider *semantic* universals, the idea that the words and sentences of different languages label—or map onto—a common (universal) set of underlying concepts: we may not share the labels, but we share the semantic concepts). After that, I'll consider *syntactic* universals, the idea that the abstract grammatical rules used to build

sentences share a common format, very possibly due to our biological inheritance, as Chomsky claims. It will be argued that although languages do vary in striking and often unexpected ways on the surface, and in spite of some important and interesting differences in the ways in which we use language to categorize our perceptions and to report on experience, the evidence nevertheless strongly favours a Universalist explanation, especially in the area of syntax, and speaks against Relativist alternatives.

In the spirit of the original invitation for this article[2], I begin with the Bible (though not with the New Testament: the Old Testament is the best I can do). In *In Search of the Perfect Language* the Italian author and philologist Umberto Eco [5] draws attention to a well-known inconsistency in the Book of Genesis. The familiar Tower of Babel story comes from Genesis 11:

> 5 And the Lord came down to see the city and the tower, which the children built. 6 And the Lord said, Behold, the people is one, and they have all one language; and this they begin to do; and now nothing will be restrained from them, which they have imagined to do. 7 Go to, let us go down, and there confound their language, that they may not understand one another's speech. 8 So the Lord scattered them abroad from thence upon the face of all the earth: and they left off to build the city. 9 Therefore is the name of it called Babel; because the Lord did there confound the language of all the earth: and from thence did the Lord scatter them abroad upon the face of all the earth.

From this event, according to common Judaeo-Christian understanding of the Old Testament, derives the diversity of human languages. Yet Eco reminds us that already in Genesis 10, there is mention of the (apparently) *pre-existing* diversity of human languages: there it is written that, of each of Noah's sons, Shem, Ham and Japheth, their tribes had each their own distinctive set of languages:

> 'The descendants of *Japheth* [there follows a long list of names] ... These are the descendants of Japheth in their lands, with their own language, by their families, in their nations ... 'The descendants of *Ham* ... [there follows another list of names] ... These are the descendants of Ham, by their families, their languages, their lands, and their nations ... 'To *Shem* also, the father of all the children of Eber, the elder brother of Japheth, children were born. The descendants of Shem ... [another list follows] ... these are the descendants of Shem, by their families, their languages, their lands, and their nations.

The clear implication of this genealogical discussion is that the languages of the descendants of Noah had diversified before the Lord destroyed the tower at Babel. Biblical scholars may debate the chronological order in Genesis, but whatever one's view of the origins of and reasons for linguistic diversity, the question that remains unanswered is the extent to which, *beneath the surface,* languages remain fundamentally the same; whether, to use a current biological metaphor, they 'share the same DNA'.

So are there universals of language? Over the centuries, commentators have had contrasting responses to this idea, ranging from universalists, including the thirteenth century *Doctor Mirabilis* ('wonderful teacher') Roger Bacon (1214–1294), to relativists such as Evans & Levinson. In detailing the history of universal claims, Cliff Goddard & Anna Wierzbicka pose the question:

> 'Why did Bacon believe this [viz., that [*g*]*rammatica una et eadem est ... in omnibus linguis*]? ... Because he believed that the fundamentals of grammar arise from fundamentals of human thought, which are shared by all people and all languages. This is the time-honoured tradition of universal grammar, now largely displaced by Chomsky's structure-based conception of UG in which meaning plays no real part (Goddard & Wierzbicka 1994: 6 [6]).'

Given the distinction drawn in this paragraph we now can ask at least two separate questions: are there universal 'fundamentals of grammar', independent of thought or meaning?; are there universal 'fundamentals of thought', independent of grammar? And what is the relationship between the two? In such a short and general article it is impossible to answer such questions; even given more space, it is unlikely that I would propose any interesting solution to problems that have vexed philosophers, linguists and religious thinkers for centuries—and cognitive psychologists, since the discipline was invented. Nevertheless, one *can* ask questions about the interface between language and thought—the ways in which we represent our thoughts linguistically—the theoretical

‘猫’
‘le chat
‘con mèo’

Figure 1. Words (labels) for CAT

study of which is called (cognitive) semantics. We can ask: are the semantic categories we construct the same in all languages? Does every language organize experience in the same way?

Let's begin with words and their meanings, since everyone is agreed that—if nothing else—it is words—in particular, the basic vocabulary of languages—that distinguish one language from another. When we travel aborad, it is a dictionary or phrase-book that we clutch in our sweaty palms—not a grammar; when we do this, it must be because we believe that it is more than a talisman, or good-luck charm. We must think that the dictionary or phrase-book holds the key to communicating our basic needs and desires. That may be true, but notice that this implicit belief is based on a universalist assumption that words are nothing more or less than labels for shared concepts: 'names for things.' When presented with an image of a cat, you may say '猫', the French speaker may say 'un chat', the Vietnamese speaker will utter 'con mèo', I may say 'cat', but the concept evoked in our minds by uttering these different sounds, we suppose, is roughly the same in each case. (Not precisely the same, of course: you may like or dislike cats, or be allergic to them, or have one at home, and these contingent facts may alter your mental model of the animal to some extent—but significantly, such variation is not linguistically determined: you can love or hate cats whatever language you speak.)

But matters are often more complex than this, since there are many cases where words in one language appear to label concepts for which another language has no specific lexical item. I am not talking here about words whose corresponding concepts are highly culture-specific, and where—rather than translating—we resort to direct borrowing: for example, when we borrow Japanese words such as *giri* or *wa*, or the Dutch word *gezellig,* or the German expression *Schadenfreude.* In such cases, it could be argued that we actually do have the concept —or are capable of grasping it, given sufficient cultural experience—we just don't have the label, which is why we borrow. Words like these present problems for translators and writers of phrase-books, since people generally insist that there should be a corresponding label in their language: in such cases, the translation that is offered is often a 'near neighbour,' which is where things become messy.

In fact, even more basic concepts cause problems. Let's talk about BREAD and WATER. Consider Fig. 2 below: how many pieces of bread can you see (altogether)?

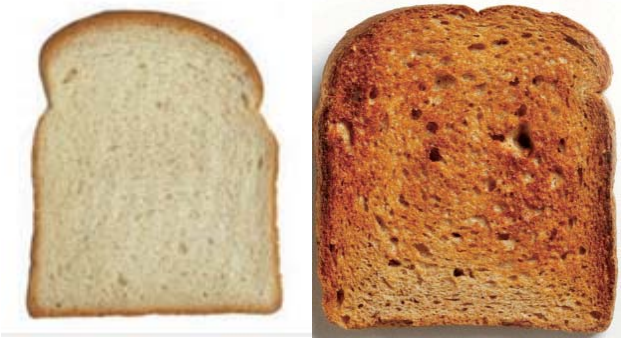

Figure 2. How many pieces of bread can you see?

Figure 3. How many containers of water can you see?

The correct answer (in English) is one. Why not two? Because the right-hand image is a picture of *toast*, and toast and bread are different things. Really: any 5-year old English child will tell you this. (I've done this experiment with my own boys, 5 and 10 years old, who are both adamant that there is only one piece of bread in Fig. 2.)[3)]

The converse effect is also found. Consider now Figure 3: how many containers of water are there?

In this case, it is evident to an English speaker that there are two vessels containing water. It is true that the water on the left is boiling, but this a purely contingent property: temperature variation－at least within the range from 0-+100 Celsius－does not disqualify a substance from being classified as 'water'. Yet most Japanese speakers would strongly disagree with this assessment: the left-hand picture shows '湯', and '湯' and '水' are as different for you as 'bread' and 'toast' are for me. '水' is cold by definition, just as 'bread' is by definition untoasted. This suggests rather clearly that English 'bread' and Japanese 'パン', English 'water' and Japanese '水' do not label the same concepts, but subtly different ones.

Examples like these show that though we might suppose we are talking about the same thing, often we are not. And yet there are two things to observe about these contrasts. The first is that in both cases, the difference is largely one of scope (or EXTENSION): the Japanese label 'パン' applies to a larger (more inclusive) set of referents, including what English speakers label 'toast'; conversely, the English word 'water' has a larger extension than Japanese '水', including water heated above 40 degrees Celsius (or whatever the boundary temperature between 湯 and 水 turns out to be). And we are both agreed that unbaked bread is 'dough/パン生地', and that frozen water is 'ice/氷'. This arrangement can be schematized as follows:

These are marked differences then, but hardly earth-shattering. The second point to observe is that though the vocabulary we use may influence the way in which we classify objects as we are talking about them－what Dan Slobin terms 'THINKING FOR SPEAKING' [7], this does not prevent us from sharing a deeper－common－understanding of the world. At some level, English speakers understand that bread and toast are much the same thing, just as Japanese speakers understand that 水 and 湯 are instances of much the same substance (H_2O): the fact that our respective labels are broader or narrower does not stop us from grasping each other's concepts.

When we look at some other words however, it is

Japanese	パン生地	パン		
English	dough	bread	toast	
Japanese	氷	水	湯	湯気
English	ice	water		steam

Table 1. The varying scope of linguistic labels

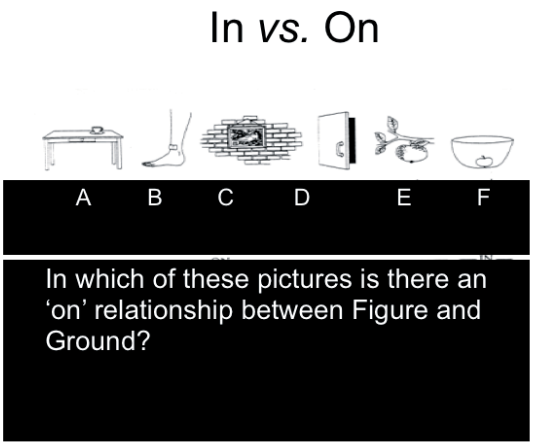

Figure 4. Conceptualizing spatial relationships (Ia: in vs. on)

much less clear that we can be said to share the same concepts. Take the English prepositions 'in' and 'on', as for example, as in the sentences 'The book is *in* the drawer' or 'The book is *on* the table.' In such cases, we seem to have an intuitive grasp of what English *in* and *on* mean: they correspond to the Japanese post-positional expressions の中 (に) and the の上 (に), respectively. But now consider Fig. 4, adapted from work by the psycholinguists Melissa Bowerman and Soonja Choi (Choi & Bowerman 1991 [8], also Bowerman & Choi 2001): in which cases can we say that the Figure object is *in* or *on* the Ground object?

It turns out that the answer to this question varies according to the language you speak. As revealed in Fig. 5, for English speakers *all* of the scenes except F can be described using 'on': the cup is *on* the table, the bandaid is *on* the leg, the picture is *on* the wall, the handle is *on* the door, the apple is *on* the tree; in F, the apple is *in* the bowl. Dutch speakers, by contrast, categorize these scenes quite differently: scenes A and B belong together —they are instances of '*op*', whereas C, D and E belong in a different conceptual category, instances of '*aan*'. The North African language Berber shows a different grouping again: here, A is the 'odd-one-out', while scenes B-F are construed as instantiating the same spatial relationship. And though Japanese accords with English concerning the cases at each end of the spectrum (A and F), the scenes in the middle simply don't form a natural conceptual category of any kind for most Japanese speakers Conversely, speakers of Castilian Spanish group all of these scenes together.

Thus, there is considerable diversity with respect to which scenes are viewed as being 'of the same kind', cognitively speaking. Notice that even here there are universals of a sort, for although there are languages in which the words corresponding to 'in' and 'on' span a narrower or broader range of situations, there are no languages that 'skip' scenes; for example, languages that

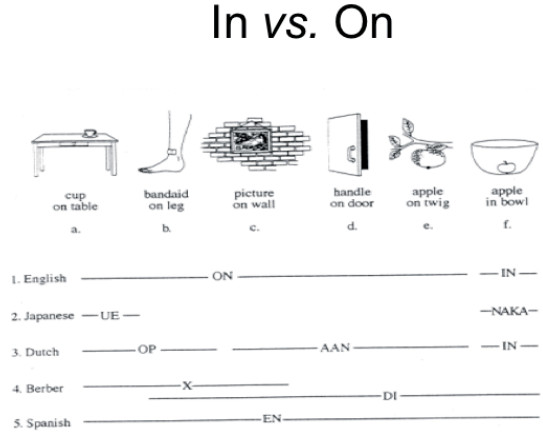

Figure 5. Conceptualizing spatial relationships (Ib. Linguistic Variation)

A. cigarette/packet B. ring/finger C. apple/plate D. apple/bowl

Figure 6. Conceptualizing spatial relationships (II 'Natural Fit')

use the same preposition for scenes A and C, but a different one to label scenes B and D. In technical jargon, we would say that there is a universal 'implicational hierarchy'.

In some other (related) cases, however, speakers of certain languages have labels for concepts that we find it difficult to imagine. In concluding our discussion of universals of semantic categories, consider Figure 6: with regard to spatial relationships, which of these pictures should be grouped together?

For English speakers, the natural categorization of these pictures is B and C, and A and D, respectively: B & C are both instances of 'on-ness' (the ring is *on* the finger, the apple is *on* the plate), while A and D both instantiate 'in-ness' (the cigarette is *in* the packet, the apple is *in* the bowl). Korean speakers, on the other hand, naturally group scenes A and B together, separately from C and D, labelling the first group with the predicate 'kkita'. Why do they do this? Because for Korean speakers the relevant property for grouping scenes is TIGHT-FIT *vs.* LOOSE-FIT: in scenes A and B, the figures objects (cigarette/ring) fit tightly and appropriately with/into the ground object (packet/finger, respectively). The notion of containment—being inside or outside some container—which is the defining property of English 'in-ness', is irrelevant for Korean speakers; thus, they see no common relationship between scenes A and D.

This evidence suggests that language-particular semantic categories can exert a strong influence on categorization and perception, since unless it is explicitly pointed out to them, English speakers are quite blind to a conceptual contrast that is 'blindingly obvious' to Koreans, and *vice versa*. Nevertheless, given time and sufficient experience, we are able to acquire new categories, which implies that though language influences our everyday perception, it does not definitively shape our representations of reality: we may be *guided* by our native language, but we are not *doomed* by it.

Before turning to the question of grammatical universals, specifically, universals of syntax—word-order and constituency—it is necessary to draw attention to an ambiguity inherent in the concept of universality. It can be observed that there are two possible senses of the term 'universal' in Universal Grammar: *either*, that all languages have essentially the same grammatical and semantic categories (with minor, superficial variations); *or,* that languages choose from a large, but finite, range of grammatical options. The two types of menu available in a typical European restaurant provide a helpful analogy. One one hand, one can choose the cheaper *menu du jour* (menu of the day), a highly constrained fixed-price list of consisting of two or three courses, with perhaps a maximum of two or three options for each course. Or there may be no choices at all, in which case, you receive exactly the same as everyone else: Universal Grammar as 'Hobson's choice'. Alternatively, one can order *à la carte,* from a much longer list of meal options. If one has time, money and a sense of adventure, the *carte* is a better choice than the *menu*. But even the *carte* is finite: there is an *infinite* number of potential meal options that the chef will *not* prepare; your choices are in fact limited, even if they extend over twenty pages!

Using this analogy, the question is whether UG is like the *menu* (highly restricted) or like the *carte*. Strong Universalists subscribe to the idea of UG as a *menu*; weak Universalists prefer the *carte* analogy; Strong Relativists, by contrast, do not believe that languages are constrained by any antecedently-given set of grammatical options: as far as they are concerned, "anything goes", as

Word Order	Example	Languages	
		Number	Percentage (%)
SOV	Japanese	180	45
SVO	English	168	42
VSO	Modern lrish	37	9
VOS	Malagasy	12	3
OVS	Hixkaryana	5	1
OSV	(Urubú)	0	0
	Sample Total	402	(100)

Table 2. Basic Word Order Typology

though the chef is prepared to make any palatable dish you may choose to order.

Space constraints preclude a discussion of all of the reasons for rejecting the Strong Relativist option: let it suffice to observe that research in language typology has taught us that though there are approximately 6000 languages spoken in the world today－and though there have probably been many thousand others spoken in the pastthere are *not* 6000 different varieties of grammar. Instead, what we observe repeatedly is that historically unrelated languages make use of the same grammatical options. For example, most of the Semitic languages of the Near and Middle East (a group that includes varieties of Arabic, as well as Modern Hebrew－a language family, incidently, named after *Shem* in Genesis 10) share very many structural characteristics with the Celtic languages of Western Europe (a set that includes Irish, Scots Gaelic, Welsh and Breton), and also some important commonalities with Maori and other Polynesian languages of the South Pacific. Conversely, despite nearly 1000 years of cultural and political dominance from China, Vietnamese shares more structural (syntactic) commonalities with English or French than with Mandarin Chinese. These striking structural similarities cannot come from a shared historical ancestor, nor from areal contact: the only remaining possibility－or so Chomskyan linguists conclude－is that they derive from a 'biological blue-print' for language which, like the menus in a restaurant, admit of a finite set of grammatical alternatives.

With this in mind, let us consider word-order across languages. We'll start with clausal word-order, the normal ordering of SUBJECT, OBJECT and VERB in a transitive clause. Though you may not have been explicitly taught this, you will know that English is basically an SVO language－the verb comes between the subject and the object－while Japanese is basically an SOV one (the verb typically comes at the end of the sentence following the subject and the object). Of course, both languages can deviate from these basic orders but the basic pattern is rather rigid, especially in English. Given this contrast, we can ask about other languages, and other possible word orders. Logically, there are six possible ways of ordering these three constituents: {SOV, SVO, VSO, VOS, OVS, OSV}. If there were no universal constraints on syntax, we might expect, *ceteris paribus,* a roughly equal distribution of the world's languages. Yet this is not the case, as demonstrated by extensive typological work, originating with the seminal research of the American linguist Joseph Greenberg (Greenberg 1963 [9]). Table 2 below, adapted from Whaley (1998) [10], shows that the languages of the world overwhelmingly fall into two syntactic groups: they are either SOV like Japanese, or SVO like English.

Moreover, theoretical research and closer examination of the minority categories have shown that VSO languages (like Modern Irish or Classical Arabic) and VOS languages (like the Austronesian language Malagasy) are in fact subtypes of SVO, in which in certain grammatical contexts the verb and or the subject are 'moved' from their underlying positions (just as in English constituent questions the 'wh-phrase' is moved from the position in which it is interpreted to the front of the clause):

(1) 'Who did you think that John said that Mary told Bill to visit?')

On this analysis then, over 98% of the world's languages in most samples are either basically SVO or SOV. So far, only one or two languages out of the estimated

6000 currently spoken in the world have been found to display object-initial word order as a basic word order (and the validity of even these data is contested). Notice that this contrasts sharply with the situation of *phonetics,* where one finds hundreds of (to us) weird and exotic variants: languages that distinguish several types of uvular or pharyngeal consonants that speakers of Japanese or English hardly hear as speech sounds; languages with as few as three distinct vowel contrasts. And it also contrasts with the situation in *lexical variation*—where word choice is normally considered to be completely arbitrary. Indeed, it is precisely the different choices that languages make in the form of their vocabularies that allows us to differentiate them in the first place—6000 different lexicons=6000 different language varieties.

So clausal syntax is quite different in this respect, instantiating only 1/3 of the logically possible choices. But when we look more closely into the syntax of SOV and SVO languages, we observe that this minor difference has far-reaching consequences, and that it partly explains the problem that we started with, namely, why Japanese is so difficult for English speakers but not for Koreans, and why Vietnamese—though lexically just as alien to English as Japanese is, and phonetically even more so—is relatively easy to acquire if you speak English or French. The answer to this puzzle is *not* that the grammars of English and Japanese differ in *many* ways, but rather that they differ in *one* way, consistently applied.

In order to appreciate this point, it is necessary to grasp the notion of constituency. Sentences are not simply strings of words: they consist of sub-groups of words—constituent *phrases*—and each phrase has a *head,* a key word that defines the phrase, and determines its position. So, for instance, the English sentence 'Many people study English in Japan' consists of three phrasal constituents: the subject noun-phrase 'many people', headed by *people,* a verb-phrase 'study English', headed by *study* and a prepositional phrase 'in Japan', headed by *in.* Often—though not always—words that are not heads of phrases can be omitted, leaving a grammatical sentence; for this reason, we can also say (grammatically) 'People study.' But the converse is not usually true: omission of heads results in 'Tarzan-talk', or worse—as in 'Many English in Japan'.

Notice that the position of the head of the verb-phrase in English matches that of the head of the prepositional phrase: both are head-initial, appearing before their complements. Indeed, *pre*positions are so-called—from Latin *pre* (meaning before)—precisely because they appear first; if they appeared after their complements they would be called *post*positions—from Latin *post,* meaning after, as in *post meridiem* (=pm='after midday'). Japanese of course has these postpositions, which comports with the head-finality of the verb in the verb-phrase (OV order): instead of [*in Japan*] you say [*Nihon de*], just as for [*study English*] is [*eigo-o benkyoo suru*].

In very short sentences, these two differences do not cause a problem, but as we add more and more phrasal constituents, English and Japanese diverge more and more. For it turns out that *every* phrasal consituent has a head, not just verb-phrases and adpositional phrases. So, subordinate clauses—both adjunct and complement clauses—are headed by a subordinating conjunction; in the case of sentential complements we call these elements complementizers. In English, complementizers precede the clause they modify, in Japanese they follow it, as in (2) and (3), respectively.

(2) a. [*After* [she left]], I turned off the lights and went to bed.
b. [*Because* [$_{S}$ it was raining]], I took an umbrella.
c. She [$_{VP}$ *thinks* [$_{CP}$ *that* [$_{S}$ those people are very rich]]].

(3) a. [[彼女が出て行った]後]
b. [[雨が降っていた]ので]
c.'[[あの人たちはとてもお金持ちだ]と]思う

In addition, theoretical research has shown that Tense and Negation are also heads of constituent phrases: these phrases contain the verb-phrase, just as the verb-phrase contains the object noun-phrase. Not surprisingly perhaps, these heads appear initially in English—before the verb-phrase—but finally in Japanese:

(4) a. Mr Smith [$_{TP}$ *did* [$_{NEGP}$ *not* [$_{VP}$ *receive* [$_{NP}$ the invitation]]]]
b. スミスさんは [[[招待状]-を $_{NP}$] 受けとら $_{VP}$] な $_{NEGP}$] かった $_{TP}$]

In short, at almost every level of grammatical structure, Japanese is consistently the 'mirror image' of English. As anyone who has tried mirror-writing knows, it's really difficult if everything is 'hantai', the wrong way

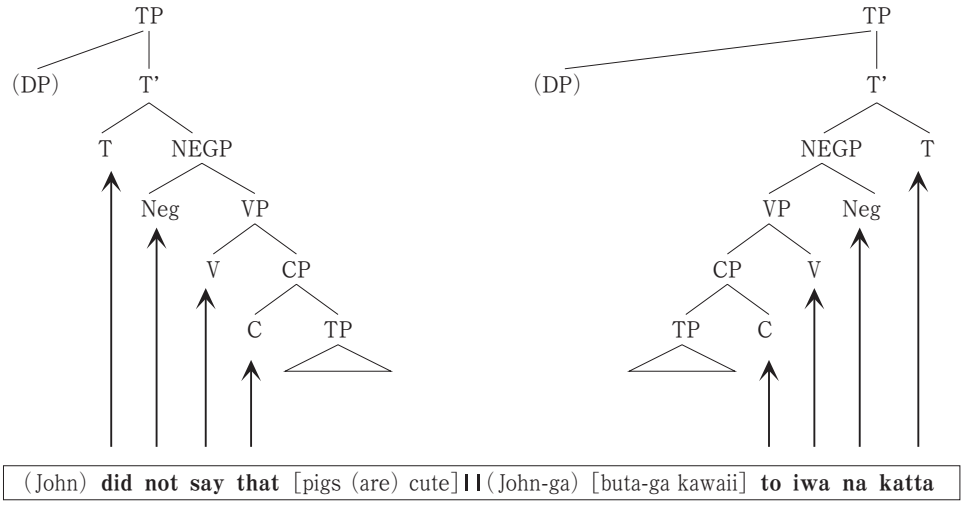

Figure 7. Consequences of syntactic headedness

around, and the longer the sentence gets, the harder it becomes to transform it correctly. Take a English sentence that combines all of the elements I've discussed separately:

(5) a. Mr Smith said that he had not received the invitation because he had been in France visiting his friends in Paris.

b. スミスさんはパリにいる友達を訪問してフランスにいたので招待状を受け取らなかったと言った。

c. GLOSS of (b): (Smith-Nom Paris-be-friend-Acc visiting France-Loc be because an invitation-Acc receive-not-did said)

In Japanese, these contituent phrases are pronounced in very nearly exactly the opposite order. Notice now that the Korean translation of the English sentence in (5a), in (6a), shows much the same word order as the Japanese sentence (in 5b), as shown by the gloss (word-for-word translation) in (6b), which is why Korean is a breeze if you're Japanese:

(6) a. 스미파리에 있친구를 방문하며 프랑 때 초대 받지 않았다고 말했.

b. (GLOSS) Smith-NOM Paris-in is friend-ACC visiting France-in had-been because invitation-ACC receive did-not-COMP said

Now consider the Vietnamese translation of this sentence in (7) below, which is glossed with English words (in 7b), to show the word-order more clearly:

(7) a. Ông Smith nói rằng ông đã không nhận.đu'ọ'c lò'i.mò'i vì ông đ' đu'ọ'c tại Pháp thăm bạn bè của mình ở' Paris.

b. Mr Smith say that he past not receive invitation because he past be in France visit friend of self in Paris.

It should be clear from (7) that once you learn the vocabulary, Vietnamese grammar is not a great stretch for English speakers; indeed, compared to Japanese, it's remarkably easy! However, the most important point to observe is that when we look at constituency *independently of linear order*, all four languages show the precisely the *same* hierarchical relations: the subject is always the top-most constituent; subordinate clauses are always headed by a subordinating conjunction (or complementizer); the phrase headed by Tense contains the phrase headed by Negation, which in turn contains the phrase headed by the Verb, which contains the phrase headed by the object noun. The only difference is in the position of the head in its phrase: heads are always peripheral, but they can be *initial* (to the left) as in English and Vietnamese, or *final* (to the right) as in Japanese and Korean. The parallels and differences are schematized in Fig. 7.

There are two main conclusions to be drawn from this discussion. The first is that this *grammatical* difference between these language types is not huge: in fact, it is completely trivial when one considers all of the logically possible grammatical rules that could—but don't—exist. However, the other conclusion is that this grammatically trivial difference has far-reaching implications for language processing, and for foreign language learning. Knowing

that English and Japanese have fundamentally the same grammar, considered hierarchically, doesn't make it any easier for us to process each other's sentences.

In summary, appearances can be deceptive. If one looks—or listens—merely to the surface form of language, one can sometimes imagine that things are more similar than they really are. In the case of *semantic* categorization (word meaning), our native languages mislead us into believing that everyone should draw the same distinctions between such everyday concepts as bread and water. On the other hand, when one considers grammar, sentence patterns that seem to be completely alien to our way of doing things turn out to be the result of a very minor variation in a universal grammatical rule: a universal menu with only two choices. In this sense, we can agree with Roger Bacon's assertion: 'Grammar is, in its essence, one and the same in all languages, even though it differs in superficial features.' Which is all just as well, really, otherwise we could not really understand each other at all.

Acknowledgement and Dedication

I should like to thank Kobe College Megumi Association for their invitation to give this talk, and more generally for generously supporting my stay at Kobe College during 2011-2012. I should also like to thank Ayumi Matsuo and Kook-Hee Gil for their help with the Japanese and Korean examples in the paper. All remaining errors are, as usual, my own. This version of the paper is dedicated to my 'too-soon-to-be-erstwhile' friend and colleague, David Rycroft: Konan University's own *Doctor Mirabilis*.

Notes

1) 'Grammar is, in its essence, one and the same in all languages, even though it differs in superficial features.' Jacobson (1923).
2) This is the text of a talk originally delivered as the Kobe College Megumi Association annual lecture in 2011, where I was in receipt of the Megumi Association Visiting Professorship. I was asked by the conference organizers to show the relation of my research to Christian values and teaching.
3) They give different answers though, if they are asked the same question in Japanese. They are equally clear that in Figure 1. there are two instances of 'pan' and in Figure 2, only the right-hand picture shows 'o-mizu'. Whether adult L2 learners display equally independent responses is an open question.

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