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WHORF MEETS WIERZBICKA:

VARIATION AND UNIVERSALS IN LANGUAGE AND THINKING

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> "the very essence of linguistics is the quest for meaning" (Whorf 1937: 78)

ABSTRACT: Probably no contemporary linguist has published as profusely on the connections between semantics, culture, and cognition as Anna Wierzbicka. This paper explores the similarities and differences between her "natural semantic metalanguage" (NSM) approach and the linguistic theory of Benjamin Lee Whorf. It shows that while some work by Wierzbicka and colleagues can be seen as "neo-Whorfian", other aspects of the NSM program are "counter-Whorfian". Issues considered include the meaning of linguistic relativity, the nature of conceptual universals and the consequences for semantic methodology, the importance of polysemy, and the scale and locus of semantic variation between languages, particularly in relation to the domain of time. Examples are drawn primarily from English, Russian, and Hopi.

§1. Introduction [Note 1]

The main aim of this study is to compare and contrast the linguistic work of Benjamin Lee Whorf (1897–1941) and that of Anna Wierzbicka (b. 1938). This is not an easy task because, as we will see, their starting points and theoretical priorities are rather different, which makes it difficult to compare them in terms of a single set of parameters or issues. For this reason, the paper has a somewhat "fugue-like" structure, considering first some similarities, then differences, then returning to similarities, and again to differences.

Before getting down to the matters of substance, it is worth taking note of some facts about the styles, backgrounds, and personal circumstances of these two outstanding linguists. One notable similarity is that both are eloquent writers in a discipline which has been, in recent times at least, conspicuously lacking in good writing. Whorf's numerous "quotable quotes" have probably contributed as much as his argumentation or use of evidence to keeping his ideas alive. It is indicative that Whorf's famous dictum that "we dissect nature along lines laid down by our native language" is the only substantive linguistic quotation to

appear in *The Oxford Dictionary of Quotations* [Note 2]. Both Whorf and Wierzbicka also write with passionate conviction, and neither is afraid to let their appreciation of the beauty of language show through. For example: "The harmony and scientific beauty in the whole system momentarily overwhelms one in a flood of aesthetic delight" (Whorf 1939b: 254); "... exploring and contemplating the dazzling beauty of the universe of meaning" (Wierzbicka 1996: 233). At a time in which most contemporary linguists express themselves in emotionless technical prose, these stylistic qualities have a special appeal for many people (while arousing uneasiness in others).

In relation to their backgrounds, however, there are marked differences between Benjamin Lee Whorf and Anna Wierzbicka. Whorf was a chemical engineer by training, and though his life-long interest in theosophy reflected and nurtured his mystical bent, his broader interests lay in science and the nature of reality. He was also, of course, an American, and a native speaker of the English language. Wierzbicka was born and educated in Poland; aside from her native tongue, Polish, she is fluent in English and Russian, and has a working knowledge of Italian, French and German. Her linguistic training was situated in the humanistic European tradition, which includes literature and stylistics as well as the study of language structures.

Their personal circumstances also differ. Remarkably, for someone is probably the best-known linguist of the 1930s, Whorf never had a secure full-time academic post from which he could develop his research program. This, and the fact that he died prematurely at age 44, mean that his theories were "emergent rather than fully developed" (Lee 1996: xvii). Wierzbicka has had a longer and more secure academic career, having been based at the Australian National University since 1973. Consequently, not only does her published output far exceed Whorf's, but there has been time for her theory to mature since its first exposition over 25 years ago. This is not to say that Wierzbicka's theory is free of inconsistency or that her program is already fully developed—on her own admission there is still a long way to go. My point is simply that Wierzbicka's theory is relatively more complete and developed than Whorf's, in virtue of the fact that she has been at it longer.

Coming now to matters of substance, I would identify the most important alignments between Whorf and Wierzbicka as follows: (a) the conviction that languages vary enormously in their semantic organisation in both lexicon and grammar, (b) the attempt to demonstrate this empirically by contrastive analysis of languages (neither is an "armchair semanticist"), and (c) the belief that these variations facilitate distinctive styles of thinking. As we will see, the two have significantly different views on the nature of meaning and on semantic methodology, but before moving to these differences of opinion it is important to spell out the nature of the link between linguistic semantics and thinking, as seen by Whorf and Wierzbicka.

Many linguists, psychologists, and philosophers who have contributed to the ongoing "Whorfian debate" (e.g. Lenneberg 1953, Fishman 1960, Black 1959, Lucy 1992) regard language and thought as essentially separate things. On this interpretation, Whorf popularised a "hypothesis" about how these separate things are related—specifically, that the particular language a person speaks will strongly influence how he or she thinks. But, as argued by Ellis (1993) and Lee (1994, 1996: 65-83), to dichotomise language and thought in this way is to be unfaithful to Whorf's thinking. In reality, Whorf held that language has a constitutive relationship with thinking, or, at least, with a certain distinctively human kind of thinking which we may call "linguistic thinking" or "conceptual thinking", cf. Enfield (2000).

Whorf's "principle of linguistic relativity" follows directly from his view of language as a vehicle for thinking. His first mention of the term "linguistic relativity" comes shortly after the following passage, which enunciates with particular clarity the proposition that language is integral to formulating thoughts [Note 3, 4]:

> .... the background linguistic system (in other words, the grammar) of each language is not merely a reproducing instrument for voicing ideas but rather is itself the shaper of ideas, the program and guide for the individual's mental activity ... Formulation of ideas is not an independent process, strictly rational in the old sense, but is part of a particular grammar, and differs, slightly or greatly, between different languages. (Whorf 1940a: 212-3)

Ellis (1993: 60) points out that this view of Whorf's shines through many of his descriptions of language-specific facts, in which the emphasis is on "the intricacy of thought *inherent in these languages*". For example:

> Many American Indian and African languages abound in finely wrought, beautifully logical discriminations about causation, action, result, dynamic energetic quality, directness of experience, etc., all matters of the function of thinking, indeed the quintessence of the rational. (Whorf 1937: 80)

Of course, Whorf recognised the existence of non-linguistic cognitive processes such as memory, attention and perception (in fact, these processes are very important to him; see below), but he took it for granted that linguistic thinking is the major component of what makes human cognition distinctive. Ellis (1993: 55-65) traces much of the confusion which afflicts the debate about Whorf's ideas to the insertion, by most critics, of an "unnecessary extra step" into Whorf's chain of reasoning: "It is only when theorists make language use separate from thought that they can then create the extra step of talking about the influence of one on the other, a step which is not possible if we remember that using language is a form of thought" (p57).

Whorf's view of language as constitutive of, or as inherent to, conceptual thinking is by no means his own innovation. Arguably, Whorf's teacher and mentor Edward Sapir was of the same opinion:

> ... the feeling entertained by many that they can think, or even reason, without language is an illusion. The illusion is due to a number of factors. The simplest of these is the failure to distinguish between imagery and thought. (Sapir 1921: 15-16)

Sapir, in turn, must have been influenced by a diverse set of opinions about the role of language in thinking, including a tradition extending through Humboldt, Herder, and Leibniz [Note 5], back to the Middle Ages (cf. Koerner 1992); and also by influential contemporaneous sources such as C. K. Ogden and I. A. Richards' (1923) book *The Meaning*

of Meaning, whose subtitle reads, in part, *A Study of the Influence of Language upon Thought* (cf. Joseph 1996).

Among contemporary linguists, the view that conceptual thinking is dependent upon language is strongly upheld by Anna Wierzbicka [Note 6]. To the annoyance of some critics, she, like Whorf, tends to take it for granted that language lays down "thought grooves" (in Sapir's phrase). For example, in the introduction to her 1979 paper 'Ethno-syntax and the philosophy of grammar' she wrote, without further justification:

> Since the syntactic constructions of a language embody and codify certain language-specific meanings and ways of thinking, the syntax of a language must determine to a considerable extent this language's cognitive profile. (Wierzbicka 1988[1979]: 169)

Given that for Whorf (and for Wierzbicka), it is axiomatic that language and (conceptual) thinking are inextricably intertwined, I think Ellis (1993) is correct to say that the real Whorfian question is not: How much does language influence thinking?, but rather: In what ways does the process of linguistic thinking differ from language to language? Whorf brought a freshness and sharpness to this question, firstly, by his efforts at contrastive analysis of European and indigenous American languages (especially Hopi); and secondly, by emphasising the importance of grammatical structures. Here again, there are parallels with Wierzbicka and colleagues, who have devoted considerable attention both to languages other than English and to investigating grammatical semantics (cf. especially Wierzbicka 1988).

So far we have seen that Whorf and Wierzbicka both recognise that languages differ very substantially in their semantic organisation, that both assume these differences are constitutive of differences in the habitual patterning of thought, and that both are interested in mapping out the extent of conceptual variation between languages by means of detailed studies in contrastive semantics (of grammar and lexicon). These points of convergence are substantial—especially if Whorf and Wierzbicka are being viewed against the background of anti-semantic Bloomfieldian or Chomskyan structuralists. There are also affinities in their descriptive work, especially in their shared concern for covert categories, and for discovering

"integrated fashions of speaking" which cross-cut lexicon, morphology, and syntax. These further affinities will be explored later in the paper, but it is important to recognise that there are also major differences between the two theorists in relation to the nature of meaning and semantic methodology.

To see these differences in perspective, it is important to recall that in the 1930s, when Whorf did his most important work, linguistic analysis in America was focused primarily on phonology and, to a lesser extent, on morphology. Semantics was in a rudimentary state, and the modern concept of syntax had yet to emerge. In the two decades immediately after Whorf's death, linguistics turned even further away from questions of meaning, which were regarded, in the Bloomfieldian view, as beyond the reach of scientific investigation. Needless to say, this intellectual climate was inimical to Whorf's ideas. If it had not been for the continued interest of anthropologists and philosophers, Whorf's legacy might not have survived the 1950s at all (even in the vulgarised form that has come down to us). The frustration felt by scholars of these allied disciplines is clear enough in the proceedings of the 1953 interdisciplinary conference on 'Interrelations of Language and Other Aspects of Culture', published as Hoijer (Ed. 1954) [Note 7]. Towards the end of the gathering, the anthropologist Alfred Kroeber remarked:

> it is not language as a whole, speech as a whole, that we are trying to correlate with culture, but the semantic aspects, which we have been seeing increasingly for three days the straight linguists are trying to throw out of their pure form linguistics. We need more work in semantics if this whole area we are discussing here is to be developed... before we talk about the interactions or interrelations of cultural and linguistic structure, we have to have more interest shown in semantics and a tangible body of results from work done in it. (Kroeber in Hoijer Ed. 1954: 235-6)

Acknowledging the undeveloped state of semantic methodology at the time, Stanley Newman (1954: 90) observed that although the topics of world-view, ethos, culture orientations, etc. are of intense interest to ethnologists and social scientists, the "measure of

the linguist's contribution ... will depend upon his ability to devise linguistically oriented methods for dealing with semantic data".

In the following two sections we address the respective views of Whorf and Wierzbicka on the nature of meaning and their methods for dealing with semantic data.

§2. Whorf's approach to meaning

Though Whorf's views on semantics are not particularly explicit, Lee (1996) has provided a convincing reconstruction of the position which is "emergent" in his later works. My account is indebted to her work (though I doubt if she would agree with me in all respects). Early in his career, before his contact with Sapir, Whorf apparently believed that all languages share "a common stock of conceptions, possibly possessing an as yet unstudied arrangement of its own ... [which] is in a sense the universal language to which the various specific languages give entrance" (Whorf 1927: 36). This view, and even the phrasing "common stock of conceptions", was not an uncommon one in the intellectual milieu of the times.

But as Whorf's knowledge of the linguistic science of the 1930s deepened, he seems to have relinquished his earlier view in favour of a more "configurative" interpretation of meaning. To understand this view we have to appreciate how impressed American linguists at that time were with the phoneme phenomenon; i.e., with the fact that perception of speech sounds is not wholly dependent upon their objective properties, but also on the phonemic system (or "pattern", as it was more commonly called) of the hearer's language. Here was a paradigm case of language-specific configurative properties influencing a person's judgement of whether entity (i.e. sound) X would be classed as the same as or as different to entity Y. Depending on the speaker's language, the very same continuum of sound would be experienced in terms of different ontological categories—and furthermore, the entire process was completely beneath the conscious awareness of anyone untutored in linguistics. The parallel should be obvious between this phenomenon and Whorf's familiar dictum that language imposes a conceptual grid upon experience.

If the phoneme phenomenon provided the template for Whorf's thinking on language-specific categories, a second phonological phenomenon seems to have inspired his

interpretation of language-specific syntax, which he referred to as "patterns of sentence structure". This second phenomenon is the existence of phonotactic rules. In two important articles Whorf (1940b, 1941) illustrated what he meant about "the 'geometry' of form principles characteristic of each language" (1941: 257) by adducing a phonotactic formula for English word-structure, and explaining how it constrains word-coining by English speakers. For example (1941: 254):

> O, C – ng, C_1C_2, C_3C_4, etc. ...
> s $\pm$ C_mC_n + V + (V_1) O, $\pm$ (r, w, y);
> C – h, $C_1C'_2$, $C_3C'_4$, etc. ...
> $C_mC'_n$ $\pm$ (t/d, s/z, st/zd).

(In this formula, commas are to be read as "or", O as Ø, and – as "except". Subscripted Cs—C_1, C_2, etc.—represent lists of assorted consonants.) A structural formula like this, according to Whorf, is internalised early in the child's language-learning career and becomes ingrained and automatic: "no sequence of sounds that deviates from it can be articulated without the greatest difficulty" (Whorf 1940b: 224).

In a similar fashion, language-specific morphosyntactic patterns ("SCHEMES of sentences and designs of sentence structure" (1941: 253)) guide the composition of thought in that language. Indeed, they constrain it within bonds which are no less unbreakable than those of phonotactic laws (until and unless they are brought to conscious awareness by linguistic analysis). Whorf doesn't give any examples of sentence structure patterns. He only remarks that they are very much more complex (like a page of calculus compared with a simple sum in addition), and then continues (in terms which are almost suggestive of Wierzbicka's semantic explications):

> It is usually more convenient to treat very complex patterns by successive paragraphs of precise sentences and simpler formulas, so arranged that each additional paragraph presupposes the previous ones, than to try to embrace all in one very complex formula. (Whorf 1940b: 230)

In any case, it seems evident that Whorf saw language-specific laws of "patternment" as governing both the fundamental "categories" of any individual language, and also the combinations ("forms") in which these categories may be composed.

> [E]very language is a vast pattern-system, different from others, in which are culturally ordained the forms and categories by which the personality not only communicates, but also analyses nature, notices or neglects types of relationship and phenomena, channels his reasoning, and builds the house of his consciousness. (Whorf 1942: 252)

Now, given that every language presents a distinctive configuration of meaning patterns, the question arises: How can meanings be studied and analysed across languages? The project would seem to call for "some kind of universal frame of reference, or at least, some kind of frame of reference which transcended the particular language or culture in the community being considered" (Kaplan, in Hoijer Ed. 1954: 218). Like most theorists of his time, Whorf assumed that meaning consisted of a relationship between linguistic units and some kind of extra-linguistic frame of reference. Of course, many people assume that such an extra-linguistic frame of reference is furnished by an objective, language-independent reality, but Benjamin Lee Whorf was hardly one to succumb to naive realism. Instead, he looked toward what Lee (1996: 115) describes as a "meta experiential" analytical frame, based on (putative) universals of experience and perception grounded in human physiology. Such universals, Whorf believed, were being discovered by the new Gestalt psychology (Koffka 1935), which Whorf sometimes referred to as "configurative psychology".

> In describing differences between languages in such respects we must have a way of describing phenomena by non-linguistic standards, and by terms that refer to experience as it must be to all human beings, irrespective of their languages or philosophies. This is possible, the way having been shown by Gestalt psychology.

> Visual perception is the standard, norm, and framework of all experience. (Whorf and Trager 1938: 259)

> ... visual perception is basically the same for all normal persons past infancy and conforms to definite laws, a large number of which are fairly well known. It is impossible to do more than touch on these laws, but they bring out clearly that the basal fact of visual perception is the relation of figure and ground, that perceptions are largely in the nature of outlines, contrasted more or less with the grounds, fields, and fillings of outlines, and that perception of motion or action is figural in type, or connected with the perception of at least a vague outline. (Whorf 1939b: 163)

Visual experience, according to Whorf, furnished a kind of template for all external experience—if not directly then indirectly via a process of "projection" which constitutes what he called the "external field". The similarity with Ronald Langacker's early formulations of cognitive grammar ("space grammar") are striking (cf. Langacker 1982, 1987). In addition, in some of his writings Whorf recognised that there were some genuinely "unvisual" experiences, which he referred to as belonging to the "egoic" field, "because the observer or ego feels himself, as it were, alone with these sensations or awarenesses" (1939b: 164).

> Moreover, the egoic field has its own Gestalt laws, of sense quality, rhythm, etc. which are universal. We can unhesitatingly class the referent of a lexeme of hearing, tasting, or smelling along with those of thinking, emotions, etc. in the egoic realm and apart from any lexeme referring to an experience having outline or motion... the referent of saying something is also egoic, because the observer introjects both his own and other people's speech, equating from it to his own egoic field of hearing or sound; and the referent of possessing or having is also egoic. (Whorf 1939b: 164)

The distinction between the "external" and "egoic" fields is not perfectly clear-cut, however, because of the existence of an "ambivalent borderland, as when a sensation is known by both modes".

As argued by Lee (1996), Whorf's interest in biologically determined "isolates of experience" makes him a predecessor of cognitive linguists like George Lakoff, Mark Johnson, and Ronald Langacker, who look to "experiential schemas" (aka "image schemes" or "kinaesthetic image schemas") for the universal underpinnings of conceptual meaning. Partly for this reason, Lakoff (1987: 330) identifies Whorf as a "pioneer in linguistics", and as "the most interesting linguist of his day".

Fascinating as this historical convergence is, however, it should not lead us to overlook certain difficulties which face a purely experientialist approach to semantics. It is hard to see how a "canon of reference" consisting wholly and solely of experiential schemas could capture the detail and complexity of lexical meanings; i.e. how experiential schemas could provide a sufficient basis for lexicography. In particular, like other empiricist approaches to cognition, Whorf's experientialism faces a problem in dealing with meanings which are not based on experiential phenomena in any obvious way (e.g. words like sincere, promise, work, mistake, and innumerable others; grammatical constructions such as the counterfactual). Until these difficulties can be overcome, a universal story about experiential Gestalts can hardly form a comprehensive basis for comparing (or "calibrating" to use Whorf's term) meanings across languages. How, one may wonder, can Whorf not have seen these difficulties?

The explanation for the apparent blindspot in Whorf's thinking is, in my opinion, the fact that he (like other linguists of his time) was not particularly interested in lexical meaning. What he was interested in, above all, was the constitution of the grammatical categories (form-classes) of different languages, which, in line with a tradition going back to classical times, he saw as related to the ontological (or metaphysical) categories of the thought-worlds associated with various languages. Whorf believed that the perceptual principles being discovered by Gestalt psychologists provided a framework which could make sense of the form-classes of languages as different as English and Hopi (Whorf and Trager 1938: 259-60, Whorf 1946: 163-64).

Personally, I do not doubt that experiential schemas can help explain some aspects of language. Certainly the notion has led to a promising research agenda (cf. for example, Lakoff 1987, 1990; Johnson 1987; Deane 1992; Newman 1996). But even if language is substantially "grounded" in pre-linguistic experiential structures, and is partially moulded by in these structures, this does not negate the conceptual content of language. We still need a framework for articulating the conceptual content of language-specific words and morphosyntactic categories in such a way that they can be compared across languages. Whorf's thinking—however inspirational it may be in other respects—does not help us in this respect.

Indeed, from a contemporary perspective Whorf's occasional comments on lexical semantics (e.g. 1942: 258-261) often seem naive, or, at least, obscure. Consider, for example:

> That part of meaning which is in words, and which we may call "reference", is only relatively fixed. Reference of words is at the mercy of the sentences and grammatical patterns in which they occur. And it is surprising to what a minimal amount this element of reference may be reduced. The sentence "I went all the way down there just in order to see Jack" contains only one fixed concrete reference: namely, "Jack". The rest is pattern attached to nothing specifically; even "see" obviously does not mean what one might suppose, namely, to receive a visual image. (Whorf 1942: 259)

What does Whorf mean by saying that most of his example sentence is "pattern attached to nothing specifically", by his apparent equation (elsewhere in the same discussion) between "having a fixed referent" and "having an exact meaning", by his statement that word meaning is "at the mercy of the sentences and grammatical patterns in which they occur"? In my interpretation, the answers can only be seen once we appreciate, firstly, that Whorf did not distinguish very clearly between meaning and reference, and secondly, that he did not have a clear concept of lexical polysemy. He seems to have regarded the meaning of a word as a fairly abstract "configurative" phenomenon, constituted by the potential range of contexts in

which it could occur. A word only acquires a specific meaning once it is in a grammatical context, and in this sense the meaning is "at the mercy" of the sentence structure; for example, the word *see* in the phrase *to see Jack* does not mean 'to receive a visual image (of Jack)', but something more like 'to meet (Jack)'. I think this is what Whorf is getting at, when, in another place, he says that meaning emerges from "the rapport between words" (Whorf 1937: 67)[Note 8].

But though it is all well and good for Whorf to stress, as many others have done, that words only manifest specific meanings when used in concrete utterances, it is not good enough to stop at that. For one thing, we still need a way of stating what the meaning is which is manifested in this or that particular utterance. Secondly, it is not the case that a word (such as *see*, for example) can manifest an unlimited number of interpretations depending on its "rapport" with other words; rather, the range of senses is confined to a finite set of determinable (polysemic) meanings. We therefore need a way of stating these different potential meanings, and showing how they are linked with different grammatical frames. Generally speaking, Whorf's thinking does not bear upon these goals. To put it bluntly, he apparently did not envisage—much less develop—a system of semantic representation in the modern sense.

On the question of grammatical meaning, Whorf's approach exhibits some implicit contradictions, or at least, tensions. He often writes as though he believed that many grammatical meanings (cryptotypes) were highly abstract and virtually impossible to describe faithfully in words (or at least, in words drawn from a language of an alien semantic type). But as Whorf's many critics have observed, this did not prevent him from attempting to do precisely that; e.g. explaining subtleties of Hopi semantics in English.

There is also an implicit, though less obvious, contradiction between Whorf's key concept of the "patternment" of grammatical meaning, and his approach to language typology. Taken seriously, the configurative conception of meaning implies the "ineffability" of grammatical meaning—because system-embedded patterns cannot be reproduced faithfully in a (non-isomorphic) foreign system [Note 9].

At the same time, however, Whorf had a "deep-seated concern for typology" (Hymes 1961: 444). The Yale Report has a strikingly modern tone in this respect. It calls for "the systematic view and classification of all known 'linguistic species', i.e. individual lgs, in order that science may obtain a comprehensive view of the human linguistic faculty as one large whole" (Whorf and Trager 1938: 255). He produced a typological framework (Whorf 1938), which, though unpublished till after his death, was widely circulated among his colleagues. Hymes describes as it "among the most representative and valuable pieces of Whorf's work".

To match linguistic categories across languages, however, as required for typological purposes, presupposes a notional (i.e. semantic) framework. To illustrate this point we only have to look at Whorf's own 'Language: Plan and conception of arrangement' (1938). Whorf includes mention of the marking of "action-goal" or "cause-effect" relationships, and of the possibility of "directive and instrumental elements, and body-part elements" occurring within the verb. He sets up categories of predication such as "copulative", "causal", "stative", "resultative". He provides for general "modulus categories" of "number (kinds 1, 2, 3, several, many, plural), collectivity and distribution, duration, tension (extension–duration), time or tense, comparison", for verbal aspects like "punctual, durative, perfective, imperfective, inceptive, continuative, progressive, frequentative, iterative, usitative, etc.", and for nominal categories such as cases, various categories of possession, and partitive. He also recognises "affective" modulus categories which "express speaker's feelings rather than an idea".

On reflection, it will be clear that none of these categories can be identified in any language without reference to semantic judgements. For example, how could one decide whether a particular morpheme deserves to be called a marker of a "cause-effect" relationship, or of a "durative" aspect, or of "partitive", without reference to semantic notions? Modern typologists recognise as much. For example, Greenberg (1966: 74) said about a rather similar list of categories: "I fully realize that in identifying such phenomena in languages of differing structure, one is basically employing semantic criteria". As Croft remarks in introducing his own discussion (1990: 11-18) of the cross-linguistic comparability

of categories: "this problem has commanded remarkably little attention relative to its importance". He concurs with Greenberg that "the ultimate solution is a semantic one, or to put it more generally, a functional solution".

In short, there is a genuine tension in Whorf's work about meaning. Often he adopts a strongly "configurative" tack, stresses the system-embeddedness of meaning categories, and looks to a future "psychology of experience" to provide a canon of reference which could allow us to mediate, albeit indirectly, between different meaning systems. At other times, he writes as though notions such as cause-effect, seeing, hearing, possession, duration, etc. can be safely assumed to be "common coin" for the purposes of cross-linguistic comparison. If Whorf had turned his hand to systematic lexicography, or if he had had time to further his program of typological research, this tension would have become obvious, and he would have had to face it, and (perhaps) resolve it. But this was not to be. Whorf left us with some inspirational writing about language and thinking, and a fascinating brew of ideas, but not with a coherent approach to semantic analysis.

§3. Wierzbicka's "natural semantic metalanguage" framework

Reflecting on the need for frames of reference for cross-linguistic comparison, Kaplan (in Hoijer Ed. 1954: 218; cf. p.33) asked "whether they were going to be looked for in perceptual terms, particularly the Gestalt of physiognomic phenomena... or whether there was some kind of semantic absolute that could be developed and fruitfully applied in this area". As representative of the first of these alternatives, Kaplan had Whorf in mind; and as representative of the second, he was alluding to Sapir's work on grading, totality, and the end-point relation. In contemporary times there is a much more thorough-going advocate of "semantic absolutes" in the person of Anna Wierzbicka.

Wierzbicka's system has come to be known as the "natural semantic metalanguage" (NSM) approach. (In case it is not already obvious, I should alert the reader to the fact that I am not a disinterested party. For some years I have been collaborating with Wierzbicka on the development and refinement of the theory.) The NSM approach began as an attempt to systematize the traditional definitional approach to lexical semantics, i.e. the approach which

seeks to state the meaning of a word (in a particular utterance) by means of an exact paraphrase in other words. As recognised by seventeenth century thinkers such as Arnauld, Descartes, Pascal, and, above all, Leibniz, this venture can only succeed if there exists a finite set of indefinable words (otherwise it will fall foul of arbitrariness and circularity, or sink into an infinite regress). Wierzbicka sought to identify the indefinable words (aka semantic primitives or semantic primes) by trial and error, i.e. by experimenting with lexical analysis in a wide range of domains. Her first proposed primitive set consisted of a mere 14 elements; the latest version numbers about 60 (Wierzbicka 1972, 1996). Examples include substantive and specifier-like elements such as I, YOU, SOMETHING/THING, SOMEONE, THIS, OTHER, ONE, and TWO, predicate-like elements such as DO, HAPPEN, MOVE, THINK, KNOW, WANT, and SAY, descriptive and evaluational elements like BIG, SMALL, GOOD and BAD, spatial and temporal elements such as WHERE/PLACE, HERE, ABOVE, BELOW, NEAR, FAR, WHEN/TIME, BEFORE, and AFTER, and logical elements such as BECAUSE, IF, NOT, CAN, and MAYBE. Notice that all these words are common items of basic English vocabulary.

We can already see an important difference between Whorf and Wierzbicka. When he wanted to calibrate the meaning systems of different languages, Whorf's instinct was to look outside language for some kind of common measure. If such a measure could not be found in the nature of objective reality, then perhaps (he thought) we can find it within our perceptual systems. In this respect his approach is that of Lockean empiricism, in that it seeks to ground knowledge in sensory experience. Wierzbicka, on the other hand, sees the analysis of conceptual meaning as a purely intra-linguistic procedure. We cannot, on her view, "escape from language" into some non-symbolic realm. Hers is a rationalist orientation, which accords no particular favour to sensory or perceptual explanations.

It is a central feature of Wierzbicka's system that the proposed semantic primes are identified with word-meanings of ordinary natural language. This means that they are directly accessible to linguistic intuition, and that they can be used to form natural language paraphrases which can be substituted in place of the term being defined. To the best of my knowledge, all other approaches which employ semantic primitives (e.g. Jackendoff 1990) represent the primitives by means of technical terms, abstract features, or logical symbols.

Among the drawbacks of "abstract" semantic primitives are that they not accessible to linguistic intuition (a curious paradox, since they are supposed to be the basis upon which comprehension rests), and that they cannot be used to form substitutable paraphrases, which makes them less open to disconfirmation on linguistic evidence (cf. Kempson 1977). However, to consider the merits and demerits of alternative systems would take us away from our main purpose here (cf. Goddard 1998b).

The NSM system of semantic representation does not, of course, consist solely of an inventory of semantic primes, but also of a syntax specifying the ways in which the primes can be combined to form phrases and sentences. Together, the semantic primes and their combinatorial syntax can be seen as the irreducible "semantic core" of any language—as the minimum vocabulary and minimum syntax necessary to adequately explicate all the semantically complex words and grammatical constructions in the language at large.

This brings us to some crucial questions: To what extent will the various "natural semantic metalanguages" derivable from individual languages coincide with one another? Would we find in all languages the same set of semantic primes, with the same set of combinatorial properties? And if not, what is the order and nature of inter-linguistic differences in primitive lexicon and syntax? As a starting point, Wierzbicka and colleagues have adopted—and sought to test—the hypothesis that the NSMs of different languages are fundamentally isomorphic. The quickest way to disconfirm this hypothesis would be to demonstrate that a number of firmly established semantic primes of English lack concrete exponents in other languages. So far this has not been shown. On the contrary, a substantial number of proposed primes have been shown to have discrete exponents in a sample of languages from around the world—languages as different as Malay, Lao, Ewe, Yankunytjatjara, and Japanese, to name only a few (Goddard and Wierzbicka Eds 1994, In press). To make this point more concrete, Table One below gives equivalents from three unrelated languages for a selection of semantic primes (Goddard In press a, Ameka 1994, Onishi 1994).

Table One: Lexical exponents of a selection of NSM primes in three languages

Substantives and specifiers: I, YOU, SOMETHING, SOMEONE; THIS, THE SAME, ONE, TWO, ALL
Malay: *aku, kau, sesuatu, seseorang, ini, yang sama, satu, dua, semua*
Ewe: *nye, wò, ame a•é, náné, sia, nenémá ké, •eká, eve, káta$*
Japanese: *ore, omae, nanika, dareka, kore, onazi, hito-/-iti, huta-/ni-, minna*
Eventive and mental predicates: DO, HAPPEN; THINK, WANT, KNOW
Malay: *buat, terjadi, bergerak, fikir, mahu, tahu*
Ewe: *wO, dzO, súsú/bu, dí, nyá*
Japanese: *suru, okiru, omou, hosii/-tai, sitte iru*
Descriptors and evaluators: BIG, SMALL; GOOD, BAD
Malay: *besar, kecil, baik, buruk*
Ewe: *gá, ví, nyó, vO*
Japanese: *ookii, tiisai, ii, warui*
Spatial and temporal elements: WHERE/PLACE, ABOVE, BELOW; WHEN/TIME, BEFORE, AFTER
Malay: *mana/tempat, atas, bawah; bila/masa, sebelum, selepas*
Ewe: *tefé, tame, té; VeyaVi/VeyiVi, NgO ná/háfi, megbé*
Japanese: *doko/tokoro, ue, sita; itu/toki, mae, ato*
Logical elements: BECAUSE, IF, NOT, CAN
Malay: *sebab, kalau, tidak, boleh*
Ewe: *ta/Núti, né, mé-, té Nú*
Japanese: *kara, moshi + -ba, iya, kamo sire-nai*

I hasten to add that it is not expected that lexical exponents of semantic primes in different languages will be equivalent in every respect. In particular, while it is claimed that the primary (simplest) sense of the exponent words can be matched across languages, it is recognised that their secondary, polysemic meanings may differ widely from language to language. For example, the English word *feel* and the Malay word *rasa* have the same primary sense, namely, the prime FEEL; but the English word *feel* has a secondary meaning related to "touching" which is not shared by the Malay word, while Malay *rasa* has a secondary meaning "taste" which is not shared by English *feel* (Goddard In press a). In other words, the equivalence is not at the level of the lexeme, but at the level of the lexical unit (where a lexical unit is defined as the pairing of a single specifiable sense (meaning) with a lexical form, and a lexeme consists of a family of lexical units; cf. Cruse 1986: 76-77) [Note 10].

It should also be pointed out that the term "lexical exponent" is used in a broad sense to include not only words, but also bound morphemes and phrasemes (fixed phrases). For example, in Yankunytjatjara the prime BECAUSE is expressed by the suffix *-nguṟu*; and in English the prime A LONG TIME is expressed by a phraseme (though in most languages the same meaning is conveyed by a single word, e.g. Malay *lama*, Yankunytjatjara *rawa*, Lao *don*). Even when exponents of semantic primes do take the form of single words, there is no need for them to be morphologically simple. For example, in English the words SOMEONE, MAYBE and INSIDE are morphologically complex. Semantic primes can also have variant forms (allolexes or allomorphs); for example, in English the word *thing* functions as an allolex of SOMETHING when it is combined with a determiner or quantifier (i.e. *this something = this thing*, *one something = one thing*).

All these factors mean that testing the cross-linguistic viability of the proposed lexical primes is no straightforward matter. It requires rich and reliable data, and careful language-internal analysis of polysemy, allolexy, etc. Cross-linguistic testing of this kind is still in progress, and it is too early to be definitive about the outcome. But to date no convincing evidence has come to light which would disconfirm the universal status of any of the proposed semantic primes. In general, therefore, the prospectus seems promising.

Research into the syntax of primes (Goddard Ed. 1997, Goddard and Wierzbicka Eds In press) indicates that it too is substantially universal—in the sense that there are certain combinations of primes which are possible in all languages. For example, it appears that in all languages one can use determiners and quantifiers to form expressions which are semantically equivalent to those in (1a); that one can form locative and temporal adjuncts as in (1b); that the exponents of DO and SAY will have alternative valency options matching those in (1c) and (1d); and that the mental predicates KNOW, THINK and WANT will be able to take complements as in (1e).

1a. this thing/person, the same thing/person, one thing/person, two things/people

1b. at this time, in this place, at the same time, in the same place

1c. person X did something; person X did something to person/thing Y; person X did something to person/thing Y with thing Z

1d. person X said something, person X said something to person Y, person X said something about person Z

1e. person X knows that something bad happened
person X thinks that something bad happened
person X wants to do something

Obviously, languages differ widely in the formal realisation of these combinations. For example, quantifiers may be formally predicate-like and bear agreement markers; adjuncts may or may not be distinguished by adpositions or affixes; verbal valency options may be indicated in various different ways (adpositions, case-markers, cross-referencing); complement clauses may be formally marked with specifically dependent verb-forms or be structurally identical with independent clauses; and so on. But formal differences like these do not necessarily compromise semantic equivalence. For a more comprehensive discussion of this matter, see Goddard and Wierzbicka (Eds, In press).

In Whorf's terms, one could say that Wierzbicka believes that there is a small collection of semantic "categories" (i.e. semantic primes) to be found in all languages; and furthermore that these combine into certain universal "sentence patterns" or "forms".

The NSM mini-language of semantic primes is an invaluable tool for cross-linguistic semantic analysis. For if we ensure that our paraphrases are composed solely within the semantic metalanguage, not only can we achieve maximal clarity and explicitness, we can also be sure that the explications can be transposed across languages with a minimum of distortion.

Talk of "explications" and "paraphrase" can make some people uncomfortable, especially if they are unfamiliar with the approach. It brings to mind the spectre of traditional, so-called "objectivist" methods of linguistic definition—lists of necessary and sufficient conditions, componential analysis, truth conditions, etc.—methods which, it is now widely appreciated, are unable to deal with the subjectivity and vagueness of many linguistic

meanings, or to accommodate prototypicality effects. To appreciate the character of explications in Wierzbicka's "natural semantic metalanguage" it is helpful to look briefly at a couple of examples from English.

Explication (A) shows a semantic description for the word *lie* (Wierzbicka 1990), which is fully compatible with the prototypicality effect described by Coleman and Kay (1981). Notice in particular that the final component is a reference to a social evaluation. From a syntactic point of view, the explication exemplifies the use of certain complement and argument structures, e.g. the "addressee" argument of SAY, the sentential complements of WANT and KNOW.

A. X *lied* to Y =

X said something to person Y

X knew it was not true

X said it because X wanted Y to think it was true

people think it is bad if someone does this

Explication (B), for the emotion term *happy*, shows how a prototypical cognitive scenario can be incorporated into an explication. The feeling experienced by X is not described directly; rather it is described as LIKE the good feeling experienced by a person who thinks certain prototypical thoughts. This approach to emotion semantics allows a great deal of subtle differentiation between closely related emotions (e.g. *happy*, *joyful*, *pleased*, *content*, *elated*, *jubilant*, and so on); cf. Wierzbicka (1999a: 51-54), Bardzokas and Dirven (1999).

B. X was *happy* =

X felt something (because X thought something)

sometimes a person thinks:

"some good things happened to me

I wanted things like this to happen

I don't want anything else now"

when this person thinks this, this person feels something good

X felt something like this

Of course, explications (A) and (B) could bear much further discussion and justification. Their role here is just to give some idea of what NSM explications look like, and to underline the point that although they are composed exclusively of proposed semantic primes, they are unlike other types of semantic representation precisely in being thoroughly "language-like". They are essentially "texts" composed in a specified subset of ordinary language.

From the exposition up to this point, it might appear that Wierzbicka's program is primarily about semantic universals. If so, what can she have in common with Whorf, whose emphasis was on semantic variation between languages? This question is easily resolved once it is realised that there is no necessary conflict between universalism and relativism. On the contrary: if one believes, as Wierzbicka does, that the number of semantic "absolutes" numbers only about 60 items with their associated syntactic patterns—then one is committed in principle to the proposition that the vast bulk of the vocabulary and syntax of any language is not language-universal, but language-specific.

Consistent with this conviction, Wierzbicka has produced numerous studies of language-specific semantics in a range of languages—studies of culture-specific lexical items (e.g. kin categories, colours, values, emotions, speech acts, natural kinds), of illocutionary devices (especially particles and conversational routines), of morphosyntax (e.g. number marking, passives, causatives, case constructions, evidentials). The languages she has written about are mainly European (English, Russian, German, Polish, Italian, Spanish), but include also Japanese and Chinese. Her colleagues have produced works on Japanese, Chinese, Ewe, French, Lao, Malay, Yankunytjatjara, Arrernte, and Maori, among others (Ameka 1990a, 1990b, 1994; Chappell 1986, 1991, 1994; Enfield 2001; Goddard 1991, 1994a, 1994b, 1995, 1996; Harkins 1995, 1996; Hasada 1996, 1997; Onishi 1994, 1997; Peeters 1993, 1997, Peeters and Eiszele 1997; Travis 1998; Wilkins 1986, 2000; Ye 2001, in press). A larger

bibliography of NSM work is available at the following URL (The NSM Homepage): www.une.edu.au/arts/LCL/disciplines/linguistics/nsmpage.htm.

"Every language encodes a certain universe of meanings", Wierzbicka (1988: 14) writes in the introduction to her book *The Semantics of Grammar*. And she goes on to argue that the introduction of a standardised semantic metalanguage can bring new rigour to the study of "ethno-grammar" as advocated by Humboldt, Bally, Baudoin de Courtenay, Boas, Sapir, and Whorf, among others. She quotes approvingly Humboldt's contention that all languages have, in addition to a certain number of universal, language-independent concepts, "a much larger number of concepts, and of grammatical features, which are so tightly woven into the individuality of a given language that they cannot be viewed as a common thread, and that cannot be transferred, without distortions, into other languages" (Humboldt 1963: 16-17). To exemplify domains in which "the philosophies built into the grammar of different languages" differ markedly, Wierzbicka nominates causation, emotion, sensation, body parts, volition, place, and time. Here the parallels with Whorf begin to resonate, as they do also in passages like the following:

> In natural language, meaning consists in human interpretation of the world. It is subjective, it is anthropocentric, it reflects predominant cultural concerns and culture-specific modes of social interaction as much as any objective features of the world 'as such' (Wierzbicka 1988: 2).

Shortly we will look at in more detail at some examples where, on Wierzbicka's analysis, "predominant cultural concerns and culture-specific modes of social interaction" are reflected in grammar and lexicon. But before that, there is one more question which deserves attention in relation to the comparison of Wierzbicka's approach with that of Whorf. How does Wierzbicka accommodate the "configurative" aspects of meaning which so engaged Whorf (and Sapir)? To answer this question, we have to realise that configurative effects can be ranged under two broad headings: (i) relationships between meanings, and (ii) relationships between meanings and form.

In the first category, we can distinguish at least two subcategories. First, there are relationships between meanings of different words, i.e. the kind of relationships which formed the central concern of lexical field theory and of componential analysis. The key fact here is that many words can be seen as falling into more or less natural semantic groupings (e.g. kinship terms, verbs of motion, emotions, etc.) Wierzbicka (1992) makes the point that to investigate the basis of the groupings and the interrelationships within them we need to be able to decompose the individual meanings into components.

> Proceeding in this way, we can often discover remarkable symmetries and regularities in the semantic structure of many words—as well as unexpected asymmetries and irregularities. We can discover self-contained fields of semantically related words with analogous semantic patterning. We can also discover irregular and open-ended networks or interlacing networks (Wierzbicka 1992: 210-211).

Second, there are relationships between different meanings of individual words, i.e. language-specific patterns of polysemy. For example, the multiple polysemic meanings of an English word like <u>see</u> (one of Whorf's examples) do not correspond with those of Yankunytjatjara *nyanganyi* (even though the simplest or "core" sense of the two words is the same). There are also language-specific patterns of phraseological combination; to use another of Whorf's examples, English *hand* in *his hand*, *hour hand*, *a good hand at gardening*, and *the upper hand*. Unlike these examples, there is also a good deal of regular polysemy in most languages (cf. Apresjan 1992); for example, the regular Russian polysemy between the name of a fruit and the name of the tree which bears the fruit. Obviously, there is no conflict between a decompositional approach to meaning and the study of patterns of polysemy. On the contrary, to articulate these patterns with precision requires that we be able to distinguish and analyse the individual meanings involved.

Relationships between meanings are "configurative" phenomena which are directly analysable in terms of paraphrase. It is important to acknowledge, however, that the same

does not apply to phenomena which concern the relationship between meanings and the form by which these meanings are expressed. Three subcategories will be mentioned here. The first concerns the effect of a word's sound-shape (or graphic shape), both in absolute terms, and in relation to its associations with the sound-shapes of other words. The second subcategory concerns formal composition of individual expressions, i.e. the morphemic makeup of a word or the lexemic makeup of a phraseme. Consider, for example, the English words *maybe* and *inside*. Formally, each consists of two parts which are identical to independent words, but, on the NSM analysis at least, the words *maybe* and *inside* are semantically indivisible (i.e. *maybe* ≠ *may* + *be*, *inside* ≠ *in* + *side*). In other words, there is a mismatch between the formal structure and the semantic structure. A third subcategory concerns the affiliation of particular words within a single "form class". For example, in many languages the words for locative relationships such as ABOVE, BELOW, and INSIDE are not fully adpositional in nature but are noun-like (e.g. they bear possessive affixes agreeing with the relatum); often they can be shown to derive historically from body-part nouns. In other cases, the relevant words are formally verb-like (e.g. they show verbal agreement with the relatum). In other words, there can be a certain amount of non-alignment between the form-classes of different languages. Though caution is necessary before conclusions can be drawn from such facts (if only because of the existence of covert classes, as emphasised by Whorf) it is possible that there is some sort of "form-feeling" effect attributable to the class membership [Note 11].

Within the NSM framework, such "intangible" semantic effects which inhere in the language-specific relationships between form and meaning, and which cannot be captured in paraphrases, are termed "resonance" effects (Goddard and Wierzbicka 1994: 36). In terms of the Peircean trichotomy of icon–index–symbol, resonance effects are indexical and/or iconic in nature, as opposed to the paraphrasable content of expressions which is symbolic in nature. The NSM method is primarily "tuned" to articulating symbolic meaning. As such, it is well suited to describing "configurative" aspects of meaning which are symbolic, but not so well suited to capturing "configurative" effects of an indexical or iconic nature. This is not to say that the NSM approach has nothing to offer the study of these matters. Firstly, and minimally, it can furnish an essential criterion to separate symbolic (i.e. paraphrasable) aspects of

meaning from indexical-iconic (i.e. non-paraphrasable) aspects of meaning. Secondly, though indexical-iconic aspects of meaning cannot be paraphrased, they can nonetheless be described; and I would expect that the NSM metalanguage will prove to be a valuable tool (one among many) for this purpose (cf. Goddard in press b).

Whether one is attracted to the symbolic-conceptual pole of language or to its indexical-iconic pole is, no doubt, to some extent a matter of taste. In any case, Wierzbicka's prodigious output of descriptive semantic studies primarily concern the symbolic aspects of linguistic meaning.

§4. "Neo-Whorfian" work by Wierzbicka

Despite the theoretical and methodological differences between Wierzbicka and Whorf, Wierzbicka's descriptive work often yields results which can be seen as broadly "neo-Whorfian", in the sense of discovering and elucidating language-specific semantic structures. Prominent examples include, among others, her study of the Japanese adversative passive, of person/body constructions in various European languages, of expressive derivation in Slavic languages, of syntactic reduplication in Italian, of covert categories of English number marking, and of evidential marking systems (cf. Wierzbicka 1988, 1993, 1996).

The two examples we will consider—"fatalism" in Russian and interpersonal causation in English—have been chosen to illustrate some further, finer points of comparison between the two linguists. One point is that, generally speaking, Whorf and Wierzbicka agree that major "semantic themes" will not be confined either to lexicon or to grammar, but will permeate the entire language. A well-known quotation from Whorf specifically concerns concepts of "time" and "matter". Whorf says that these concepts depend on the nature of our language or languages; but:

> They do not depend so much upon ANY ONE SYSTEM (e.g., tense, or nouns) within the grammar as upon ways of analysing and reporting experience which have become fixed in the language as integrated "fashions of speaking" and which cut across the typical grammatical distinctions, so that such a "fashion" may include lexical, morphological, syntactic and otherwise diverse means coordinated in a certain frame of consistency. (Whorf 1939a: 158)

In their treatment of language differences, however, there are some notable differences of emphasis between Wierzbicka and Whorf. First, much of Wierzbicka's descriptive work has focused on uncovering conceptual differences between European languages. Whorf seemed at best uninterested in, and at worst dismissive of, differences between European languages, which he often lumped together as "Standard Average European". Second, there is a difference in the kind of semantic domains which interest Whorf and Wierzbicka. Perhaps

naturally for a person with Whorf's scientific and mystical interests, he concentrated on linguistic conceptions of the physical world (matter, time, space, causation). As Singer (in Hoijer Ed. 1954: 233-4) pointed out at the 1953 Conference: "One misses in Whorf concepts of self, of social relations, interpersonal relations, and a lot of others which physicists are not interested in" [Note 12].

Wierzbicka's emphasis is quite the converse of Whorf's. She has tended to concentrate precisely on areas to do with the self, interpersonal relations, cultural practices, and so on. This is not purely a matter of personal taste. It would be fair to say, I think, that Wierzbicka believes that languages differ much more in these areas (in both grammar and lexicon) than they do in conceptions of the outside world. It should also be mentioned that despite the inclusion of "lexical means" in Whorf's conception of "integrated fashions of speaking", in general he placed greater emphasis on morphosyntax. Many contemporary linguists also assume that lexical semantics has only a relatively superficial influence on the shaping of thought. On Wierzbicka's view, this conventional wisdom is flawed. Unlike Whorf (and unlike most contemporary commentators), she has done a lot of "deep lexicography" and on the basis of this work she maintains that culture-laden vocabulary can have a profound influence on habitual patterns of thinking (see esp. Wierzbicka 1997a). But this is an issue we need not pursue here [Note 13].

Example One: "Fatalism" in Russian lexicon and grammar

Wierzbicka (1993, 1997a) argues that the Russian language furnishes an excellent example of a particular semantic theme (which can be roughly labelled "fatalism") manifesting itself across lexicon, phraseology, and syntax. At the lexical level, there is the highly salient and characteristically Russian concept of *sud'ba*. Though this word is usually translated as 'fate' or 'destiny', neither of these glosses is fully appropriate. *Sud'ba* is a way of looking at human life itself—as an incomprehensible experience which is at the mercy of outside forces but which must be embraced with resignation, almost with reverence. The attitude is well portrayed in this quotation from Vladimir Solev'ev's essay "Sud'ba Pus&kina" ('Pushkin's *sud'ba*'):

> There is something called *sud'ba*, something that is not material but that is nonetheless fully real. By *sud'ba*, I understand the fact that the course and the outcome of our life depends on something other than ourselves, on some overwhelming necessity to which we must submit. As a fact this is beyond question. (Solev'ev 1966-70, 9:34)

Lest the source of this quotation give the wrong impression, it is important to stress that the use of *sud'ba* is by no means restricted to literary or poetical contexts. *Sud'ba* is used very widely, in very different registers, from colloquial speech to scholarly discourse; and corpus counts show that it is far more common in Russian than words such as *fate* and *destiny* are in English. Indeed, according to Wierzbicka *sud'ba* deserves to be identified as a "key word" of Russian culture, i.e. as a word which designates a focal concept around which an entire cultural domain is organised. Explaining the concept of a "key word" further, she writes:

> A key word such as *dus&a* (roughly, 'soul') or *sud'ba* (roughly, 'fate') in Russian is like one loose end which we have managed to find in a tangled ball of wool: by pulling it, we may be able to unravel a whole tangled "ball" of attitudes, values, and expectations, embodied not only in words, but also in common collocations, in set phrases, in grammatical constructions, in proverbs, and so on. For example, *sud'ba* leads us to other "fate-related" words such as *suz&deno*, *smirenie*, *uc&ast'*, *z&rebij*, and *rok*, to collocations such as *udary sud'by* (roughly, 'blows of fate') or to set phrases such as *nic&ego ne podelaes&'* ('you can't do anything'), to grammatical constructions such as the whole plethora of impersonal dative-cum-infinitive constructions, highly characteristic of Russian syntax, to numerous proverbs, and so on. (Wierzbicka 1997a: Ch. 1).

Let us look a little more closely into some of the "impersonal dative-cum-infinitive" constructions referred to toward the end of this quotation. The following discussion and explications are based on Wierzbicka (1993: 108-116, 413-428), adapted in the light of subsequent work and additional information (Margolis 1997 p.c.). One fairly common construction is illustrated in (2a)-(2c). The construction has the form:

Negation + existential ('there isn't') – Person X:dative – Noun Y:genitive.

where, roughly speaking, the noun in the dative indicates someone (X) who could potentially benefit from "having" the noun in the genitive (Y).

2a. Ne budet tebe nikakogo moroz&ennogo.
NEG be:FUT:3sg 2sg:DAT NEG:GEN icecream:GEN
'There'll be no icecream for you (because you haven't picked up your toys).'

2b. Ne budet tebe pasporta.
NEG be:FUT3sg 2sg:DAT passport:GEN
'There'll be no passport for you.'

2c. No znaju, miru net pros&c&enija.
but know:1sg world:DAT NEG forgiveness:GEN
'I know there can be no forgiveness for the world.' (from a poem by Zinaida Gippius)

The semantic burden of the construction is to unequivocally rule out any possibility of X being able to obtain the beneficial and desired outcome; and at the same time to attribute this situation to the fact that someone in a superior position to X doesn't want it to happen. The identity of the implied powerful "someone" is not stated explicitly. In some contexts, as in (2a), it is obvious and quite specific, but it can also be rather vague: in (2b) the allusion is

presumably to some faceless Soviet "authorities", and in (2c) the allusion is presumably to God. Schematically, the construction can be explicated as follows:

3. Negation + existential ('there isn't') – Person X:dative – Noun Y:genitive =
   it would be good for X if X could have Y
   X wants to have Y
   I know: X cannot have Y
      because someone above X doesn't want it to happen

A second, even more "fatalistic", construction is not so common in everyday speech, but is highly characteristic of Russian folk literature. It has the canonical form:

Negation – Infinitive verb – Human noun:dative

Illustrated in (4a)-(4c) below, this construction refers to outcomes which are desirable but which can never eventuate because they were not "fated" to do so. Notice that the Russian sentences below do not contain any word corresponding to the word 'never' which appears in the glosses. Example (4a), for instance, has the form "not to-see for-you those presents". According to Galkina-Fedoruk (1958: 214): "this is the most often used, the most beloved form of expression in Russian folk speech; these negative-impersonal sentences occur very frequently in *byliny* (folk epic), in folksong, in proverbs and sayings".

4a. Ne vidat' tebe e%tix podarkov.
   NEG see:INF 2sg:DAT this:3plGEN present:3plGEN
   'You'll never see those presents.'

4b. Ne guljat' emu na vole.
   NEG walk:INF 3sg:DAT in will:PREP
   'He can never walk in freedom.'

4c. Ne raskryt' tebe svoi oc&en'ki jasnye,
NEG open:INF 2sg:DAT REFL:POSS:3pl eye:DIM:3pl clear:3pl

Ne vzmaxnut' tebe da ruc&en'ki belye,
NEG wave:INF 2sg:DAT EMPH arm:DIM:3pl white:3pl

Ox, da ne toptat' tebe doroz&ki torenye ...
EMPH EMPH NEG tread:INF 2sg:DAT road:DIM:3pl boarded:3pl

'You'll never open those bright little eyes, Those little white hands will never wave, Oh, and you will never set foot on boarded paths.' (an example from the folk genre of lamentation *plac&*, lit. a 'weep')

The meaning of this construction can be represented as in (5). The first part of the explication proclaims the impossibility of X's carrying out the desired act. The second part implies that the reason for this situation is somehow elusive and mysterious: if one wanted to state a reason, the best one could do would be to attribute it to the wishes of some power which is "above" humanity—in effect, an allusion to *sud'ba* "fate".

5. Negation – Infinitive Verb – Person X:dative =
person X wants to do something (Verb)
I know: X cannot do it
if someone wanted to say why X cannot do it, this person could say:
someone above people doesn't want this to happen

A third construction is not so literally "fatalistic", but certainly depicts a situation in which something happens to a person inexplicably, and, in a sense, irresistably. The

construction combines a dative human subject with a mental verb in the 3sg neuter reflexive form.

Human noun:dative – Mental verb:3sg(neut)Refl.

It implies that for some unknown reason the mental event simply "happens" inside us. For example: I may know that I am leaving soon, and yet I may still say *ne veritsja*, roughly, 'I just can't believe it'. The most important Russian expression of this sort is probably the ubiquitous xoc&etsja lit. 'it wants itself to me' (and the negated version *ne xoc&etsja*), which suggests a spontaneous and involuntary desire. In some ways the construction is parallel to English constructions like *It occurred to me...* or *It seemed to me...*, but whereas this pattern has a limited scope in English, in Russian it is both fully productive and extremely common. Some further examples are given in (6a)-(6b).

6a. Emu xotelos' slys&at' zvuk ee golosa.
3sg:DAT want:3sgREFL hear:INF sound 3sg:POSS voice:GEN
'He (felt he) wanted to hear the sound of her voice.'

6b. Segodnja mne vspomnilas' Praga— sady.
today 1sg:DAT remember:3sgREFL Prague garden:3pl
'Today I was reminded of Prague—of its gardens.'

(7) and (8) show semantic explications, using examples with negative and positive polarity, respectively:

7. Mne ne xoc&etsja/veritsja (lit. it doesn't want/believe itself to me') =
something happens inside me
because of this, I cannot want/believe this
I don't know why

8. Mne xoc&etsja (lit. it wants itself to me)
   something happens inside me
   because of this, I cannot not want this
   I don't know why

We have sampled only three of a large family of Russian grammatical constructions formed with infinitive verbs and with dative (or null) subjects, constructions which refer to things that happen to people against their will or irrespective of their will—to things which are more or less inexplicable but at the same time irresistable. One could also mention the extremely common use in colloquial Russian of impersonal modal predicates with dative subjects, such as *neobxodimo* 'it is indispensable', *nel'zja* 'one may not', *nado* 'it is necessary', *nuz&no* 'it is necessary/required', *sleduet* 'one ought to', and *dolz&no* 'one has to'; and the sundry infinitive and reflexive constructions conveying meanings related to "helplessness", obligation, and necessity, described by Bogus¬awski and Karolak (1970: 35) as one of the most characteristic features of the Russian language.

On Wierzbicka's analysis the grammar of the Russian language is permeated with "a theme which runs through the entire Russian language and culture: the theme of *sud'ba*, of not being in control, of living in a world which is unknowable and which cannot be rationally controlled" (1993: 435). She has no hesitation in asserting that the lexico-grammar of the Russian language both reflects, and encourages, a tendency to view the world in these terms.

Example Two: Interpersonal causation in English

If we compare the inventories of speech-act verbs in European languages, we find marked differences not only in the size of the speech-act lexicon, but also in the concentrations of particular kinds of speech-act verbs. Compared with other European languages, English has a relative proliferation of "directives", as can be seen by comparing the lists below which show English and Russian directives. List (a) shows English words

which have rough equivalents in Russian. List (b) shows those without any direct lexical equivalents in Russian (Wierzbicka 1988: 251-3).

a. *velet'*, *prikazyvat* 'order', *komandovat'* 'command', *trebovat'* 'demand', *rasporjazat'sja* 'direct', *prosit'* 'ask', *umoljat'* 'beg', *predlogat'* 'propose', *sovetovat'* 'advise', *ugovorivat'* 'persuade', *porucit'* 'charge', *predpisat'* 'prescribe'

b. request, implore, beseech, entreat, plead, suggest, require, instruct, urge, apply, advocate, intercede, counsel, appeal, decree, enjoin, ordain, book, authorise, commission

Wierzbicka suggests that the lexical elaboration in English directives indicates that Anglo culture is specially interested, so to speak, in different "strategies of human interaction" and in particular with specifying the interplay between causation and volition (cf. Bally 1920). This would be consonant with widely recognised "Anglo" cultural themes such as individualism and personal autonomy.

Wierzbicka (1998) argues that the same tendency is reflected in the wealth of English causative constructions in the area of "interpersonal relations". Certainly, the subtle distinctions English draws between *having* someone do something, *getting* them to do it, and *making* them do it, are absent from many languages. To get some idea of the semantic nuances involved, let us look briefly at these three constructions, in each case confining ourselves to verbs depicting intentional actions [Note 14]. For reasons of space the treatment must be highly abbreviated.

The *have* causative is illustrated by examples like those in (9). Sentences like these imply the existence of a hierarchical relationship, at least within some particular sphere. Within this sphere, the causee's readiness to take directions can be assumed. No special pressure is required. It is sufficient that causee be made aware of the causer's wishes, which do not have to be expressed directly but can be conveyed via another person. The *have* causative of the form *Person X had person Y do Z* can be explicated as in (10).

9. She had her secretary type the letters.

   He had his driver bring the car round.

   He had his tailor make up an exact copy of the suit.

10. Person X *had* person Y do Z =

    X wanted Y do something (Z)

    X wanted Y to know this

    because of this, X said something to someone

    because of this, Y did Z

    X knew that when he/she says something like this about something like this,

    Y cannot say: 'I don't want to do this'

The *get* causative can be illustrated with sentences like those in (11). The construction implies that the action is not imposed on the causee by virtue of the causer's power or authority. Rather, realizing that the causee may not want to comply, the causer does something [Note 15] to the causee in the expectation that this might influence the causee so that he or she will do the desired action willingly. And indeed, this happens. The strategy used by the causer smacks a little of manipulation, for the causee's action is brought about by the causer's, rather than the causee's, will. Nonetheless, *getting* someone to do something cannot be seen as real manipulation, for the causer does not conceal his or her goal and the causee is not acting *against* his or her will (i.e., there is no assumption that the causee doesn't want to do what the causer wants). The overall semantic conditions on *get* constructions of this type can be summarized as in (12).

11. Libby got Jeff to type the letters.

    Clancy got Phoebe do his work homework for him.

    I might get you to sign this.

12. Person X *got* person Y to do Z =

X wanted Y to do Z

X knew that if Y didn't want to do it, Y would not do it

at the same time X thought that if Y thought 'I want to do it', Y would do it

because of this, X did (said) something to Y

because of this, Y thought 'I want to do Z'

because of this, Y did Z

The *make* causative of the kind under discussion is found in examples like those in (13). These sentences imply that the causee does something unwillingly, in response to some kind of pressure (threats, parental authority, nagging, etc.) from the causer. They also imply that the causee acts deliberately to bring about this result; i.e., that the causer realises that some "coercive" action is necessary to bring about the desired effect (because otherwise the causee will not do it). However, if we compare *X made Y do Z* with *X forced Y to do Z*, we can discern that Y's will is not completely overridden in the "*make* of coercion" construction. When we *make* someone do something, we achieve the outcome by bringing them to realise that they have no choice but to do it. This effect can be captured in explication (14).

13. She made him eat fish.

    They made me repeat the story over and over.

    Maria made Peter apologise.

14. Person X *made* person Y do Z =

    X wanted Y to do Z

    X knew that if X didn't do something to Y, Y wouldn't do it

    because of this, X did something to Y

    because of this, after this Y thought: 'I have to do Z'

    because of this, Y did Z

Of course, a much lengthier treatment would be needed to fully discuss and justify these proposed explications for the *have*, *get*, and *make* causatives. But even without granting their validity at the level of fine detail, I think the explications are sufficient to make the point that the three English constructions encode complex and subtle scenarios of interpersonal causation, and, hopefully, to at least render plausible Wierzbicka's contention that they reflect a characteristic "Anglo" interest in personal autonomy and different modes of interpersonal influence.

In this section, we have taken the time to look into only two of Wierzbicka's numerous studies of language-specific semantics. On account of her corpus of such works she is often regarded—rightly in a sense—as an extreme "relativist" in the Whorfian mould. But at the same time she is also a "universalist", and it is to this work that we now turn.

§4. "Counter-Whorfian" work by Wierzbicka and colleagues

In tandem with her attempts to demonstrate that languages differ subtly but remarkably in grammatical and lexical semantics, Wierzbicka has also been maintaining a research program which can be seen as "counter-Whorfian"—namely, the attempt to discover a full set of universal indefinable meanings (semantic primes). For, of course, if a universal set of semantic primes exists, it sets a lower boundary on the amount of semantic variation between languages. Wierzbicka and colleagues maintain, for example, that there are certain universal determiner-like and quantifier-like concepts (e.g. THIS, THE SAME, OTHER, ONE, TWO, MANY/MUCH, ALL, and SOME), certain universal "mental predicates" (e.g. THINK, KNOW, WANT, FEEL), certain universal "event" predicates (e.g. DO, HAPPEN, MOVE), certain universal "logical" concepts (IF, NOT, BECAUSE, CAN, MAYBE), certain universal "spatial" concepts (WHERE/PLACE, HERE, ABOVE, BELOW, NEAR, FAR), and so on.

Perhaps the most prominent area in which Whorf and Wierzbicka are in conflict (in this respect) concerns the domain of time. Wierzbicka claims that, notwithstanding language-specific polysemies and metaphorical overlaps, there are universal temporal concepts shared by languages as diverse as English and Hopi (WHEN/TIME, NOW, BEFORE, AFTER, A LONG

TIME, A SHORT TIME, FOR SOME TIME). In other words, the claim is that the conceptual fundamentals of time are universal.

The conceptualisation of "time" in Hopi (as contrasted with so-called Standard Average European) is, of course, Whorf's best-known example of a striking difference in linguistic conceptualisation. Since the publication of Ekkehart Malotki's monograph *Hopi Time* (1983), whose overall conclusion was that "Whorf's claims about Hopi time conception being radically different from ours does... not hold" (1983: 530), admirers of Whorf have tended to play down his emphasis on Hopi time, and on Hopi generally. But at the same time, they have not addressed Malotki's data squarely. For example, in a book-length study devoted to the linguistic relativity hypothesis, Lucy (1992: 286) can find space to mention Malotki's work only once, in a footnote; and this is to dismiss it with the observation that Whorf "consistently uses quotation marks to distinguish our Western, objectified view of 'time' from a more linguistically neutral view of time" which can be found even in Hopi. Critics such as Malotki, says Lucy, "typically ignore this subtlety" [Note 16].

It is true that Whorf sometimes—by no means always—enclosed "time" in quotation marks, and that he sometimes wrote as if he wished to allow the possibility that Lucy refers to; for example, when he says that the Hopi do not have a "general notion or intuition of TIME as a smooth flowing continuum in which everything in the universe proceeds at an equal rate, out of a future, through the present, into a past" (Whorf 1936: 57). It is also true that occasionally Whorf mentioned the idea that there is an experiential "sense of becoming later" which is probably the same for all humans; and that he admitted that Hopi "recognises 'psychological time', which is much like Bergson's 'duration', but this 'time' is quite unlike the mathematical time, *T*, used by our physicists" (Whorf 1940a: 216). But even granted all this, it remains a fact that the notion that Hopi is "a timeless language" has played an enormous role in the Whorfian debate, as have Whorf's assertions that insofar as temporal notions exist in Hopi, they are never reified as concrete, countable entities, and are never referred to by way of spatial metaphors.

In fact, Whorf claimed spatial (or physical) metaphors were altogether absent from Hopi phraseology: not just in relation to time, but also in relation to other abstract domains, such as the domain of cognition.

> The absence of such metaphor from Hopi speech is striking. Use of space terms where there is no space involved is NOT THERE—as if on it had been laid the taboo teetotal! (Whorf 1939: 146).

Despite protestations by Lucy and others that Whorf has been misunderstood, it must surely be a matter of some consequence if Whorf's assertions about Hopi can be shown to be incorrect (or misleading, misguided, etc.). It strikes me as exceedingly odd that there is so little interest in the facts about this language Hopi, which can lay claim to being one of the most celebrated languages in linguistics. Already back in the 1950s, Kroeber and Greenberg (in Hoijer Ed 1954: 274) stressed that there were "tremendous gaps on the most vital points" concerning Hopi, and that a full linguistic description is required if we are to evaluate that part of Whorf's theories which relate specifically to Hopi. But many people who discuss Whorf's ideas about Hopi, and even regard him as an expert on Hopi culture, do not realise that Whorf never published a complete grammar of Hopi and that he only spent a month or so on fieldwork, obtaining most of his data via a Hopi consultant (Mr. Ernest Naquayouma), a longstanding resident of New York [Note 17]. In the *Language, Thought and Reality* (Carroll Ed. 1956) anthology, not a single naturally-occurring sentence of Hopi is cited.

Malotki's objective was to "close the linguistic data gap concerning Hopi time". To this end he spent years in Hopi villages learning to speak the language and to discuss linguistic questions in Hopi. His work *Hopi Time* (Malotki 1983), which cites over 1,500 naturally-occurring examples, was received favourably by specialists in Uto-Aztecan languages; for example, Shaul (1985: 483) describes it as "exhaustive, accurate, and bristling with detail". In my view, Malotki shows conclusively that Whorf was seriously misleading—if not downright wrong—in his claims about temporality in Hopi. Malotki documents dozens of ways in which the Hopi routinely speak about temporal sequentiality, about things happening at particular

times or simultaneously, about time periods, and about duration. He also documents important Hopi agricultural and ceremonial practices which depended on keeping track of time, which they did with the aid of elaborate calendrical systems.

At this point, the discussion of Whorf's work on Hopi has a tendency to break down. Critics of Whorf quote various of his statements which appear to be contradicted by Malotki's data. Supporters counter that the critics haven't understood what Whorf really meant, and that even if Whorf was mistaken on a few linguistic details his overall contention that the Hopi have a fundamentally different conceptualisation of time is valid. In my view, a good deal of the confusion is caused by a lack of agreement about what exactly constitutes a "fundamentally" different conceptualisation of time. From the perspective of NSM theory there is a clear—and testable—criterion as to whether Hopi embodies fundamentally different temporal concepts to English. It is simply this: Does the Hopi language contain exponents of the same temporal primes as English, or does it not?

From Malotki's invaluable work, it seems possible to identify plausible Hopi candidates for the full set of proposed temporal primes, and I will now try to show this. There are of course dangers for a non-specialist in undertaking such a project, but I think that the issue of the alleged "uniqueness" of Hopi time is important enough to take the chance. To begin with, however, a cautionary note. As discussed in §3, one would not expect to find in Hopi (or in any language) words which are equivalent in every way to the English exponents of the temporal primes. For example, one would not expect to find a Hopi word with a range of polysemic meanings and uses identical to those of the English word *time*; including, for example, its various uses as an abstract noun (in expressions like *We didn't have time*, *Time flie*s, *Times have changed*), and its role in phrasemes such as *a long time*, in compounds such as *lunchtime*, and sundry other highly English-specific expressions. These English-specific usages do not represent examples of the proposed semantic prime WHEN/TIME. What we are seeking is equivalents of WHEN/TIME in a narrow range of basic, and putatively universal, syntactic combinations, such as I DON'T KNOW WHEN THIS HAPPENED, IT HAPPENED AT THIS TIME, THEY DID IT AT THE SAME TIME, and so on.

On this understanding, we may say that the Hopi equivalent to WHEN, both as an indefinite and as an interrogative is *hisat*. Morphologically this word is analysable as a question formative *hi-* (much like English *wh-*) and *-sat* 'time'; see (15). Malotki further divides *-sat* into a formative *-sa-*, which is found in several other quantity-related grammatical words, and an otherwise unattested suffix *-t*, but semantically *-sat* appears to function as single meaningful unit. In particular, *-sat* can combine with demonstratives *yàa-* 'this' and *pàa-* 'that' to form the expressions *yàa-sat* 'at this time' and *pàa-sat* 'at that time', as shown in (16). (I have altered Malotki's glosses to reflect this difference in our analyses, and for simplicity, I have omitted indications of categories indexed by Ø-morphemes [Note 18, 19].)

15. Pam hisat nima?
    that when go.home
    When did he go home? (Malotki 1983: 305)

16. Taavok yàa-sat=haqam pay nu' tsöng-moki.
    yesterday this-time=APPROX ASSR I hunger-die
    Yesterday at about this time I got really hungry. (Malotki 1983: 146)

17. ...pàa-sat=ham pu' pam piw maana-t taa-ay-na.
    that-time=APPROX then again girl-ACC RDP-awake-CAUS
    ... around that time then he woke up the girl again. (Malotki 1983: frontispiece)

To understand the Hopi expression for AT THE SAME TIME, we must first note that the Hopi exponent of THE SAME has the basic form *suu-/sú-*. This form can also expound the primitive ONE (i.e. there is polysemy between ONE and THE SAME, a situation found also in languages as different as Kalam and Acehnese, cf. Wierzbicka 1994a). However, the meaning THE SAME is clearly distinct from ONE in at least one syntactic frame, namely where there is a relatum specified; for example, in an expression like *sú-'inùu* 'the same as I'. Notice that the

relatum is appended directly to the base. Now to form an expression like AT THE SAME TIME AS I, as in (18), one further adds the morpheme *-saq*, which can be regarded as a variant of *-sat* 'time' [Note 20]. As Malotki (1983: 144-5) notes "the overall temporal meaning can be rendered as 'simultaneously'". Example (19) shows *sú-nàa*, where *-nàa* is a marker of reciprocality. Notice that these examples disconfirm Whorf's claim that Hopi time "does not permit of simultaneity" (Whorf 1940a: 216).

18. Pam sú-'inùu-saq nakwsu.
    that same-I-time start out
    He started out at the same time as I. (Malotki 1983: 144)

19. Sú-nàa-saq taawa paki-qw pu' muuyawu-y
    same-RCPT-time sun go in-SUBR DS then moon-ACC

    yama-k-qw naa-sa-ptu-ngwu
    go out-SUBR DS RCPT-QNT-arrive-HAB
    When the sun sets and the moon rises at the same time, it is full moon (naasaptu)
    [a vernacular definition].' (Malotki 1983: 350)

"Occurrence-time" is expressed in Hopi by the multiplicative morpheme *-s/-kis*, e.g. *suu-s* 'one time, once', *löö-s* 'two times, twice', *hìisa-kis* 'how many times', *wuuha-kis* 'many times'. Malotki (1983: 183-186) also notes that the word *qeni* 'space' is routinely used in Hopi in a temporal sense, to designate 'time' in the sense of a period of time which is (or isn't) available to be used. As mentioned above, this sense of the word *time* is not posited as a semantic prime but it is interesting to note the Hopi usage, firstly, because it contradicts Whorf's assertion that no such "abstract" term for time exists in Hopi, and secondly, because it shows an overlap between the temporal and spatial domains.

20. Pay naat itamu-ngem a'ni qeni, pay oovi itam
INTR still we-for a.lot space INTR therefore we

qa pas písoq-'iw-yungw-ni.
NEG very busy-STAT-IMPRF-FUT

There is still plenty of time for us, we will therefore not hurry so much.
(Malotki 1983: 184)

The Hopi exponents of BEFORE and AFTER appear to be the postpositions *-pyeve* and *-ngk*, respectively (though the temporal particles *angwu* 'beforehand' and *ason* 'later, afterwards' are closely related). Notice that *-pyeve* BEFORE and *-ngk* AFTER both also have spatial uses, as 'going ahead of' and 'following', respectively.

21. Pam put hinhin a-pyeve tìi-ti-wa.
that that somewhat he-before child-CAUS-PASS
He was born a little bit before him. (Malotki 1983: 107)

22. Puma pay hìisap itamu-ngk öki.
those ASSR a.short.time we-after arrive
They arrived a little after us. (Malotki 1983: 144)

The word *hìisavo* can function either as interrogative 'how long?' or as an indefinite FOR SOME TIME, as in (23) and (24) respectively. Morphologically it consists of the wh-formative *hii* plus *-savo* (which is formally analysable in turn as the formative *-sa-* plus the allative suffix *-vo*). A SHORT TIME *hìisap* (once again involving wh-formative *hii-*) is exemplified in (22) above.

23. Pam hìisavo pe-p hohonaqa?
that how.long there-at RDP-play
How long has he been playing there? (Malotki 1983: 139)

24. Pas pu' hìisavo kwaa-kwangqat.
very now how.long RDP-pleasantly warm
For some time now it's been nice and warm. (Malotki 1983: 139)

It is not perfectly clear what the best exponent is for A LONG TIME. This meaning seems to be conveyed by the word for WHEN *hisat*, as in (25) and (26). At first blush, polysemy between WHEN and A LONG TIME might seem unlikely, but there is some evidence for it in other formations involving *hisat*. For example, when adjectivalised by suffix *-wa*, the resulting word *hisatwa* means 'old/ancient'; and *hisat* also enters into various compounds with nouns, again meaning 'old/ancient', e.g. *hisat-himo* 'old things', *hisat-sinom* 'the old people [of long ago]' (Malotki 1983: 159-60).

25. Nu' pay hisat tsoo-tsong-ngwu.
I ASSR when RDP-pipe-HAB
I've been smoking for a long time. (Malotki 1983: 155)

26. Pas hisat-ti-qw itam uu-mi qa yori.
very when-R-SUBR DS we you-to NEG see
It's a long time that we haven't seen you. (Malotki 1983: 157)

I hope this discussion has made it clear that, despite Whorf's claims about the radically different nature of Hopi time, we can nevertheless locate plausible Hopi exponents of the proposed semantic universals of time.

It should be emphasised that, aside from the simple and semantically very general expressions illustrated above, Malotki documents an abundance of more specialised

constructions and phraseological combinations concerned with time [Note 21]. As he puts it (rather gently it seems to me):

> Whorf based his observations on an extremely incomplete corpus of linguistic data. As far as the Hopi domain of time is concerned, he seems to have barely scratched the surface. (Malotki 1983: 526)

Actually, the Hopi culture, being based on agriculture, is not really a very plausible kind of setting to suspect of having a "timeless" language. A more likely place to look would be a hunter-gatherer society like that of the Yankunytjatjara Aborigines of Central Australia. Unlike the Hopi, the Yankunytjatjara have no lunar calendar and no time-keeping systems; furthermore, the lexical and phraseological resources of the Yankunytjatjara language, in relation to time, are far less elaborated than those of Hopi. But even in Yankunytjatjara one can find exponents of the proposed NSM temporal primes: WHEN/TIME *yaalara/ara*, NOW *kuwari*, BEFORE *kuwaripangka*, AFTER *malangka*, A SHORT TIME *unytju*, A LONG TIME *rawa*, FOR SOME TIME *rawa-rawa* (cf. Goddard 1994b). [Note 22]

Asserting that, on the available evidence, Hopi and Yankunytjatjara possess concrete exponents of the same temporal primes as English does not mean closing our eyes to differences in the manner in which temporal notions are elaborated in the two languages, or in the functional role that temporal notions play in the three cultures. Of course the differences are tremendous. Contemporary "Anglo" culture, in particular, may "display[s] an obsession with time unparalleled in the history of the human race", as Malotki (1983: 3) puts it, and it would be foolish in the extreme to "expect the Hopi [or the Yankunytjatjara – CG] to share our paramount interest in time or to possess a concept of time that approximates that of a commodity value".

The distinction between basic semantics and cultural elaboration deserves a little more discussion. In an important essay, anthropologist and linguist Roger Keesing (1994) has argued that modern anthropology has seriously and irresponsibly overstated the degree of cultural diversity in modes of thought and experience. Using "time" as his primary example,

Keesing warns against "discourses that relativise and exoticize Otherness, and, in doing so, caricature our own cultural constructions" (1994: 2). Whorf is rightly singled out here, along with Lévi-Strauss, Sahlins, Geertz, and others who have drawn a stark contrast between the supposedly cyclical or atemporal cosmologies of tribal peoples, and the world-views of people who situate themselves in terms of linear time, history and change. Keesing argues that these writers have confused the cultural construction of history, ritual and myth, with the linguistic encoding and experiential cognition of temporal experience. It is essential to distinguish between ideological constructions and stances (especially as found in cultural "metanarratives"), which vary markedly, and the everyday talk about "temporality", "duration" and "sequentiality".

After reporting on some of the basic temporal terms of the Kwaio language (Solomon Islands), on which he has done extensive fieldwork, Keesing concludes:

> All the evidence available on everyday talk in non-Western languages would indicate that other 'exotic' peoples, like the Kwaio, situate events precisely in time in complex ways, are concerned with duration, and have intricate linguistic devices for coordinating plans and activities. (Keesing 1994: 6)

Keesing (1994: 13) also points out that there are universal experiental templates available both for cyclical and for linear conceptualisations of time: the cyclicity of day and night, the seasons and the moon, on the one hand, and the linear sequence of birth, maturation, ageing and death, on the other.

In short, despite the existence of important linguistic and cultural differences in relation to time, there is no evidence at the moment that the most basic temporal concepts vary at all from language to language. I might add that the same applies, as far as I can see from the literature, to basic spatial concepts (i.e. WHERE/PLACE, HERE, ABOVE, BELOW, NEAR, FAR, INSIDE, ON (ONE) SIDE), despite very substantial differences in the grammatical and lexical elaboration of spatial and shape distinctions in some languages (especially those of Meso-America, cf. Brown 1994, Brown and Levinson 1993, Levinson 1994). Nor, as far as I know,

is there any credible evidence of languages lacking basic "logical" concepts such as NOT, IF, BECAUSE, MAYBE, and CAN.

§5. Concluding remarks

We have covered a lot of ground, often by a rather circuitous route which does not lend itself to an easy summation. The main affinities between the work of Whorf and that of Wierzbicka are that they both see linguistic semantics as fundamental to human cognition, that they both recognise that natural languages differ hugely in their semantic organisation, and that they have both sought to demonstrate and explore semantic differences through empirical studies of non-English languages.

Much of Wierzbicka's work, and that of her colleagues in the NSM approach, can be seen as "neo-Whorfian" in that it seeks to demonstrate the reality of "ethnosyntax": i.e. to demonstrate that the vast bulk of words and morphosyntactic constructions in any language are language-specific in their semantics, with the consequence that every natural language can be seen as embodying a unique conceptual resource, and as enabling a unique "way of thinking" (cf. Enfield In press). On the other hand, NSM research indicates that there is a very small "core" of simple meanings and grammatical constructions which all languages share; and that this universal core can be used as a kind of semantic bridge between the vastly different conceptual worlds embodied in full natural languages. This contention could be seen as "counter-Whorfian", though it would be more more accurate to say that it runs counter to only one stream in Whorf's thinking, i.e. the purely "configurative" stream.

Whorf too believed in a common basis for human thinking, despite linguistic differences. But in most of his work, he promoted the view that the significant universals of human cognition lay outside language, in the non-linguistic organisation of perception (especially vision) and of bodily experience. He believed it would be possible to "calibrate" the semantic systems of different languages only indirectly and approximately (once psychology had discovered enough about the "neutral ground" of structured embodied experience).

Whorf vividly dramatised the semantic differences between languages, but he developed no clear or standardised method of cross-linguistic semantic description. In contrast,

Wierzbicka has developed the natural semantic metalanguage, and has sought in numerous studies to demonstrate its worth as a practical tool for cross-linguistic semantic description.

In his concern for the psycho-physiological underpinnings of language, Whorf can be seen as a precursor of important currents within contemporary cognitive linguistics. I will close with some brief personal reflections about the relationship between this experientialist perspective and the conceptualist perspective represented by Wierzbicka's work. In my view, both perspectives are needed if we are to get anything approaching a full picture of language as a human phenomenon (just as we need both universalism and relativism, and, for that matter, both formalism and functionalism). Conceptual analysis in semantic primes is essential to articulate the intricately detailed symbolic or "content" aspect of any language, the aspect which makes conceptual thinking possible. But at the same time it is undeniable that our embodied nature as human subjects influences the structure of language and the dynamics of language use, and to investigate these questions a purely conceptualist approach will not do. Furthermore, there are undoubtedly indexical and iconic effects operating within individual languages which will not yield to a purely conceptualist analysis.

The important point to emphasise, in my view, is that neither the conceptualist approach or the experientalist approach can be reduced to the other (though there may be interesting correlations to be drawn between them). The two approaches should be seen as complementary, and I, for one, would like to see a more productive dialogue evolve between them. A lot will depend on whether participants can overcome the tendency toward dichotomous thinking which has dogged the "Whorfian debate", and so many other areas of linguistics.

ENDNOTES

[Note 1] I am very grateful to Nick Enfield, Penny Lee, Ekaterina Kate Margolis, and Anna Wierzbicka for providing me with information and valuable comments which have helped improve this paper. An earlier version of this study was presented at the session 'Cognitive Linguistic Relativity: On the Centenary of Benjamin Whorf's Birth', held at the International Cognitive Linguistics Conference, Amsterdam, 19 July 1997. Errors and misinterpretations of course remain my own responsibility.

[Note 2] In case anyone is wondering, there are two quotes from Chomsky: one of them is political, and the other is "Colourless green ideas sleep furiously".

[Note 3] Like Lee (1996), I adopt the convention of indicating Whorf's works by year of composition (with publication date in square brackets), rather than lumping them all together as 1956, the date of publication of the collection *Language, Thought and Reality* (LTR), edited by John B. Carroll. This allows for some sense of the chronological development of Whorf's ideas. But since LTR is now the standard compendium of Whorf's writings, I have given the LTR page numbers.

[Note 4] It should be noted that there is one much-quoted paper in which Whorf does explicitly separate "language" from "thought", namely, his contribution to the Sapir memorial volume (Whorf 1939a). Lee (1994, 1996) contends that this paper is not representative of Whorf's real thinking (in this respect), and suggests that he may have tailored the presentation to accord more closely with Sapir's views. In any case, it was written before Whorf had explicitly formulated the "linguistic relativity principle" and so it can hardly be taken as the definitive statement of Whorf's ideas.

[Note 5] According to Dascal (1987: x) "Leibniz not only conceived language and signs of all sorts as *instruments* through which human thought can reach achievements unthinkable

without the help of signs, but also ventured the much more far-reaching idea that language or signs of some sort are constitutive of thought in its higher forms and, therefore, essential to it".

[Note 6] Slobin (1996) has enunciated a position which is intermediate between the Whorf/Wierzbicka position (i.e. that language is constitutive of conceptual thinking) and the standard position that language and thought are separate. He (p.75) proposes that we think of two dynamic processes, thinking and speaking: "There is a special kind of thinking that is intimately tied to language – namely, the thinking that is carried out, on-line, in the process of speaking".

[Note 7] Other similar statements came from philosophers Abraham Kaplan and Milton Singer: "[among linguists] the semantic problem was looked upon as one that could be set aside, in the spirit that if we do not talk about it then the problem disappears" (Kaplan in Hoijer 1954 Ed.: 157); "Many of us nonlinguists were more or less seduced into an interest in language, because we were after methods for ascertaining the conceptual system and the value system and the orientational system, and linguists led us to believe that they had a fairly precise and controlled method available through a study of language" (Singer in Hoijer 1954 Ed.: 210).

[Note 8] The idea that word meaning is at the mercy of context (or of "configuration"), is also found in Sapir. For example: "Even though a form may have a typical meaning usually associated with it, context can change this meaning entirely. Thus the form itself is not important — meaning is given by the context in which or to which it fits. Implication bears ninety percent of the work of language... [Whether in language or in other cultural domains, therefore, it is the configuration, not the content, that determines an element's meaning" (Sapir 1994: 108, 112).

[Note 9] The ineffability of grammatical meaning has been made explicit by M.A.K. Halliday (1988), whose Systemic-Functional grammar can be seen, in many ways, as a modern cousin of Whorf's approach. Halliday is one of the few modern linguists to acknowledge an intellectual debt to Whorf; cf. also Martin (1988).

[Note 10] It should not be thought that taking account of language-specific polysemy, and seeking cross-linguistic equivalents at the semantic level of the lexical unit, makes the exercise a trivial one. A cross-linguistic survey (Goddard 2001) shows that, in sharp contrast to the NSM semantic primes, many other impressionistically "basic" items of English vocabulary (such as *go*, *water*, *eat*, *sit*, *angry*, *hot*, *tree*, and *sun*) lack exact semantic equivalents in other languages even at the level of the lexical unit.

[Note 11] American linguists of Whorf's time, including Sapir, and even Bloomfield, thought that associated with every form-class in a language there was an abstract but invariant "class meaning". In the NSM view, the coherence of form-class membership is better understood in terms of a "lexical prototypes" analysis (cf. Wierzbicka 1999).

[Note 12] Actually, it is surprising how little reference there is to culture in most of Whorf's published works. Aside from his little-cited piece on Hopi architectural terminology (Whorf 1940c[1953], the only paper in the *Language, Thought and Reality* collection which contains any substantive comments on cultural matters is the 1939 Sapir memorial paper. This makes it somewhat ironic that his ideas are often discussed under the rubric of the "language–culture" connection. As argued earlier, a more characteristic emphasis of Whorf's was on the role of language in thinking, and this aligns him more with psycholinguistics than with cultural anthropology.

In later work Whorf did display a greater interest in culture. For example, in Whorf (1939: 148-152) and in the Yale Report, he describes the Hopi belief that collective mental effort and concentration can act in a "projective and dynamic" fashion to affect the material world, and the Hopi preoccupation with preparation, persistence, and repetition. He tries to

link these macro-cultural facts with the lexico-grammatical structure of the Hopi language. In the Yale Report (Whorf and Trager 1938: 271-276) he goes further, advocating the extension of linguistic methods to the study of the "supra-linguistic and semi-linguistic mentality (collective or social)". He is interested in articulating "the values which are recognised as ideals... the ethical and esthetic values of the culture... the spiritual emphases" (p.271-2). Here one may discern a parallel with Wierzbicka's work on "cultural scripts" (1994b, 1994c, 1997b; cf. Goddard 1997a, 2000), but constraints of space prohibit us from exploring this parallel in any detail.

[Note 13] Among the usual reasons for downplaying the cognitive influence of the lexicon are: (i) although many lexical items (e.g. terms for kinship, material culture, social institutions) obviously designate culture-specific institutions, the very obviousness of this fact means that sophisticated thinkers are unlikely to be taken in; and (ii) that speakers have a choice of multiple lexical items and an awareness that they can select alternative lexical formulations. Grammar, on the other hand, is seen to be a more stable, and more-or-less obligatory, "background" phenomenon which, because speakers are unconscious of it, can exercise a more insidious influence. But it is a mistake to assume that culture-specific words are "obvious". There are a great many culture-specific words in abstract domains which ordinary speakers, and indeed many linguists, never suspect are culture-specific—for example, words for emotions and sensations, for virtues and vices, for speech acts, for social categories (cf. Wierzbicka 1997a).

[Note 14] Actually, it is necessary to distinguish several different sub-constructions for both the *get* and the *make* causatives, depending on the nature of the complement verb. For example, with verbs of cognition or of "feeling", *make* causatives do not convey any "coercive" meaning; cf. *She made me realise I was wrong*; *He made me feel stupid.*

[Note 15] Usually, one *gets* another person to do something by saying something, as in the case of the *have* construction, but not necessarily so. For example, one can get a dog to do something (say, swallow a pill) by putting it in a piece of meat, or by smearing it with jam.

[Note 16] Similarly, in a recent edited collection (Gumperz and Levinson Eds. 1996), Malotki only rates an oblique mention in a single footnote. Lee (1996: 140-1) is fairer, since she describes Malotki's data as "invaluable" and alludes to the fact that his study is critical of Whorf. In an earlier article Lee (1991) attempts a more serious engagement—by undertaking to explain and defend Whorf's conception of the Hopi category of "tensors" in the light of Malotki's data. The most positive thing I have read about Malotki comes in George Lakoff's generally pro-Whorf discussion in *Women, Fire and Dangerous Things*. Lakoff (1987: 325) calls *Hopi Time* a "masterful" work, showing that "Whorf was wrong about many aspects of Hopi... As Malotki documents in great detail, Hopi does have a concept of time—and a rich system of temporal metaphors".

[Note 17] Werner (1994) says that Whorf's exotic interpretations of Hopi metaphysics have often been attributed to his "imaginative" native consultant, sourcing this view to a personal communication from Carl F. Vogelin. Another perspective is that Mr. Naquayouma was not merely "imaginative" in the sense of being prone to fantasy, but that he was deeply impressed by the way New Yorkers fetishised time, and was trying to explain to Whorf the contrast between this attitude and that of his home culture.

[Note 18] Just to be perfectly explicit on this point: Malotki (1983: 126) glosses *sa-t* as QNT-time, where QNT is 'quantity' ("on the abstract level") and 'time' is an abbreviation for 'time point'. From the point of view of a paraphrase analysis, this segmentation is not viable for two reasons. First, in the form *-sat* (which, incidentally, occurs "with great frequency" (Malotki 1983: 146)), it is not possible to attribute any clear, separable meaning to the formative *-sa-*. In this respect I agree with Lee (1991: 138) when she says that the semantic force of *-sa-* is "difficult to describe". Actually, I think Malotki recognises this too. As I

understand him, he does not really intend the interlinear tag QNT to designate a semantic component in a strict compositional sense (albeit that it can be seen as indexically marking that the category "permit[s] some sort of quantification"). Second, I cannot see the justification for Malotki's (1983: 145) decision to assign the suffix *-t* the gloss 'time' ('time point'), given the fact that *-t* does not occur other than in the form *-sat*.

My position is that the gloss 'time' can be validly assigned only to the form *-sat* as a whole; in other words, that although it can be formally analysed as *-sa+t*, in semantic terms *-sat* is not further analysable. Lee (1991: 140) comes close to acknowledging this when she describes *-sat* constructions as appearing to have "purely temporal reference from a European way of thinking", though she goes on to dispute the validity of this view by proposing highly abstract interpretations of both *-sa-* and *-t*. The key difference between Lee's analysis and mine is a "meta-theoretical" one: i.e. the fact that the NSM framework rules out highly abstract interpretations (of a kind which cannot be verified by reference to substitutable paraphrases in ordinary language).

[Note 19] Interlinear glosses used in the Hopi material are as follows: ACC accusative, APPROX approximation, ASSR assertive, CAUS causal, FUT future, HAB habitual, IMPRF imperfective, INTR introducer, NEG negative, PASS passive, QNT quantity, R realized, RDP reduplication, RCPT reciprocal, STAT stative, SUBR DS subordinator different subject.

[Note 20] In example (18), I have altered Malotki's gloss for *sú-* from 'exact' to 'same', a gloss which he himself uses in other places.

[Note 21] One odd aspect of Malotki's interpretation, which may have detracted from the impact of his work, is his insistence that the primary meaning of all the Hopi temporal expressions is actually spatial and that their temporal functions are entirely metaphorical. That is, Malokti adopts a stance which is diametrically opposed to Whorf's—and almost as extreme. Not surprisingly, it often seems contrived. Though there are overlaps between

temporal and spatial expressions in Hopi, and perhaps in all languages, to claim that the entire system is a gigantic network of spatial metaphor is going much too far.

[Note 22] For a recent attempt to demonstrate that Yucatec Maya lacks lexical exponents of BEFORE and AFTER, see Bohnemeyer 1998; for counterargument, see Goddard (2001).

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