Semantic roles in Upriver Halkomelem

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Semantic roles (called thematic roles by some generativists) are recognized by most theories as important constructs in revealing the semantic interrelationships between words and phrases in sentences (and sometimes within phrases). Semantic roles were developed from Case Grammar theory and were refined in Relational Grammar by Perlmutter and others, and appear now in structuralist and generativist work alike. To my knowledge there have been no studies of the complete set of semantic roles in sentences in Salishan languages. This paper is the first attempt to do this for Upriver Halkomelem (UH). All examples are from my UH dictionary. I found multiple examples for all semantic roles, thus adding to the evidence that this set of semantic roles are language universals and that such studies are needed for other Salishan languages. I give definitions, then give both English and Upriver Halkomelem examples (in morphophonemic transcription), then analysis of the Halkomelem examples.

1 Introduction

Semantic roles specify the semantic functions of words in phrases and of words and phrases in sentences. Since they link the semantic content of words together and give the meanings of syntactic constructions and many grammatical morphemes, they are related closely to conjunctions including logical operators like 'and', 'or', 'if', 'then', etc. Since Galloway 1971 I have been working with a theory I came to call Three-Dimensional Semantics and which is explained in some detail in two books I've written (Galloway 1977 and Galloway 1993) and many papers given at Salish Conferences, the Conferences on American Indian Languages, and elsewhere. In Galloway 1977:688-693 and 1993 I proposed that a number of grammatical concepts may form semantic subdomains which may be combined with semantic roles into a larger semantic domain. This three-dimensional semantic domain or neural network with its subdomains (or subnetworks)(Gasser 1990, Galloway 1993, 2001) could be activated in a very natural way proposed by connectist models . The members of these (sub)domains or networks also have simultaneous connections with a number of other domains or subdomains or networks. As blood carrying neurochemicals moves to parts of the neural network and activates these

connections, the members of this domain, like any other, are activated by spreading activation; the first connections activated by infusion of neurotransmitters activate their closest connections and those in turn activate their closest connections (Ashcraft 1989). The members of the domain of semantic roles are activated more frequently since various of its members (semantic roles) are used in every phrase and sentence. The more frequently any connections are activated the stronger the connections, i.e. the stronger the electrical charge (called weight in connectionism), and the more likely it is to be activated first and to pass a stronger charge to its closest neighbors. It is a well-established effect in cognition that once a part of the neural network is activated, the next time it is called for (if fairly soon) it is activated more quickly. This is called cognitive priming (Tulving and Schachter 1990). These effects are automatic and provide a simple and verifiable explanation for how we think about related subjects and how we semantically process phrases and sentences. This is not the main thrust of this paper but situates this work on semantic roles within the field of cognitive semantics as well as relating it to my theory of multidimensional semantics.

Work of Fillmore 1968ff, Chafe 1970a, 1970b ff., Dillon 1977, Perlmutter 1982-1984ff, Grimes 1979, Galloway 1999, and others have produced inventories of what seem to be universal semantic roles. Most of these, and a new one, Vocative, are all present in Halkomelem (a Central Coast Salish language, the Upriver dialect group was spoken aboriginally along the Fraser River and its tributaries from about Sumas to about 7 miles above Yale, B.C.). The other dialect groups are Island Halkomelem including Cowichan and others, and Downriver Halkomelem, including Musqueam and others.

My research suggests the following semantic roles are found in Upriver Halkomelem: agent, patient (subtypes: dynamic, static, process, transfer, or verbal), experiencer, recipient (subtypes: proprietary or verbal), comitative, delegative, instrument, benefactive, malefactive, time (subtypes: duration, point, start, finish), manner, place (subtypes: dynamic range, static range, source, destination), material, referent (limits of a state or process), result (state of patient after a process), telic (purpose), vehicle, vocative, force, and those of verbs: action, process, state (subtypes: existential, psychological), motion (subtypes: action, process), transfer (subtypes: action, process), reporting/verbal (subtypes: action, process), and vocative. None of those just mentioned are semantic roles of verbs, but it is apparent that some semantic roles of verbs are implied in the definitions commonly used for these semantic roles and that they must be added to the inventory. In the present paper I will discuss some of the interesting ways in which Upriver Halkomelem realizes them.

I'll start with definitions of the semantic roles found. Each definition will be followed by examples in English, examples in Upriver Halkomelem, and discussion of how the Upriver Halkomelem examples express the semantic role and sometimes incorporate additional semantic roles. Because the semantic roles of verbs include all subtypes required from definitions of semantic roles for the other parts of speech and phrases, I give all the latter definitions as well.

2 Definitions and examples of semantic roles of verbs

2.1 Actions

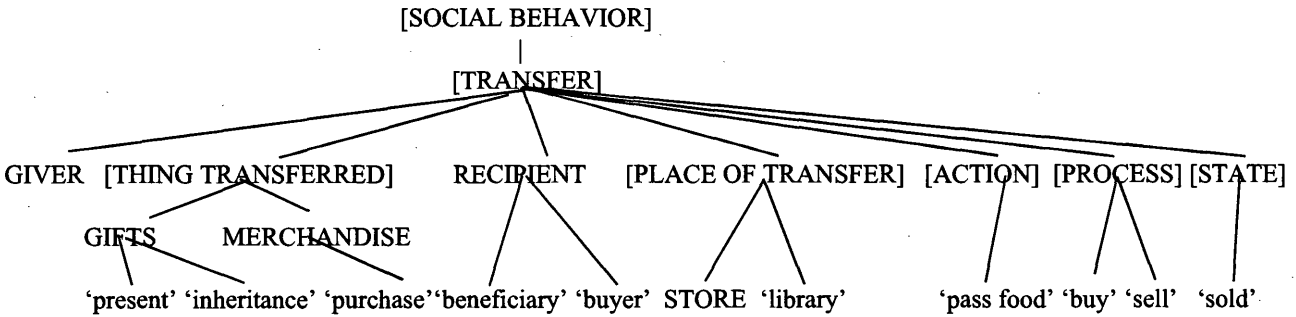
Action (ACT): to actively do a single activity. For ex. *English*: push, lift, pass, sing, say. For ex. *UH*: θəχə́t 'push it', xʷə̀lxʸ 'lift it', ʔə́xʷət 'give s-o food, bring s-o food, pass food to s-o', t'íləm 'sing', θə́t 'say'.

Analysis of UH: Since UH incorporates subject and object inflection as well as other inflectional and many derivational and lexical affixes into the verb word, the verb word alone can show a number of nominal, phrasal, and other semantic roles as well as its verb semantic roles. Thus the first two UH examples incorporate dynamic patient roles via object inflection. The third UH example incorporates transfer recipient roles as part of each variant meaning or alloseme via the zero 3rd person object inflection after the transitive affixes, -ət, -xʸ, and -ət respectively. Also the third example incorporates transfer patient roles (for 'food' which is part of the stem meaning) in each of the allosemes of ʔə́xʷət.

All five verbs have the verb semantic role of Action since each meaning comprises actively doing a single activity. Some of these verbs, in addition have second semantic roles, so that one component of the stem meaning in the alloseme 'pass food to someone', i.e., 'pass' here has the semantic role Transfer. In fact it is a Transfer Action rather than a Transfer Process since it has the agent actively doing a single action.

Something to mention here, as well, is that most semantic domains have covert categories for their verb members dividing them into ACTIONS or PROCESSES or STATES. So in reality some semantic roles of verbs are actually covert semantic components (a covert category is a subdomain whose members share a semantic component which is not named by a word in the language being analyzed); there are no words for 'action' vs. 'process' in UH. Now in doing domain diagrams to place verbs with two semantic roles or a role with subtype role as well, such as Transfer Action, it seems that TRANSFER is a more highly placed subdomain and ACTION and PROCESS are subdomains of TRANSFER, in the most efficient domain hierarchy, since the domain of TRANSFER may have noun subdomains including terms such as 'gift', 'inheritance', 'recipient', etc. See the partial domain diagram below (covert categories are bracketed) (figure 1).

Figure 1: Subdomain of English TRANFER (outline, many members not included):



(Note: While some of the lines touch letters in this chart, this is not a matter of concern in three-dimensional domain diagrams, since this is a three-dimensional view. The only criteria is that no letters become illegible.)

2.2 Processes

Process (PROC): to do a named sequence of actions. For ex. *English* organize, elect, marry, study, learn, build. For ex. *UH:* yə́qʷəlcəp 'light a fire, make a fire', mɛlyí 'marry', tá·lθət 'think, ponder, study, decide', tatí·lt 'studying s-th, thinking about s-th, learning s-th, training for s-th, trying to do s-th', θiyə́ltxʷəm 'build a house'.

Analysis of UH: The semantic roles of these verbs are all processes since each requires a sequence of actions. To 'make a fire' requires selecting and assembling wood and kindling, laying the fire materials in the correct order in a somewhat sheltered place, igniting and using a fire starter of some kind on the kindling (match, fire drill, etc.), watching and moving kindling and wood as required so that the wood will catch. This is the sequence of actions named by the 'make a fire'.alloseme. It is interesting that the 'light a fire' alloseme requires less actions; the fire starter may have to be ignited or may already be lit; in UH the alloseme implies that the effort is successful so the process also includes manipulating the kindling and wood till the fire catches.

Similarly a series of actions can be listed to the process 'marry' to be completed, and the referential meaning can include different types of ceremonies and different people officiating. In pre-contact times, for speakers of UH, there wasn't an officiating person, just parental prearrangement or consent or kidnaping; many marriages were arranged marriages. Similarly 'build a house' had a large number of actions required for completion and varied depending on whether a pit-house or plank house or non-Indian house was being built. Notice that with 'make a fire, light a fire' and 'build a house' the patient is incorporated into the verb even though each verb is intransitive. With 'marry' two patients are implied but are only incorporated and mentioned when the verb is transitivized.

With tá·lθət 'think, ponder, study, decide' and tatí·lt 'studying s-th, thinking about s-th, learning s-th, training for s-th, trying to do s-th', there are a number of allosemes, and each has to be looked at separately to determine if it is an action or a process in UH. Normally in analyzing semantic roles the words occur in a phrase or sentence; in normal spoken language there is usually a speech event of some kind providing previous or following context, or both. Decontextualization is artificial and is pretty rare in natural language use. However, looking at the differences in roles between allosemes is examined here to show how these differences can be accounted for.

'study' is usually a process, involving several actions, such as observing the thing studied from different perspectives, reading or observing the thing studied till one understands more how it works, and thinking about it so one remembers and can describe or do the thing studied. The two main references are to visually studying a person, thing or process in action or studying through reading written records, a post contact referential meaning. The 'ponder' alloseme requires only mental activity but usually requires thinking about something from different perspectives over a stretch of time; if the

thinking uses several different kinds of mental operations that can be described, then it is a process. Similarly 'think' and 'decide' can be either actions or processes when they are done consciously. 'think' can have a semantic role of Reporting action when the actual words thought are described. 'think' can be a psychological state instead when done unconsciously. For tatí·lt 'studying s-th, thinking about s-th, learning s-th, training for s-th, trying to do s-th', a durative and transitive verb, all of the allosemes are processes with 'training for s-th' requiring the most lengthy set of physical and mental actions, while 'learning s-th' is usually a process but may occasionally be an action, for something learned the first time in one action

2.3 States

State: to exist in some way or experience in some way. Subtypes include existential states and psychological states.

2.3.1 Existential States

Existential State (ST:EX): to exist in some way. For ex. *English* be, live, remain, wait. For ex. *UH:* ckʷí·m 'be red, red, reddish-brown, copper-colored', ʔəlá·ɬ 'be aboard, be in (a conveyance)', ʔí ʔà 'stay here, stay, remain at a place', ʔéyləxʷ ~ ʔéyələxʷ 'be alive, be living, be in good health, be healthy, be well', stétəw 'be light, be illuminated'.

Analysis of UH: All the examples here are clearly existential states since they all describe existing in some way, where no action or sequence of actions is described and no psychological reaction is described. There are a large number of verbs with stative translations in UH even though they do not have stative affixation. Basic color terms, except for 'white' have stative prefix c-, and the only allosemes are the variant shades depending on context (as all allosemes do). c- is mainly attested with color terms but occurs in a few other words, such as c-cɛxʷ 'have a wife'. stétəw 'be light, be illuminated' has the much more common stative prefix s- which occurs with many other verb stems besides color terms, as well as with some color stems. Many such statives also occur with 'resultative' reduplication, but contrary to some sister languages, it has been clearly demonstrated that this s- is stative in UH and the reduplication is 'resultative' (Galloway 1992, 1993).

ʔəlá·ɬ 'be aboard, be in (a conveyance)' is an interesting word derived from root ʔa·ɬ 'get aboard a canoe, get aboard a conveyance'; the -əl- infix usually has a 'plural' meaning.

2.3.2 Psychological States

Psychological State (PSYCST)): to experience a psychological reaction. For ex. *English* think, be angry, be happy, be confused, hear, see, smell, taste, go crazy. For ex. *UH:* tá·lθət 'think, ponder, study, decide', t'éyəq' 'get angry,

get mad, be angry', xʷayíwəl ~ xʷayíwə́l 'be happy', xʷayíwəlmət 'happy to see s-o', məlmíləc' 'confused', c'ɬɛ́ˑmət 'hear s-o/s-th', kʷ'écləxʷ 'see s-o/s-th, catch sight of s-th/s-o', háqʷləxʷ ~ héqʷləxʷ 'happen to smell s-th', qʷaméləqəp 'have a mossy smell', t'ɛ́t ~ t'ɛ́ˑt 'taste s-th, try s-th', xʸáˑlxʷəm 'have a menthol taste, (have a cool taste)', sxʷáxʷθ' 'be crazy, be insane'.

Analysis of UH: This semantic role includes mental states and the five senses of sight, smell, taste, hearing, and touch where the physical stimulus is converted to a psychological reaction. These areas are already known to be semantic domains in all languages. But as we will see some members and some allosemes are processes and actions instead of states, so the semantic role analysis is still helpful. Of the allosemes of táˑlthət, only 'think' can have this role and only in certain contexts. Emotional states belong here. The alloseme 'be angry' clearly belongs here, and so do 'get angry' and 'get mad', though on the surface one could argue they are processes. The more useful classification is to class them as psychological states since there is not a sequence of actions that are required and since the person experiencing this state is not doing it purposely–that would be expressed differently in UH, with control suffixes.

xʷayíwəlmət 'happy to see s-o' is semantically interesting since it incorporates the stimulus of the psychological reaction ('to see s-o'). A number of words with this role have control suffixes whose allosemes in this role are: for -mət, '(indirective) indirectly affected by someone or something' and for -ləxʷ, 'happen to or accidentally experience a reaction to s-th or s-o'. The more frequent allosemes of -ləxʷ are 'happen to, manage to, or accidentally do to s-o or s-th' which are the allosemes found with actions and processes.

qʷaméləqəp 'have a mossy smell' is one of a number of words involving very specific smells that UH speakers can experience; the root of the word is the object smelled, here qʷám is the regular word for 'moss' and -éləqəp is 'have the smell of'. Other smell words also exist without this lexical suffix, like xʸáˑlxʷəm 'have a menthol taste, (have a cool taste)'. t'ɛ́t ~ t'ɛ́ˑt 'taste s-th, try s-th' has a purposeful control transitivizer -t, and alloseme 'try it' can be an action or process but is not a psychological state. Similarly 'taste s-th' is usually an action but when it reports a psychological state rather than an action, it belongs here.

2.4 Motion

Motion (MOT): to move in some way. There are two subtypes, actions and process. For ex. *English* go, run, ride, travel, push, drop, climb, twitch, shake. For ex. *UH:* lɛ́m 'go, go to, going, going to, go(ing) to (in future), be gone', səlcˈélə 'go in a semi-circle (or part of a circle) with the current', sɛ́ˑlcˈowəɬ 'go in full circle with the current', xʷəmxʸéləm 'to run', yəɬyáˑqʷt 'be last (in traveling), be behind (in traveling)', yə- ~ yi- 'traveling by, in motion, while moving along, while traveling along', yəqpˈáˑs '(traveling/moving) stooped over', ləqˈɛ́ˑlˈ(ə)qˈəl ~ ləqˈɛ́ˑlqəl 'traveling (without a destination), going out', ləqˈéləqˈəl (~ ləqˈéləqəl (rare)) 'travel (to a

destination), be on a journey', xʷcákʷəl 'where is s-o going?, where is s-o traveling?, where is s-o headed for?', θəx̣ét 'push it', wəc'ə́ƛ'ləxʷ 'drop s-th by accident', θ'ə́q'əm 'dripping, (have) continuous dripping, water dropping', ɬɛwə́t'əm 'twitch, flutter (of one's eye, hand, skin, etc.)'.

Analysis of UH: This semantic role is not the same as a semantic domain of MOTION since many of the members have stronger connections in other domains (such as ANATOMY (subdomain BODY FUNCTIONS, for example) or CANOEING or WATER).

There are several subtypes of verbs reporting motion, but first let's look at the set of words given here to see some of the ways the motion element is expressed in UH. There are prefixes, suffixes, and roots that express motion and activate that semantic role: roots such as yə- ~ yi- 'traveling by, in motion, while moving along, while traveling along', -əl 'come, go, get, inceptive', and lɛ (as in lɛm) 'go, going, go to, going to' or emí 'come'. As with English some of the roots for 'come' and 'go' have metaphorical extensions into the domain of TIME and subdomain ASPECT. The alloseme 'be gone' of lɛm has an existential state semantic role.

səlc'ə́lə 'go in a semi-circle (or part of a circle) with the current', sɛ́'lc'owəɬ 'go in full circle with the current' are interesting in including the dynamic range subtype of the semantic role of location within the verb; these are verbs used especially in canoeing and the second includes the suffix for 'canoe' -owəɬ, the suffix -c' 'around in a circle', and the root səl- 'spin', with durative infix -ɛ'- (showing the circle is completed). xʷəmxʸə́ləm 'to run' derives from root xʷ ə́m ~ x̣ʷə́m 'hurry', -xʸəl 'foot/feet/leg/legs, on the foot/feet', -ɛ- 'durative', -əm 'middle voice'.

Among verbs with the prefix, yəɬyá'qʷt 'be last (in traveling), be behind (in traveling)' has mainly an existential state semantic role but simultaneously contains a motion process semantic role due to the prefix. Here the existential state seems to override the motion process (or have a stronger weight on that connection). yəqp'á's '(traveling/moving) stooped over' describes the existential state of the actor but also contains a motion process semantic role due to the prefix. Here the motion process seems to override the existential state or be of equal importance in the sentences in which I've found it. One of the ways to test this is that sentences are found where a dynamic range semantic role is also found in the sentence (for ex. yəqp'á's li tə xʸɛ́ɬ. 'He was traveling/moving stooped over along the path.').

ləq'ɛ́'l(ə)q'əl ~ ləq'ɛ́'lqəl 'traveling (without a destination), going out' and ləq'ə́ləq'əl (~ ləq'ə́ləqəl (rare)) 'travel (to a destination), be on a journey' are certainly motion processes; though the second alloseme 'be on a journey' is translated in a stative kind of way, the motion process overrides it (has a stronger weight). θəx̣ét 'push it' has a motion semantic role and action subtype.

xʷcákʷəl 'where is s-o going?, where is s-o traveling?, where is s-o headed for?' shows an interrogative motion verb, one that asks for the destination semantic role in answer. wəc'ə́ƛ'ləxʷ 'drop s-th by accident' has a motion action semantic role but the action happens to the patient by accident.

θ'ɛ́q'əm 'dripping, (have) continuous dripping, water dropping' limits the patient (subject) to water in the last alloseme but in the first two allosemes the patient can be people or objects containing water. The last example, ɬɛwə́t'əm 'twitch, flutter (of one's eye, hand, skin, etc.)', shows that even small motions require this role.

2.4.1 Motion Actions

Motion Action (MOT ACT): to move in a single activity. For ex. *English* twitch, drop, push. For ex. *UH:* see examples of similar meanings in the paragraph before these subtypes.

Analysis of UH: ɬɛwə́t'əm 'twitch, flutter (of one's eye, hand, skin, etc.)' is a good example of a motion action semantic role, as is wəc'ə́ƛ'ləx^{w} 'drop s-th by accident', which has wə- 'suddenly' prefix indicating the quick nature of the single action. θəx̣ə́t 'push it' can be either a single short push (as in pushing a button) or a sustained pushing action, but in any case it is only one action not a sequence of actions which can be named.

2.4.2 Motion Processes

Motion Process (MOT PROC): to move in a sequence of actions (which can be named). For ex. *English* travel, climb. For ex. *UH:* see examples of similar meanings in the paragraph before these subtypes.

Analysis of UH: the process nature of several of the motion verbs has been already discussed above. θ'ɛ́q'əm 'dripping, (have) continuous dripping, water dropping' probably has a process subtype as well since it requires multiple actions of single drips, even though it is a continuative form. If this is true then all verbs pluralized with reduplication or infixed plural would be counted as processes too.

2.5 Transfers

Transfer (TRSF): to change the physical or abstract ownership of something. For ex. *English* inherit, bestow, buy, sell, give, pass. For ex. *UH:* ʔíləqəls 'buying (as structured activity), He's buying (it) [as structured activity]', ʔiləqə́t 'buy s-th', ʔiləqəɬct 'buy it for s-o', yə́x̣cət 'give a gift to s-o', k^{w}ə́ləx^{w} ~ k^{w}ə́l'əx^{w} 'get s-th', wɛ́'ls 'to scramble-give, throw money/blankets/poles to a crowd, give away at a big (winter) dance [by throwing]', x^{w}áyəm 'sell', ʔɛ́x^{w}ət 'give s-o food, bring s-o food, pass food to s-o'.

Analysis of UH: This semantic role is clearly related to the semantic domain covering SOCIAL TRANSACTIONS as most of its members belong most strongly to that domain. All express or imply an agent, a transfer recipient, and a transfer patient. Many ditransitives belong here, for example many benefactives and verbs with indirect objects. In the list given here the transfer

patients which are included in the root meanings include 'gift', 'money/blankets/poles' and 'food'. This is cultural and may show the importance of the potlatch system in Stó:lō culture. But examples also exist of the transference of abstract ownership of something.

The first example is intransitive but has -els the 'structured activity' suffix, indicating a process. The structuring is provided by a sequence of actions done in a certain order or repeated. The allosemes of examples referring to buying and selling require that there be an original owner who is selling, a buyer who is buying and will be the new recipient, and a patient which is the thing sold. Since 'buy' and 'sell' are converses the agent of the first will be the recipient and the agent of the second will be the original owner. In Galloway 1988, and 1991 I showed evidence that 'buy' and 'sell' are meanings reconstructable for Proto-Central Salish; a number of things were correlated in price with blankets, racks of wind-dried salmon, etc.

kʷéləxʷ ~ kʷél'əxʷ 'get s-th' includes the patient in the verb via the -əxʷ suffix following the 'happen to, manage to, accidental' control suffix. yéx̣cət 'give a gift to s-o', on the other hand, includes the patient in the root meaning and includes the recipient in the zero suffix (or pronoun object suffixes) after the purposeful control transitivizer -ət (see yəx̣cəθamécəl 'I give a gift to you').

There are several subtypes of transfer verbs: Transfer Actions and Transfer Processes.

2.5.1 Transfer Actions

Transfer Action (TRSF ACT): to change the physical or abstract ownership of something in a single activity. For ex. *English* give, pass. For ex. *UH:* see examples of similar meanings in the paragraph before these subtypes.

Analysis of UH: ʔéxʷət 'give s-o food, bring s-o food, pass food to s-o' shows three different actions which are usually transfer actions rather than processes. But the context or even inflection also may allow the first two allosemes to be transfer processes. For example if any of the several imperative suffixes are added and the person addressed does not have the food in their possession, a process subrole is required since the person addressed must go get the food and bring it back, at a minimum.

yéx̣cət 'give a gift to s-o' can be either an action or a process. It is an action if the agent merely hands something to the recipient as a gift without doing anything to get or prepare or bring the gift intentionally to the recipient. More often such actions are done first and so the transfer process is the more common role. kʷéləxʷ ~ kʷél'əxʷ 'get s-th' can also be an action or a process depending on context; if a person gets food by harvesting it that is a process, but if he gets a cold by touching something contaminated with the virus or gets something merely handed to him those are simple transfer actions.

2.5.2 Transfer Processes

Transfer Process (TRSF PROC): to change the physical or abstract ownership of something in a sequence of actions (which can be named). For ex. *English* inherit, bestow, buy, sell. For ex. *UH:* see examples of similar meanings in the paragraph before these subtypes.

Analysis of UH: ʔíləqəls 'buying (as structured activity)', ʔiləqət 'buy s-th', ʔiləqəɬct 'buy it for s-o', wɛ́·ls 'to scramble-give, throw money/blankets/poles to a crowd, give away at a big (winter) dance [by throwing]', and xʷáyəm 'sell' all have transfer process semantic roles. Buying and selling require that the seller and buyer decide on a price or payment, that the seller gives the transfer patient to the buyer and that the buyer either gives the payment at once or commits to a schedule of payments and follows through with them. Clearly both are processes. Scramble-giving requires that the giver bring things traditionally given at such events to a potlatch or winter spirit-dance, that he arrange with the master of ceremonies for a time to do the scramble-giving, that he stand in an agreed upon place to throw the money, blankets, or poles to the crowd, and that the crowd gets or picks up what is thrown and takes it home. This too is clearly a transfer process not a single action.

2.6 Verbs of Reporting or the Verbal semantic role

Reporting/Verbal semantic role (VBL): to use a form of language to communicate a message. There are subtypes Actions and Processes. For ex. *English* say, report, write, sign, sing. For ex. *UH:* θə́t 'say', -c'ɛ́ 'so they say, (reportedly, reportative, evidential?)' , kʷíxʸət 'read it, name s-o (in a ceremony)', sx̣ylstəxʷ 'got s-th written down', ʔaqʷ'əxʸə́ləm 'to make a sign with its foot it wants a younger brother or younger sister', t'íləm ~ t'íləm 'sing', t'ɛ̀·m 'to sing along or follow in singing a spirit song'.

Analysis of UH: This semantic role links with the roles of agent, verbal patient (what is said/written/thought in words or communicative signs) and verbal recipient (the audience, hearer or reader of the language or word(s) used). θə́t 'say' is a transitive verb often preceding or following what is said. qʷ ɛ̀·l 'speak, talk' on the other hand is intransitive but implies that something communicative is said. The second example is a reportative suffix for second-hand accounts of speech; sometimes the exact words are not reported, just the gist of the message. Nevertheless, words so suffixed incorporate the reporting semantic role in addition to whatever other role the words may fill simultaneously.

Reading and writing, as well as thoughts in words all require this semantic role. So does singing and music with or without words since they use a form of sound to communicate a message (which may be atmospheric or emotions or may have an actual program). Thus if one plays a Beethoven sonata or plays the note G, the sonata and the note are the verbal patients. Once degree

further removed from language is shown by ʔaqʷʼəxʸéləm 'to make a sign with its foot it wants a younger brother or younger sister'. This sign communicates a message and is a verb of reporting.

2.6.1 Reporting Actions

Reporting Action (RPRT ACT): to use a form of language to communicate a message in a single activity. For ex. *English* say, tell, write, yell. For ex. *UH:* ʔówəstəxʷ ~ ʔéwəstəxʷ 'tell s-o to say no to s-o', x̣íʼylt 'write s-th', tɛ̀ʼm 'call (by voice), shout, yell, holler'..

Analysis of UH: The first example here is interesting because it is just the verb root for 'no, be not' with a causative suffix and -əxʷ '3rd person object' (diachronically -stəxʷ developed from a single suffix but it is now two suffixes in UH (Galloway 1993)). And yet, semantically it incorporates the verbal recipient (and implies a second verbal recipient) and the verbal patient. (The first s-o or someone is the first verbal recipient, for example ʔéwəsθaméc̓əl 'I told you to say no to someone'.) While the chain of events reported is complex, this verb only has a role of reporting action since the speaker only needs to speak one utterance. Similarly the allosemes of tɛ̀ʼm 'call (by voice), shout, yell, holler' usually communicate in a single activity, so they are all reporting actions.

x̣íʼylt 'write s-th' can be an action (where language is written in a single activity) or a process (for example if the writer is writing a term paper, a book, or a symphony–all these require writing alternating with research or playing music, and once one page is filled another must be placed on top and written on; usually additional period of time for thought, eating, etc. are required during such extensive writing, so it is clear this kind of writing provides a context requiring a verbal process.)

2.6.2 Reporting Processes

Reporting Process (RPRT PROC): to use a form of language to communicate a message in a sequence of actions (which can be named): For ex. *English* write, argue, debate. For ex. *UH:* wíyt 'go warn s-o in secret, go tell s-o in secret', mɛməθʼéləm 'lying, telling a lie, (bluffing [BHTTC])', xʷmɛθʼəlqéyləmt 'tell a lie for s-o', qʷəlqʷélés 'telling on s-o', x̣ʷiyém 'tell a story [legendary], tell a legend'

Analysis of UH: While all of the examples given in this section can be processes or actions, depending on context, I believe wíyt 'go warn s-o in secret, go tell s-o in secret' can only have the semantic role of reporting process. It requires the agent to go somewhere, to ensure that the location is not known to certain others (or any others except the intended hearer), and then the verbal action takes place with the hearer. All these elements are incorporated in the allosemes of the word given here and thus clearly require a reporting or verbal process.

mɛməθ'élәm 'lying, telling a lie, (bluffing [BHTTC=Beginning Halq'eméylem Teacher Training Course elders])' and xʷmɛθ'әlqílәmt 'tell a lie for s-o' can be actions if they are done in one speaking turn, but if multiple turns are required these seem more like reporting or verbal processes. Each additional turn must take into account what the hearer said in response and tailor the next turn to fit that. The same is true of the last two examples, qʷәlqʷélәs 'telling on s-o', χ̱ʷiyɛ́m 'tell a story [legendary], tell a legend'. For the alloseme of telling a legend, some legends were so long they had to be told on subsequent occasions, especially if the listener was a child and fell asleep–bedtime was a frequent time for such legend telling, according to a number of elders. And only if it was a short legend or story and was told without questions by the hearer would it be a clear example of a reporting action.

If a verb is an action or process but not one of motion, transfer or reporting, simply ACT or PROC alone is sufficient as its semantic role.

3 Semantic roles of other words or phrases: definitions & examples

3.1 Agent

Agent (AGT): the sentient being that carries out an action or process. For ex. *English* Bill left., The big dog caught a mouse., She dropped her gown., The business was left in a shambles by the owner. For ex. *UH:* c-әl q'í·k'ʷ=әT. I bit something.', ɬɛ́lәq=әt-әs. 'He stuck out his tongue.', ʔә-cɛp mók'ʷ ʔɛ́ɬtәl cәlɛ́qәɬ(-әɬ). 'You all ate yesterday', méy=T-à·m λ̓' méłí//, 'Mary (absent) helped you.; (lit.) You were helped by Mary.'

Analysis of UH: The examples here show the agent being expressed by pronouns preposed (for ambiguous past), suffixed on main verb, suffixed on auxiliary verb and including a modifying adjective ('all'). The c- on the first and 2nd person pronouns indicates 'non-subordinate subject' (Galloway 1993). NP's of course can also serve as agent.

3.2 Benefactive

Benefactive (BEN): the one on whom an action has a secondary, good effect. For ex. *English* They awarded the prize to Mary., They cleaned up the house for me. For ex. *UH:* ɬíc'-әɬc-T-ámә-c-әl-cɛ tә s=méyәθ, 'I'll cut off some meat for you.', píxʷ-әɬc=T-әs tә s=wɛ[=Aí=]q=ә 'He/She/They brushed it for the man.' (could also be delegative).

Analysis of UH: Benefactive and malefactive both are expressed in the verb by the suffix -әɬc followed by a control transitivizer (usually -T) followed by a pronoun object suffix, which may be zero in 3rd person; where the benefactive/malefactive object is 3rd person, a noun phrase may also serve in addition to the 3rd person pronoun affix.

3.3 Comitative

Comitative (COM): accompanier of the Agent, Patient, etc. For ex. *English* Brent ran with his dog along the beach., She arrived with her hat in her hand., Desmond accompanied Mavis to the opera., Desmond went with Mavis. For ex. *UH:* mi-c-ɛp w(=)á·θəl s=C$_1$ə=q'á ƛ'ə=ɬíməɬ 'Come (you folks) and share our meal with us.' (lit. "come -you folks share a meal with us"), s=q'a=T-áx^y-əs, 'She's going with me.', q'á=T-ɛp tə=ʔí=lə 'Put this with it you folks., Include this you folks.', ʔí=sT-əx^w-c-əl-cɛ ʔà ʔí (k'^{w}ə tə=wɛ́t=əs, t=ú=ƛ'à, ƛ'ə-ləwə) 'I'll leave it (with somebody, with him, with you).', s=q'a=T-áx^y-əs 'She's going with me.', lɛ́=m-ə-c-ɛp s=q'á=T-ɛ́p 'Are you all going with him?', literally "going -interrogative -you folks accompany/go with him -subjunctive2p", lɛ-cɛ q'a=Aɛ=x^{y}əl=í·l=T-à·m ƛ' Tom. 'Tom will go with you.', literally "go -future (third person subject zero) you are gone with (passive) (by Tom)."

Analysis of UH: The examples here show commitatives can be expressed by the subject pronoun suffixed to an auxiliary verb or suffixed to the main verb, by a demonstrative NP/DP object of the main verb, by objects of a preposition (resp. an indefinite pronoun or independent pronoun or pronoun prefixed to show it an object of a preposition), by two examples with it as subject pronouns suffixed to the main verb, and finally as a subject of a passive expressed with what expresses this in UH, ƛ', here translating 'by' but in Downriver and Island Halkomelem what functions as marker of oblique NPs. What determines whether the pronoun/NP is a subject or object here is the semantics of the sentence. Whoever is the main or first party going or a previously present NP can then be accompanied by a subject. The NP or pronoun taken along or added to what's already present is the comitative.

3.4 Delegative

Delegative (DEL): the person on whose behalf someone assumes the Agent role. For ex. *English* Desiree accepted the prize on Julie's behalf., He'll report for me if I can't attend., They asked him to fill in for me. For ex. *UH:* q'^{w}əm=ows=ə**ɬc**=T-á·x^y 'Pluck it for me.' (=ows on the body, =ə**ɬc** benefactive, =T purposeful control transitivizer, -á·x^y second person singular object), however note in the following contrast: yə́q^w=əlcəp=T-áx^y-ɬɛ, 'Make a fire for me.' (delegative) vs. θiy- ə́**ɬ**=T-áx^y-c-əx^w 'Make it for me., You made it for me.' (benefactive or delegative, both possible meanings), ʔáx^{w}əs=T-c-əx^w x^{w}ə=lɛ́ ƛ'ə=ɬíməɬ 'Give it to him from us.' (literally "you (imperative 2s) give it to him towards us (towards our credit)")–imperative benefactives are almost always delegative.

Analysis of UH: it is logical to use the benefactive suffix to express the delegative when there is an imperative, since the party is being asked or delegated to do something for someone. Where there is no actual request or delegation expressed, the benefactive and the delegative are sometimes both possible allosemes or variant meanings depending on the cognitive context (as in

'You made it for me.' where it is unclear whether 'you' were asked to do this or just did it to be kind.. In the second example there is no benefactive, perhaps because there is a lexical suffix (=əlcəp) in the syntactic slot and it expresses the process patient.

3.5 Experiencer

Experiencer (EXP): the sentient being whose psychological state is described. For ex. *English* The dog was very happy to jump in the car., Melvin feared for his life., The professor saw many of her friends at the nude beach., He was thinking for hours about her. For ex. *UH:* ʔɛ́y k'^{w}-əl̓ s=q^{w}ɛ̀·l=əwəl, 'I have good feelings., I have good thoughts.,I'm glad., I'm happy. I'm grateful., I'm thankful.' (lit. "are good my thoughts/feelings"), c-əl̓ k'^{w}əc=l-ámə qə báb 'I saw you and Bob.', síy=C$_1$əC$_2$=məT-əs tə s=q^{w}ə́tx^{y}əm 'He's afraid of the fog.', s=x^{w}ɛ[=AaC$_1$ə=]θ' (/sx^{w}áx^{w}θ'/) tə x^{w}əlítəm. 'The white man is crazy.'

Analysis: The psychological state can be a psychological ailment or merely thoughts or feelings; it can also be a state experienced through sight or other senses. The fact that thoughts and feelings are both involved is natural to UH since //s=q^{w}ɛ̀·l=əwəl// has both allosemes. This word is used frequently to express thoughts and feelings of many kinds but since it is a noun, not a verb, the subject is expressed by the possessive pronoun attached to the word before it (as in the first sentence). The next examples show the experiencer expressed by preposed subject pronoun, suffixed subject pronoun, and NP, respectively.

3.6 Force

Force (FORCE): non-sentient entity that triggers an action or process. For ex. *English* A very strong wind blew down the tent., A panic on the stock exchange destroyed all his profits. For ex. *UH:* ʔuɬ mə pəh=ɛ́·ls 'It started to blow.', literally "already start to/come to blow wind", q^{w}ɛ[-Aí-]y=x̌=T-ət tə téməx^{w}. 'There's an earthquake.', literally "The earth shook (itself).", ***but not*** lám=əT-əs tə s=x^{w}əx^{w}(=)á·s 'Lightning strikes., A thunderbolt (strikes)., (Thunder throws and hits s-th.)', literally "thunderbird throws and hits s-th" since Thunderbird is regarded as a sentient entity who produces thunder and lightning.

Analysis: In the first example the verb root includes both the force and the action (wind blows). In the next ex. a NP is the force. In the third sentence no force is actually expressed since there is no word for what Thunderbird threw (English calls it a thunderbolt or a bolt of lightning); Thunderbird is not actually mentioned in the sentence and is only found in the cognitive context of the utterance or conversation. Therefore, sentence 3 is not an example of the semantic role of Force, since neither the Thunderbird nor the thunderbolt are actually expressed.

3.7 Instrument

Instrument (INSTR): the thing used by the Agent to carry out the action or process. For ex. *English* We stirred the rich creamy broth with soup spoons for hours. For ex. *UH:* hák^{w}=əx^{y}-əs tə s=ƛ'əqə́w=təl 'He used the awl.', q'əwə=é ~ q'əwə=ém or q'əwə=əm 'using a cane, walk with a cane', k'^{w}áq^{w}=əT-áx^{y}-əs tə q'ə́wə 'He hit me with a cane.', but the root itself has the meaning 'with a sticklike object' included, i.e., k'^{w}áq^{w}=əT 'beat s-o/s-th with a sticklike object, hit s-o/s-th (on purpose), hit s-o intentionally, club s-o'.

Analysis: There is an interesting variety of expression of the instrument in these examples. The first sentence has it expressed as a NP object of 'use'; the second has it as the noun root which is made into a verb with =əm; the third example has it as a semantic component of the verb root ('hit with a sticklike object') and also has this verb followed by an NP to further specify what kind of sticklike object the instrument is. When the verb in the last example is used all by itself it includes the instrument in the meaning of the root. The word meaning 'with' is not used instrumentally in UH; a separate NP with hák^{w}=əx^{y} 'use s-th' is the most general and most frequent means of expressing the instrument.

3.8 Malefactive

Malefactive (MAL): someone on whom an action has an adverse secondary effect. For ex. *English* She ate the desert I had ordered., Bob told me a lie. For ex. *UH:* qá·=C$_{l}$ə-ə4(c)=T-áx^{y}-əs tə-l tí 'He/She drank my tea on me.', c-əx^{w} ləkʷ-ə[=Aá=]4(c)=T-áx^{y} tə-l s=x̣élə 'You broke my leg for me.', C$_{l}$í=q'ɛl=sT-àm 'You're being fooled.', q'ɛl=sT-ə[=Aé·=]x^{w}-əs ʔɛ́·4təl tə lɛw(=)éc=tən 'They fooled Lawéchten., They lied to Lawéchten.'

Analysis: The malefactive can be expressed by the suffix -ə4(c) followed by control transitivizer then the pronoun object (the c is lost in some dialects or consonant combinations for both benefactive and malefactive). It can also be expressed by an NP the object of a negative action (fool, lie to, etc.), but such an NP can also be analyzed as the process patient. This is another example that shows the interpretation can sometimes depend on further cognitive context not found in the sentence but shared between speaker and hearer or conversational context or not yet present. Ambiguity may be accidental or purposeful or a matter of focus depending on the speaker or hearer.

3.9 Manner

Manner (MANR): the way in which an entity performs as Agent or Force. For ex. *English* Fido hungrily gnawed the bone., He spoke in an awkward way. For ex. *UH:* yə4iyá·q^{w}t k'^{w}əs x^{w}əʔí· 'he arrived last', ləc'éx^{w} səs yáys 'he only worked once', 4x^{w}é·4 səs x̣éyəθàx^{y}əs 'three times he hit me', x̣^{w}ə́m k'^{w}-əl-s k'^{w}əq^{w}=ém=əsT-àm 'I can knock you down fast. (lit. "it's fast

that-I you are knocked down/clubbed)", lɛ-ɬ ʔéy=əl x̌ʷə́m ~ x̌ʷə́m lɛ-ɬ ʔéy=əl 'Go away quickly.', líc̓xʷ lɛ y(ə)sq'əq'á 'Did you go together?', ʔíɬcəx̌ʷ tusʔéyʔél k'ʷɛs ʔíɬ lɛ́yəm 'you were laughing softly', q'ísət k'ʷəs səlɛ́ ~ səlɛ́ k'ʷəs q'ísət 'tie it tightly'.

Analysis: Semantically all the examples here express the semantic role of manner, which is usually expressed by an adverb or adverbial phrase in English. Halkomelem however usually puts the adverb in sentence intial position as the main verb (since most adverbs are adverbial verbs in UH) and then connects the semantic main verb as a subordinate verb. Only the fifth sentence (both alternants) has the adverb being used as an adverb rather than a main verb (however, even those cases could be analyzed as having x̌ʷə́m merely as a separate sentence or appositional sentence, rather than an adverb, though that seems less likely to me. Manner adverbs seem to work mainly as main verbs, while other adverbs (of time for ex., see below) work just as often as true adverbs syntactically. The main thing to remember here is that semantic roles are determined semantically rather than syntactically and may have various (even unexpected) means of morphological and syntactic expression.

3.10 Material

Material (MATRL): the state of the Patient before a process. For ex. *English* He made a car out of soap., She changed him from a slob into a gentleman. For ex. *UH:* x̱í(y)=T or x̱éy=T 'transform s-th/s-o, change s-th/s-o', ʔiyɛ́·q=T-əs tə s=xʷlɛ́·m tə s=pá·l ƛ'é-su mə́ xʷə s=wíyəqə, 'The Indian doctor changed a crow into a man.', s=k'ʷɛ́y-ə k'ʷə-l-s ʔiyɛ́q=T tə-l tɛ́lə, 'Can't I change my money?', ʔə-s-u θíy=T-əs tə C̓á=ləc'ə; kʷú·=T-əs tə s=yáɬ qə-ƛ'a-s-ʔəs-əw θíy=T-əs tə cí·t=məxʷ, 'So one man made it; he got some wood and made an owl.', ʔiyáq=θ=ət tə s=kʷáwəc ʔə-su xʷə məstíyəxʷ, 'The sturgeon changed into a person.', literally "he changed himself purposely the sturgeon and so became person" so the sturgeon is the agent foremost and himself is the material.

Analysis: The morphophoneme =T represents /t/ before 3rd person and /θ/ before 1st and 2nd person object suffixes and reflexive =ət. By itself it is the purposeful control transitivizer and also part of the causative control transitivizer (=sT). With 3rd person object being zero after the purposeful control transitivizer I have sometimes underlined the =T as if it were a portmanteau morpheme (for convenience instead of having =T-Ø). Instead of using prepositions to express the material semantic role, UH uses pronoun objects with verbs of change and creation; the examples here also show an NP object can specify the material more fully (coreferentially with the obligatory pronoun object marker).

3.11 Patient

Patient (PAT): the most affected entity, in general. It has several subtypes.

3.11.1 Dynamic Patient

Dynamic patient (DYN PAT): the entity that is moving. For ex. *English:* Boris was sent home for spitting., He fired three shots. For ex. *UH:* lɛ-c-x^{w} cəsɛ́=əT k^{w}-s lɛ́=m-s k'^{w}ə s=x^{w}iyəm=ɛ́lɛ́ 'Send him (to go to) the store.', lɛ́=m-c-əl q^{w}ɛ́·s[-M1-]=əyəl, 'I'm going to throw a net into the water (to drift).', k'^{w}q^{w}=əm=ə́T-ət 'drop oneself into a seat, throw oneself on the floor or ground in a tantrum, throw a tantrum', lə q^{w}ə́s=M1=T-əs tə s=lə́x^{w}ə$\dagger$, 'Someone launched a canoe.', lám=əT-əs tə s=x^{w}əx^{w}á·s, 'Lightning strikes it., A thunderbolt strikes it.', literally 'the thunderbird/thunder throws and hits s-th/s-o' (the object suffix is the thing struck, not the unspecified thing thrown which is only implied in the verb root)..

Analysis: The dynamic patient is shown in the first sentence by the pronoun object suffix (actually zero), in the second by a lexical suffix for 'net', in the third by the reflexive suffix, in the fourth by an NP object, and in the fifth is implied by the verb root. The pronoun object and NP object are the most common devices.

3.11.2 Static Patient

Static patient (ST PAT): the entity that exists in a particular place or time. For ex. *English* The ancient prehistoric camp was at the mouth of the river., The time is now., He lived in Philadelphia. For ex. *UH:* ʔi-$\dagger$-c-əl lí k'^{w}ə Chilliwack, [ʔi$\dagger$cɪl lí k'^{w}ə čílə wæk], I was at Chilliwack (the modern non-Indian town).', li λ'ələ[=Aɛ́=]x^{w} s-əl tɛ̀l, 'Is my mother home?', ʔi-$\dagger$-c-ət li tə s-q'^{w}əy=íl=əx^{y}, 'We were at the dance.', spɛ́θ, 'It's a bear.', spɛ́θ-ə, 'Is it a bear?.'

Analysis: This role is very simply expressed, usually as the subject pronoun or NP subject. In some cases a nominal is moved to the front of a sentence and converted thus into an existential verb/stative. The last two examples show that is a static patient too.

3.11.3 Process Patient

Process patient (PROC PAT): the entity changed by the action or process. For ex. *English* They encouraged her to play the concerto., He flunked the test. For ex. *UH:* lə $\dagger$íc'=əT-əs tə qə́x̣ s=méyəθ, 'He cut off lots of meat.', $\dagger$íc'=əq^{w}=əm, 'cut one's hair' (=əq^{w} 'on the hair, on the top of the head', =əm '(middle voice)'), $\dagger$ɛ́·w=əT 'cure s-o, heal s-o by Indian doctoring', mɛ́y=T-à·m λ' mɛ́lí, 'Mary (absent) helped you.; (lit.) You were helped by Mary.'

Analysis: The first example show the process patient as an NP object, the second as a lexical suffix with the middle voice confirming who the hair belongs to, the third as an active pronoun object, and the fourth as the passive pronoun object.

3.11.4 Transfer Patient

Transfer patient (TRSF PAT): the entity of which ownership or control is transferred. For ex. *English* He gave me his watch., He stole a kiss., He gave me an idea. For ex. *UH:* xʷáy=əm=əT-əs t=u=λ'a tə s=θ'áqʷ(=)i, 'He sold the fish.', ʔɛxʷ=əT-áxʸ-c-əxʷ; ʔə-c-əl-uɬ mə k'ʷὲ·y, 'Give me some food; I'm hungry.', literally 'you give me food; ambiguous past -I -already become hungry' (food is implied in the root), ʔɛxʷ=əT-áxʸ-c-əxʷ tə-l s=q'ílə, 'Give me my wind-dried salmon.', literally 'you give me food the -my dried fish/dried meat', ɬí-xʷ ʔéxʷ=əs=T k'ʷə mok'ʷ=wɛ́t=əs, 'when you give everyone equal amounts or equal share' (stem means 'give equal amounts/an equal share'), yə́x̌c=əT-áxʸ-əs, 'He gave it to me as a gift., He gave me the gift.' (root means 'give (as) a gift'), mə q'o[=Aə́=]l=sT-əxʷ-əs, 'He brought it back., He returned it., He gave it back'.

Analysis: The first example shows the transfer patient as an NP object, the second as an included part of meaning of the verb root, the third has both of these, the fourth has the same root but a derivational affix and the transfer patient (equal amounts) is implied then in the stem, the fifth has a different root but the patient is again implied in it (a gift), and the sixth has it as a pronoun object of a causative (-əxʷ).

3.11.5 Verbal Patient

Verbal patient (VBL PAT): what is said/written/thought in words. For ex. *English* They said, "Go home now.", He thought, "She'll never give me the time of day." For ex. *UH:* ʔowə-ɬ lə θə́t wə-láy-əs tə s=ɬə́məxʷ, 'They never said if it was only the rain.', esu xʷ=θət=íwəl, "éy t'wə kʷ'ə ls la kʷ'écləxʷ." 'So he thought to himself, "I'd better go see her.", lə t'í[-C$_1$ə-]l=əm tə s=yə́w=əl-s tə sí·lə, 'She's singing her grandmother's spirit song.', t'íl=əm=məT-áxʸ-əs, 'He sings about me.', c-əl t'í·l=əm=məT xʷa[-C$_1$ə-]y=íwəl tə ʔí-ɬ ʔɛ s=kʷál, 'I sang happy birthday to you.', literally 'I sang about being happy the past your birth', li ʔɛ s=qʷὲ·l=əwəl kʷ-s xʷəʔí·-s wɛ́y·əl=əs, 'Do you think that they will come tomorrow?'

Analysis: The first examples has the verbal patient expressed by a subordinate subjunctive clause, the second by a sentence following the verb of reporting, the third by an NP object, the fourth by the indirectly affective control transitivizer plus it's object pronoun, the fifth by the same transitivizer and the words of the song following it, the last by a subordinate clause.

3.12 Place or Location

Place or Location (LOC): physical or abstract location, e.g. on a scale. There are several subtypes.

3.12.1 Dynamic Range

Dynamic Range (DR LOC): path or area traversed by PAT, AGT, etc. For ex. *English* We ran along the river., The music echoed through my mind., We rolled little Billy all the way down the hill. For ex. *UH:* lí ɬəʔɛ́ k'ʷə=lá 'Did he go through there?', c-əl yə=ɬ(=)əʔɛ́ k'ʷə s=q'éw=ləc 'I went through (via) Scowlitz.'. ƛ'əp=íl=əm/ 'go down hill, go down from anything', yə=xʷə=ˊ=wəq'ʷ=əl=əm 'travelling by going downriver', literally "travelling along going downriver",, lɛ́=m tə s=ləʔɛ́=álwəɬ-s tə xʸɛ́ɬ [læ⁵m tə¹ slə¹ʔá⁵lwəɬ-s tə⁶ xʸɛ̀³ɬ (with pitch transcription)], 'He went across the road.'

Analysis: ɬəʔɛ́ 'go via, go through' is an interesting verb that includes the motion as well as indicating that what follows is a dynamic range (shown by the prepositions 'via' and 'through' in the translation. In the third example the verb root indicates the dynamic range (down, alloseme downhill), while it's suffixes indicate 'go' and middle voice. The fourth example shows a verb which indicates both the motion and the dynamic range, by yə= 'travelling along' + xʷə= 'get, become', + ˊ= (derivational) + wəq'ʷ 'downriver', + =əl 'go, come', + =əm middle voice. The last example uses a verb of motion, lɛ́=m 'go, go to, going, going to' which includes a directional preposition in its meaning 'to', followed by an NP ('the other side of the road'). The verb is often followed by an NP that is either the dynamic range or the destination.

3.12.2 Static Range

Static Range (SR LOC): location of AGT, PAT, etc. For ex. *English* They were in the grocery store., He found the boys in a flour bin. For ex. *UH:* eló:lh 'be aboard, be in (a conveyance)', slíw 'be inside (a hollow object), be in (a hollow object)', shxwá:ye 'be in the middle, be in the center ', ləʔɛ=ás tə xʸɛ́ɬ tə-l lɛ̀lə̀m 'My house is facing the road.', li tə xʸɛ́ɬ tə-l málə 'My child is in the road.', lí tə stúp 'It's on the stove.', ʔi-ɬ-c-ət li tə s-q'ʷəy=íl=əxʸ 'We were at the dance.', xʷə=yə[=Aá·=]l=əqʷ '(become/get) upside down'.

Analysis: The first three examples express the static range in the verb itself. The fourth shows it by the verb root followed by a NP, while the next three show the static range expressed by prepositional phrases, and the last example shows it expressed in the verb stem (lit. "become turned on the top of the head").

3.12.3 Source

Source (SRC LOC): location of PAT, AGT, etc. at the beginning of motion. For ex. *English* The train went from Regina to Banff until several years ago. For ex. *UH:* mə-cɛp təl=ɬá·s 'I came from downriver', lɛ-cxʷ cá·m qə tə́s=cəxʷ ʔà tə s=mɛ́·lt 'you go away from the water till you (just) get to the mountain', s=qəw=ás-s tə s=mɛ́·lt kʷ-s mə p'ə́θ' tə s=yə[=Aá·=]qʷ=əm təl=lí tí ƛ'a lə qəw=ə[=ˊ=]T-əm 'It's the warm side of the mountain that the sun just

comes out (squeezes out) on from (over) there, so that it was warmed.', lém k'ʷə cúcu 'go toward the river or away from the shore'

Analysis: The first and third sentences express the source location with a root prefixed with təl= 'from', frquently used with locations to show where someone is from. When combined with a verb of motion, like mə/mi/ʔəmi 'come' it often shows the source. The second sentence has a root, cá·m, meaning 'away from the water'; similarly cúcu means 'toward the river' or 'away from the shore'; there are several sets of these directional roots in Halkomelem, Lushootseed, and other Salishan languages.

3.12.4 Destination

Destination (DEST LOC): intended or actual location of PAT, AGT, etc. at cessation of motion. For ex. *English* The train went from Regina to Banff., He fired at the target but missed. For ex. *UH:* lém-c-əl k'ʷə ʔɛhíw 'I'm going upriver', lém k'ʷə cúcu 'go toward the river or away from the shore', lɛ-cxʷ cá·m qə tés-cəxʷ ʔà tə s=mɛ́·lt 'you go away from the water till you (just) get to the mountain'

Analysis: The first two examples have NPs or nominalized verbs which indicate the destination. The article which begins each NP is one that indicates 'the (distant, out of sight, remote)'. The last has a verb which expresses general destination (tés 'approach, get near, get up to') and an NP which expresses the specific destination. This verb is frequently found as part of destination roles.

3.13 Recipient

Recipient (RECIP): the entity who receives a Transfer PAT or Verbal PAT. For ex. *English* I gave the bomb to Sergeant Bailey., I inherited an ancient Egyptian curse. There are several subtypes.

3.13.1 Verbal Recipient

Verbal recipient (VBL RECIP): the entity who receives the Verbal PAT (words, song, etc.). For ex. *English* Dick said to Jane, "the hill is too steep. Spot can't make it." For ex. *UH:* esu xʷ=θət=íwəl, "éy t'wə kʷ'ə ls la kʷ'écləxʷ." 'So he thought to himself, "I'd better go see her." (xʷ=θət=íwəl is lit. "say =inside/in the mind"), ʔəwə-ə-ɛ́ɬ t'íl=əm=sT-àm tə s=yéw=əl-s, 'Does he ever sing you his spirit song?', literally 'is not -interrogative -past habitual you are sung for the spirit song -his', literally 'weren't you ever sung his spirit song', éy t'wə kʷ'ə ls wɛ[=Aé=]y=T-ámə, 'I'd better warn you'

Analysis: In the first sentence the verbal recipient is expressed by a lexical suffix ('inside/in the mind'). In the second sentence it is expressed by a passive object pronoun suffix; in the last by an active object pronoun. The verbs must all be verbs of reporting.

3.13.2 Transfer Patient

Transfer recipient (TRSF RECIP) or Proprietary recipient (PROP RECIP): the entity who receives a Transfer PAT. For ex. *English* Jane frowned and gave Dick an odd look. The merchant sold Delilah seven veils. For ex. *UH:* ʔɛxʷ=əT-áxʸ-c-əxʷ; ʔə-c-əl-uɬ mə kʼʷὲ·y, 'Give me some food; I'm hungry.', literally 'you give me food; ambiguous past -I -already become hungry', ʔɛxʷ=əT-áxʸ-c-əxʷ tə-l s=qʼílə, 'Give me my wind-dried salmon.',ɬí-xʷ ʔéxʷ=əs=T kʼʷə mokʼʷ=wɛ́t=əs, 'when you give everyone equal amounts or equal share', ʔiləq=əɬc=T-á·xʸ-c-əxʷ 'You buy it for me.' ('you' is the agent and the transfer recipient, 'me' here is benefactive and the ultimate recipient but is not stated as the recipient yet here).

Analysis: In the first three examples the transfer patient is the object pronoun suffix on the verb of transfer. In the third example, an NP also specifies the transfer patient in more detail. In the last example, the subject pronoun suffix is both the agent and the initial transfer patient once the sale is complete.

3.14 Referent

Referent (REF): the limits of a state, action, or process. For ex. *English*: They studied as hard and as long as they could., They were as happy as they could be. For ex. *UH:* tim=ə[=ˊ=]T-əɬ tə s=pəh=ɛ́·ls, 'The wind is hard.', literally 'exerts itself as hard as possible the wind', láy s=qwɛ́l=əwəl-s ƛ̓' mɛ́li kʼʷə qá·, 'Mary is only thinking of water.', literally 'water (indefinite) is the only thought of Mary', hə-wəθʼɛ́=T-ɬɛ qə ƛ̓'a-s-u xɛ̓̀·m-s, 'Tease him till he cries.', cʼé[=C¡ə=]l=əw s=cəwát, '(He's/She's/They're) very smart', cʼɛ́[=C¡ə=]l wəl θəʔí·t s=ʔú·məɬ, 'He's really truly lazy.', xʷɛ́·lq=i tás tə kʸá, 'He almost got hit by a car.', xʷɛ́·lq-c-əl lí-l lɛ́·=m, 'I almost went.', ɬxʷɛ́·ɬ səs x̣éyəθàxʸ əs 'three times he hit me'.

Analysis: Since this role expresses the limits to a verb, it is usually filled by an adverb or adverbial phrase in both English and UH. Since adverbs in UH are usually also adverbial verbs, the latter may also serve here. In the first example, the referent is such a verb, meaning 'do it harder, hard, as hard as possible'; it is the main verb in the sentence since the NP subject is the wind and the verb blow is implied as the action it does. In the second example, 'only' modifies a noun used as a verb, "it is her only thought." The third sentence has a subordinate clause filling the referent role. The fourth sentence has a preceding adverb modifying the main stative verb, and the fifth has an adverbial phrase as referent modifying the main stative verb. The role of referent is filled in the sixth sentence by an adverb, in the seventh by an adverbial verb made the main verb sytactically but connected by an auxiliary to the semantic main verb. The last example has a numeral used as a syntactic main verb (adverbial verb) and followed by a conjunction to join it to the main semantic verb ("it was 3 times that he hit me"); the speaker here uses a clipped form of the conjunction (kʷsəs > səs).

3.15 Result

Result (RES): the state of the PAT after a process. For ex. *English*: He carved the starship Enterprise out of hickory wood., The students in his semantics class were brilliant after he showed them his theory of three-dimensional semantics. For ex. *UH:* ʔiyɛ́·q=T-əs tə s=xʷlɛ́·m tə s=pá·l ƛ'ə́-su mə́ xʷə s=wíyəqə, 'The Indian doctor changed a crow into a man.', ʔiyáq=θ=ət tə s=kʷáwəc ʔə-su xʷə məstíyəxʷ, 'The sturgeon changed into a person.', literally "he changed himself purposely the sturgeon and so became person", θíy=T-c-əxʷ kʼʷə s=lə́xʷ=wəɬ, s=qʼə́m=əl, qɛ-s kʼʷə s=x̲ʷóqʼʷ=təl, 'Make a canoe, a paddle, and a canoe pole.'

Analysis: As with the semantic role Material, this role usually has a verb that expresses change, transformation, or creation. The first example is literally "he changed it the Indian doctor the crow and so it came to become (a) man"; in both sentence 1 and 2 the Material is in the first sentence, and the Result is in the second sentence which is conjoined by a conjunction (ƛ'ə́-su or ʔə-su); the use of the verb xʷə 'become' before the Result semantic role is fairly frequent and is found in both examples. In the last example, three NPs follow the verb '(you) make it' and are each an object of the verb.

3.16 Stimulus

Stimulus (STIM): the entity which triggers a psychological state. For ex. *English*: Fear of Friday the 13th kept her home., Photos of Desiree sent Melvin into rapture. For ex. *UH:* síC$_1$əC$_2$=məT-c-əl tə híkʷ s=pɛ́·θ, 'I'm scared of big bears.', ʔówə-c-əl síy=C$_1$əC$_2$=məT tə s=pɛ́·θ, 'I'm not scared of bears.', síy=C$_1$əC$_2$=məT-əs tə s=qʷə́txʸəm 'He's afraid of the fog.', xʷəʔí·t t-ɛ s=qʷɛ̀·l=əwəl, 'What are you thinking about?', literally 'what is it doing/saying/what's happening to/with it the (present and visible unmarked) - your thoughts', láy s=qʷɛ̀·l=əwəl-s ƛ' mɛ́li kʼʷə qá·, 'Mary is only thinking of water.'

Analysis: The semantic role of Stimulus is expressed in each of the first three examples by an NP and the two suffixes on the preceding verb (3rd person object (zero) and =məT 'indirectly affecting s-o/s-th (control suffix)'. The fourth example has an interrogative verb expressing the stimulus of the thoughts. The last example has an NP as the subject Stimulus of a noun used as a verb (lit. "is her only thought by Mary some water" -> "Some water is Mary's only thought." -> 'Mary's only thinking of water.').

3.17 Telic

Telic (TELIC): the purpose of action or motion. For ex. *English*: He left to get a sandwich., He avoided the market due to the crowds. For ex. *UH:* lə hákʷ=əxʸ-əs θə-l tɛ̀·l tə χʷíyləm kʷ-s-əs pʼówíy-t-əs tə-l s=ʔí·θʼ=əm 'My mother used the thread to patch up my dress.'

Analysis: Only one UH example is given here but it is quite representative of how the Telic role is expressed, i.e. by a separate sentence conjoined by a conjunction (here kʷ-s-əs, lit. "that - nomininalizer -3rd person subject"; UH conjunctions usually nominalize then possess the following sentence, showing its subject as the possessive pronoun suffix on the conjunction).

3.18 Time

Time or Temporal (TIME): the temporal location of an action, state, or process. There are several subtypes.

3.18.1 Duration

Duration (DUR TIME): length of time. For ex. *English*: Desiree tanned topless on the beach for three hours. For ex. *UH:* ɬə́q'əɬ wiyáθ c'í·yəɬ yə́ xʷə̀lmə̀xʷ k'ʷuɬíθəɬ 'the people used to pray all the time, long ago', wəɬíθ k'ʷəs kʷəlɛ́t 'he'll have it a long time', mok'ʷ s=lɛ́t k'ʷ-s k'ʷák'ʷəƛ'-c-ət-cɛ 'We'll be making love all night.'

Analysis: Unlike English, which uses prepositional phrases frequently to express semantic roles of Time, UH never uses prepositional phrases for this; instead UH prefers adverbs or adverbial phrases and sometimes simply NPs. The first examples uses an adverb before the verb, the second uses an adverbial verb as syntactic main verb followed by a conjunction then the semantic main verb. For Duration the third example uses an initial NP without article, as a main verb ("it's all night that we'll be making love", a statement of Mink, of course).

3.18.2 Point in Time

Point (PT TIME): locus in time. For ex. *English*: On Friday she caught the cruise ship home. For ex. *UH:* ɬə́q'əɬ wiyáθ c'í·yəɬ yə́ xʷə̀lmə̀xʷ k'ʷuɬíθəɬ 'the people used to pray all the time, long ago', cəl lɛ́m cəlɛ́qəɬəɬ 'I went yesterday', lɛ́=m-c-əl-cɛ k'ʷə s=yilɛ́w=əɬ=lɛ́t, 'I'm going to go on Monday., I'll go on Monday.'

Analysis: The first two examples show Point in Time with adverbs occurring at the end of each sentence. The third sentence show it filled by an NP at the end of the sentence which is neither subject nor object ("I'm going to go the Monday").

3.18.3 Start

Start (START TIME): initial temporal boundary. For ex. *English*: They sipped piña coladas on Sunday from three to six. For ex. *UH:* wəyɛɬàl səs θíyt (EB) 'I just started to make it', tə́xʷ-c-əl-cɛ k'ʷə́clàmə̀ 'I'll see you later, I'll

see you in a while' (lit. "it will be later I see you"), lɛ́=m -c-əl-cɛ lɛ́t=əɬ(-əs) wɛ́yəl-és 'I'll go early tomorrow morning.'

Analysis: The first example expresses Start Time with an adverbial verb inflected with subjunctive prefix and 1st person sg. subjunctive subject pronoun; this is conjoined by a clipped conjunction to the main semantic verb. Start time is expressed in the second sentence by another adverbial verb, this time inflected as main verb (non-subordinate subject + subject pronoun + future tense), thus "I will later see you." The third example has it expressed by two nouns (one modifying the other)(lit. "morning tomorrow") which simply follow the main verb as an adverb or adverbial phrase would, without any demonstrative article.

3.18.4 Finish

Finish (FIN TIME): final temporal boundary. For ex. *English*: The dusty cowboys sat in the bar till closing time. For ex. *UH:* wə-tés-əs-cɛ k'ʷə tés k'ʷə s=ɬíxʷ=s 'until three o'clock' (lit. "when it will reach/get up to what is next to/reaches the 3rd cyclic period"), ʔí·təɬ-c-əl-cɛ wə-tés-əs-cɛ k'ʷə tés k'ʷə wɛ̀yèl=ès 'You'll be asleep until tomorrow.', wə-tés-əs tə s=ɬí·xʷ=s, 'when it gets three o'clock'

Analysis: Finish time in these examples are expressed in a complex manner, using the verb tés 'reach, get up to, be next to' twice in each phrase (lit. "when it will get up to what is next to/reaches the 3rd cyclic period/the tomorrow"). The third example shows a simpler construction omitting the k'ʷə tés, i.e. 'when it get up to three o'clock' (s=ɬí·xʷ=s lit. "third cyclic period" can also mean 'Wednesday' (the third day) (s= 'ordinal' + ɬí·xʷ 'three' + =s 'cyclic period').

3.19 Vehicle

Vehicle (VEH): means of motion. For ex. *English*: Desiree and Brent took a slow cruise ship to Jamaica. For ex. *UH:* lí-c-xʷ mi ʔəl=á·ɬ tə (s=ləxʷəɬ, kʸá·, s=tiqíw), 'Did you come by (canoe, car, horse)?', ʔím=əxʸ=ás=əm ʔəl=á·ɬ tə xʷáqʼʷ=ələc=əm, 'go for a ride in a streetcar, go for a ride in a high-bow canoe', literally 'go for a walk aboard the streetcar/high-bow canoe'

Analysis: The examples show a variety of vehicles but all use a verb, /ʔəlá·ɬ/ 'be aboard', in apposition after the main verb and followed by an NP to give more specifics, to express the Vehicle semantic role. There are most likely other means for expressing the Vehicle semantic role, including some without the final noun phrase (where the Vehicle is included in the meaning of the root), or some that use a different verb. Time doesn't permit a more extensive search at this point. The final word, xʷáqʼʷ=ələc=əm means both high-bow canoe and streetcar, since it literally means "drags it's own bottom/ass".

3.20 Vocative

Vocative (VOC): the person being addressed in the utterance. For ex. *English*: Billie, would you tell me why you did that?
For ex. *UH:* siyɛ́m l siyɛ́yə, yáswə lɛcxʷ pípətlàxʸ. 'My dear friend(s), maybe you'll recognize me a little.'

Analysis: Note that when there is a second person pronoun in the sentence, the vocative semantic role could conceivably be replaced by the role of the 2nd person pronoun as both refer to the same entity (here both might have the role of experiencer, for ex.). However, syntactically the vocative is marked (as here) by omission of demonstrative articles and occurrence in sentence intitial position without a verbal meaning being imparted. Also, when there is no 2nd person pronoun in the sentence, the vocative semantic role is the best choice for such phrases.

4 Conclusion

Since it has been possible to find Halkomelem examples of all the semantic roles and subtypes present in English, this adds evidence to support the proposition that this set of roles with these definitions are semantic language universals. It alone does not prove that, but adds another language in favour of the proposition.

Further, seeing the important functions that semantic roles cover and how semantic role analysis can account for semantic relationships of almost all words and phrases in the large variety of sentences given here, it is clear that such analysis is an important feature of a complete grammatical description of any language. More are needed for Salishan languages to fill this gap.

A few morphemes and words occurring in sentences do not form part of any semantic roles, for ex. a few conjunctions (for ex. some which conjoin sentences, like su 'so', qə́su 'and so', ʔə́su 'so then', q'ə 'but', li 'yes/no interrogative'). These are usually logical operators. I believe there may be a few others but the number seems very small. A complete semantic role analysis shows that embedded sentences and phrases can have embedded semantic roles and once embedded the unit serves as another semantic role in the sentence as a whole. And a complete semantic role analysis seems to account for the semantic functions of almost all the words and morphemes in the sentence.

There are too many interesting differences between English and Halkomelem in the morphological and syntactic expressions of given semantic roles to summarize here. They have been pointed out along the way. Suffice it to say here that due to its polysynthetic nature, Halkomelem incorporates many semantic roles within the verb word, which are separate phrases in English. Some are multiply coreferenced. Also, adverbs of manner are usually made main verbs and the semantic main verb is conjoined to it.

To show how sentences contain multiple semantic roles and how the methods described here should be used as an addition line in text analysis, I have

included an appendix with a portion of an Upriver Halkomelem text told 42 years ago. It also shows how embedded semantic roles can be treated and indicated, for ex. the Process Patient in the third line has several embedded semantic roles within it, as does the Static Patient in the next line, and the Verbal Patient in the last line.

5 Appendix

Following are a few UH sentences showing how such semantic roles and logical operators unify the semantic elements in the sentences.

From "The Story of the Flood," told by Daniel Milo to Oliver Wells, January 6, 1964:

(a) *siyə́m l siyə́yə, yáswə lɛcx*^{w} *pipətlàx*^{w}.
(dear)(my)(friend)(maybe)(you're going to) (recognize me a little)
VOC REF EXP TIME:STRT PSYCST PAT:ST REF
My dear friend(s), maybe you'll recognize me a little.

(b) *təʔilə sx*^{w}*ox*^{w}*iyə́m k*^{w}*səs lə wóq*^{ʔw} *tə tə́məx*^{w} *k*^{ʔw}*ə ʔiɬ.*
(this is) (story) (when it) (was) (drowned)(the)(earth)(which) (past)
REF ST:EX PAT:ST TIME:PT PAT:PROC TIME:PT PROC PAT:PROC
This is the story of when the earth of the past was drowned.

(c) *t'ə́·l k*^{ʔw}*ə lɛct ɬq'ə́ləx*^{w} *təlí k*^{w}*θə táym.*
(went out of sight)(what) (we're going to) (know it) (from)(that)(time)
PAT:ST EXP TIME:STRT PSYCST PAT:ST TIME:STRT
PROC PAT:PROC
What we would know from that time went out of sight.

(d) *lálɛc'ə swíyəqə təlíls ɬəq'ə́ləx*^{w} *k*^{w}*s wáq*^{ʔw}*cɛ tə tə́məx*^{w}.
(there's one person)(male)(he definitely)(knows it)(that) (it will drown)(the)(earth)
PAT:ST PAT:PROC TIME:STRT PROC PAT:PROC
ST:EX EXP REF PSYCST PAT:ST
There was one man who definitely knew that the earth would drown.

(e) *ʔásu θə́tstxʷəs tə sɨyə́yəs, tə məstíyəxʷ,*
(so) (he told them)(the)(his friends)(the)(person/people)
REF AGT VBL RECIP:VBL

"θiyə́mcɛp kʷ̓ə slə́xʷəɬ ʔiyá·ləm xʷələ́m kʷθɛ mə́mələ, kʷθə qə́x mə́mələs."
(you folks make)(a)(canoe)(right/correct)(for)(your)(children), (the one who)(has lots)(his children)
AGT PROC PAT:PROC REF BEN AGT
PAT:VBL

So he told his friends, the people, "You folks make a canoe right/good enough for your children, those who have lots of children."

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