



Representation of Socioecological Knowledge in Native Language Dictionaries

**The Wakefield Conference on Fishing People of
the North: Cultures, Economies, and
Management Responding to Change**

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Organization of Presentation

- **Dictionaries**
 - Commonly known features
 - Lesser known features – society, culture, history
- **Lexicon (words; dictionary entries)**
 - What they are and how they work
 - Need for category/domain organization
- **Socioecology**
 - Characterization
 - Need for a template
- **Attempt to reconstruct socioecology**
 - From an Iñupiat dictionary
 - Through reanalysis of pre-established categories
- **Conclusions**
 - Reconstruction is possible
 - Strategic focus on **Ethnobiology**, **Landscape** terms, and **Agency**
 - Reconstruction = culture history snapshot; salvage lexicography

Objectives I

Initial question – to what extent can socioecological knowledge be recreated from native language dictionaries?

Well-known features of dictionaries

- Contain alphabetized list of entries (words)
- Provide definitions of word meaning(s)
- Provide correct spelling
- Provide pronunciation guidelines
- Provide grammatical information (categories)
- May provide etymological (historical source) information
- Typically constructed by lexicographers (usually linguists)

Lesser known features of dictionaries



records of a

- Language
- Culture
- History

Objectives II

Basic premises/presuppositions

- Dictionaries are repositories of knowledge
- Knowledge = socially constructed information
- Information = how speakers cognitively construe the world

Further preliminaries

- Fundamental characteristic of humans – we traffic in words
- Grammar = constructional devices upon which to map words
- Texts oral and written are organized edifices of words**
- Meaning (cultural information) conveyed primarily through words

Necessary to understand what words are and how they “work”

- Agreed-upon, taken-for-granted forms (spoken or written)
- Forms are conveyances through which meaning is construed

Objectives III

A further look at words (lexical items)

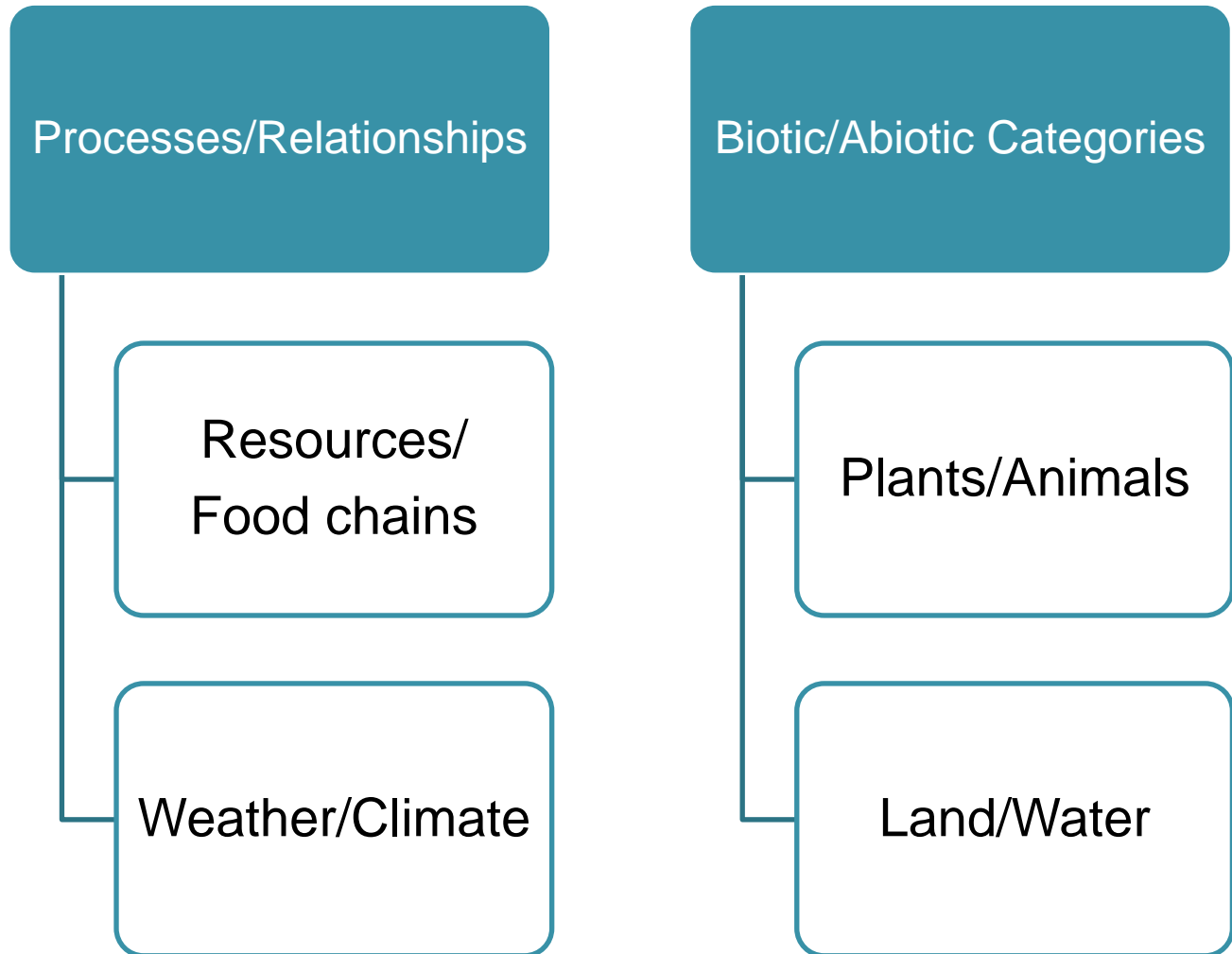
- Vast majority of words do not have fixed meaning
 - Only rarely a one-to-one relationship
 - Typically a word references a category
- Labels – dictionary entries
 - Names of words to be actualized in context
 - Reference/point to an exemplar of an object
 - Access/retrieve underlying packets of information (cultural models)
- Dictionary definitions provide summarized, core features of information packets (part of what is likely to be referenced)
- Meaning derives from social and cultural understandings
 - Underlying encyclopedic information derives from experience
 - Experience is sufficiently common and mutually understood to allow meaning to be exchanged

Dictionary Construction and Content

Ideal dictionary

- Constructive input from a team
 - Linguistic, social, cultural, and ecological experts
 - Collaboration with local/indigenous experts
- Electronic, interactive form (digital world)
- Updated systematically
 - To include new lexical items
 - To note lexical items that have become mainly historical
- Contains environmental categories/domains including analyzed lexical item relationships (socioecological template^{**})

Socioecological Template I



Socioecological Template II

Weather/Climate

Wind
Precipitation
Relative
Temperature

Seasonal Patterns
Diurnal Patters

Animals

Land

Sea

Socioecological Template III

- Tree structure for biotic/abiotic categories
 - Not especially problematic
 - Objects relatively distinct in nature
- Tree structure for ecological processes & relationships
 - Comparatively problematic
 - “Objects” not as distinctive, easily cognized
 - “Objects” not as likely to be lexicalized
- Agency
 - Also problematic
 - Typically derives from noun—verb relationships
 - Resides in semantic-based grammar

Socioecological Template IV

Technical ecology terms not likely to be elaborated in native language dictionaries

- Ecology is a specialized academic discipline
- Specialized terms – consumers; producers; food chains; apex predators; keystone species; habitats; niches; landscapes; trophic levels; carbon cycle; nitrogen cycle; colonized species; etc.
- Absence of terms does not mean that similar concepts do not exist
 - May be expressed in other linguistic structures, units
 - May be conceptualized and understood as patterns but not referenced

Eskimo-Aleut Family

Language Family	Language Name	Population	Speakers
Eskimo-Aleut	Aleut	2,300	150
	(*Russia)	200	5
	Sugpiaq (Alutiiq)	3,500	200
	Central Yup'ik	25,000	10,400
	Siberian Yupik	1,400	1,000
	(*Russia)	900	300
	Inupiaq (Inuit) *	15,700	2,144
	(*Canada)	30,500	24,500
(Greenland)	47,000	47,000	

Iñupiat Eskimo Dictionary

Webster, Donald H. and Wilfried Zibell. 1970. Iñupiat Eskimo Dictionary. Summer Institute of Linguistics, Inc. Fairbanks, Alaska

- Ahead of its time
- Electronic
 - Interactive
 - Spelling fonts
 - Entries retrievable by category
- Dictionary Categories
 - Creatures ✓
 - Heavens, Earth, Atmosphere ✓
 - Other Words
 - People ✓*
 - Place, Time, Descriptives ✓
 - Postbases (affixes, enclitics)

Dictionary Categories

Categories not truly ethnoecological

- Word/phrase lists (with illustrations)
- Reflect both linguists' and Iñupiat categorization
- Does not distinguish between kinds of categories
 - Perceptual/Intellectualist
 - Utilitarian
- Each category has to be reanalyzed to distinguish object-names from feature/characteristic names

Organizational categories – Iñupiat Dictionary

- Creatures
 - Animals of History and Legend
 - Birds
 - Fish
 - General
 - Insects
 - Land Animals
 - Sea Animals
 - Small Creatures of Land and Sea

Example Category – Fish -- Unanalyzed

Creatures

Fish

aanaaqjiq whitefish (big round nosed) (N)

afuun fin (lit. paddle)

aqaluk fish (n, kiv)

aqalukpik trout, lake trout, arctic char (n, kiv)

ataa its underside, ventral area

ijhuabniq rainbow smelt (*Osmerus dentex*)

ijjuqieiq blackfish (*Dallia pectoralis*) (K)

iqalugruaq salmon, chum, humpback salmon (N)

iqaluk fish (N, q)

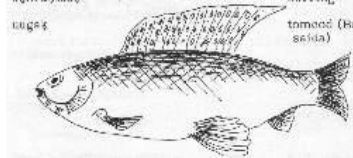
iqalukpik trout, lake trout, arctic char (N, q)

iqalusaaq whitefish (smallest) (N)

kanayuq bullhead, sculpin (*Oncocottus quadricornis*)



kavigsuaq northern sucker (K)



kavisiq fish scale

kavitchich scales

masrik gills

milugiaq northern sucker (s)

nataabnaq flounder

qaafa its topside, dorsal area

qaalbiq whitefish (smaller sharp nosed) (K)

qalugruaq salmon, chum, humpback salmon (K)

qaluk fish (K)

qalukpik trout, lake trout, arctic char (K)

qalupiat whitefish (*Coregonidae*) (K)

qalusraaq whitefish (smallest) (K)

qausrixuk whitefish (big round nosed) (K)

quptik whitefish (small sharp nosed) (K)

sii sheefish (*Stenodus leucichthys nelma*)

siilik northern pike (*Esox lucius*) (q)

sipik caudal fin, fish tail

Analyzed Category -- Fish

Life Form: *qaluk* fish

- Dialect varieties
 - iqaluk fish (North Slope villages)
 - aqaluk fish (Kobuk River villages)

Generics/Specifics/Sub-Specifics

- qalupiat whitefish (*Coregonidae*)
 - qausrixuk/aanaaqjiq whitefish (big round nose)
 - quptik/qaalbiq whitefish (smaller sharp nose)
 - iqalusaaq/qalusraaq whitefish (smallest)
- sii sheepfish (*Stenodus leucichthys nelma*)
- iqalugruaq/ qalugruaq salmon, chum, humpback salmon
- iqalukpik/qalukpik/aqalukpik trout, lake trout, arctic char
- ijhuabniq rainbow smelt (*Osmerus dentex*)
- kanayuq bullhead, sculpin (*Oncocothus cornis*)
- kaviksuag/muligiaq northern sucker
- nataabnaq flounder
- siilik northern pike (*E. sox lucius*)
- ixari/ sixu jellyfish
- ivixuq clam, shellfish, bivalve, mussel, snail
- ijjuqieiq blackfish (*Dallia pectoralis*)

Number of Terms: Creatures -- Land

<u>Fish</u>	37/15	Weasels	7/6
Caribou	32	Fox	5/5
(<i>C. parts</i>	82)	Lynx	3/3
Insects	25/14	Sheep	2/2
Birds	23/23	Wolf	1/1
Rodents	19/14	Reindeer	1/1
Dogs	18	Moose	1/1
General	11		

Number of Terms: Creatures – Sea/Other

Walrus 12(1)

Whales 8(4)

Seals 7(4)

General 7

Small

Creatures 12(10)

Number of Terms: Earth/Heavens/Atmosphere

Weather	[66]	Minerals 24(8)
Snow	36(4)	Heavens 19(10)
Ice	30(8)	
Plants	[54]	NOTE: potential landscape/socio- ecological terms
Trees	24(6)	
Berries	20(11)	
Edible	10(8)	
Lakes,etc	31(13)	
Mntns	25(10)	

Number of Terms: People (Historic Activities)

Travelling	[141]	
Land	83	
Sea		58

Food gathering	[115]	
Hunting	60	
Fishing	41	
Trapping		14

Socioecology – River Terms -- List

Word being searched for is: **river**

kanna down there, downriver, in front of
tasamma down there, downriver, oceanward, in front of
tasamma down there, downriver, oceanward, in front of
samma down there, downriver, oceanward, in front of
paa entry, door, opening (river mouth)
unna far down there, downriver, down at sea
supiruaq flows, rushes (river at break-up)
qamma inside (further from entrance than speaker), (upriver)
imaiqsuaq is low (water in river)
suvlubvik May (lit. rivers flow)
amma over there, outside, downriver, then (somewhat distant in place or time, intermediate between uvva and imma)
qavva over there, upriver (visible)
kuuk river
kuugaatchiaq rivulet linking a lake to river
qipaluq steep undercut river bank
qamma that one inside, that one upriver
kivva there (inwards, visible), (upriver, inland)
ataaqtuaq travels down river by boat
atiqsaqtuaq travels down river by sled
samufaqtuaq travels downriver, travels coastward
unufaqtuaq travels downriver, travels out on sea ice
tagraqtuaq travels up river by boat
talbaktuaq travels up river by sled
kuubuq tributary river
kivva upriver, inland, further inside
qamma upriver, inside (further from entrance than speaker)
kanaknibniqsuaq wind blows from the downriver direction
kivaknibniqsuaq wind blows from the upriver direction
kanagnaq wind from downriver, from ocean
kanaknaq wind from downriver, from ocean
kivaknak wind from upriver

Socioecology – River Terms -- Analysis

Distinctions: contrastive locatives, relative spatial location, direction

- Upriver vs. downriver
 - Upriver by boat vs. upriver by sled
 - Downriver by boat vs. downriver by sled
 - Wind from upriver vs. wind from downriver
- Inward vs. oceanward
 - Behind vs. in front of
- Down there vs. over there
 - Far vs. distant vs. near/visible
 - Entrance relative to speaker – closer vs. farther
- High river flow vs. low river flow

Other

River; tributary river; river mouth; rivulet linking a lake to a river; undercut river bank

Socioecology – Landscape

- Socioecology from native language dictionaries
 - Further analysis of terms for fauna and flora
 - Further analysis of landscape terms
 - Systemic analysis to link biotic & abiotic components
 - Attempt to identify/describe underlying cognitive models
 - Attempt to identify framework for consideration of agency**
- Linguistic-ethnographic dictionaries useful
 - As cultural and historical documents (salvage)
 - As baselines for constructing processes of change
 - As records of ways in which socioecological information is culturally organized
 - Toward construction of a template for socioecology