

Glossary from Lomax's Unpublished Ethnography

Dancing: A World Ethnography of dance Style, 1981 - Part 1 of 5 - Dance and

Human culture

ETHNOGRAPHICAL TOOLS - FIELDS OF OBSERVATION

Non Verbal Communication

Communication that conveys meaning without the use of spoken language and in which effectiveness is dependent on specific and shared cultural contexts. It includes but is not limited to facial expressions, movement qualities, gestures etc. According to Alan Lomax the grammar of nonverbal communication consists of posture, trace form and articulation of the limbs.

Body Language

Refers to various means, forms and ways of enacting nonverbal communication that start from the body and can be activated either consciously or unconsciously.

Phonetics

A branch of linguistics that focuses both on the sound and pronunciation of words, as well as their connection to the written symbols that depict those words.

Kinesics

Founded by the anthropologist Ray Birdwhistell, kinesics is the study of nonverbal communication based on concepts of American descriptive linguistics of the 1940s and includes facial expression, gestures, posture and gait, and visible arm and body movements.

Kinetic Language

Broader than body language. Kinetic language is not a system of signs.

Behavioral Patterns

Deductive schemas that refer to repeated, internalized and commonly shared ways of acting by an individual or a group towards an object, event or situation.

Cultural patterns

Shared patterns of behavior, cognitive constructs, traits that are learned and show some continuity through generations, and which reflect beliefs and behaviors of a culture.

Cross Cultural Research

Explores how individuals and groups of individuals organize their knowledge and how this knowledge is shaped by culture

Cultural codes

Knowledge and understandings that are shared within the same cultural context and through processes of symbolization are encoded in abstract schemas that can be either material or ideal.

Taxonomy

Classification that is based on underlying principles

Micro analysis

A zoomed in, very detailed based analysis on a granular level

Macro analysis

A zoomed out, very abstract big picture analysis

Emic level

Type of ethnographical qualitative data that are tacit, implicit and individually internalized. They might or might not be shared.

Etic perspective

A scientific meta – level of accumulating emic data. A scientific approach that shifts the focus from the implicit to the interpretations of the researcher.

Microsynchrony

Concerned with events existed in a limited time period on a micro level

Polyrhythm

Simultaneous production of two or more rhythms that do not necessarily come from the same meter or perceived as complementary of each other (rhythmic conflict)

Lexical Level

Level that refers either to spoken or written words in use. Comes from the Greek route lexis = word

Para communicative qualities - Paralanguage

Qualities that refer to the “how” of a spoken language that encapsulate intonations, rhythm, accent, cadence, volume and velocity of spoken words. Not a meta – level of communication but an integral part that lies beside it (para).

BIOGRAPHICAL SKETCHES

Rudolf Laban

(15 December 1879 – 1 July 1958) was a dance artist and theorist, notable as one of the pioneers of modern dance in Europe. His work laid the foundations for Laban Movement Analysis, Labanotation

Noam Chomsky

Is an American linguist, philosopher, cognitive scientist, logician, political commentator and activist. Sometimes described as the "father of modern linguistics"

Ray Birdwhistell

American anthropologist who founded kinesics as a field of inquiry and research

Edward Hall

An American anthropologist and cross-cultural researcher. He is remembered for developing the concept of proxemics, a description of how people behave and react in different types of culturally defined personal space.

Hall's concept of hidden dimension: "the subjective dimensions that surround each one of us and the physical distances one tries to keep from other people according to subtle cultural rules"

Curt Sachs

A German-born but American-domiciled musicologist. He was one of the founders of modern organology (the study of musical instruments)

Irmgard Bartenieff

Irmgard generated a new vision of possibilities for human movement and movement training. This vision was forged from her various careers as a dancer, choreographer, student of Rudolf Laban, physical therapist, research pioneer in cross-cultural dance analysis and prime mover in the fields of dance therapy.

Bartenieff developed her movement exercises and methodology Bartenieff

Fundamentals out of her experience as a physical therapist, utilizing Laban's

concepts of dynamism, three--dimensional movement and mobilization in rehabilitating polio patients in the 1940s

Forrestine Paulay

She collaborated with Alan Lomax in creating the method of cross-cultural dance analysis known as Choreometrics. A former dancer, she is a movement analyst, teacher, and consultant in cross-cultural movement style. She is also a co-developer of the Laban Effort/Shape training program, which together with physiotherapist Irmgard Bartenieff and Martha Davis

LOMAX'S THOUGHTS ABOUT DANCE

- Dance is the progenitor of the performing arts
- Dance is a universal human activity

LOMAX'S THOUGHTS ABOUT ETHNOGRAPHY

- Ethnography needs corporeality in order not to reject the body
- Ethnography has to focus on the observation of human bodies in interaction
- Ethnography's goal should be the preservation of cultural heritage and inherited repertory of movement is an integral part of it
- Ethnography should support visual anthropology

CODING / NOTATING

Notation

Systematic process of coding nonverbal communication either implicitly or explicitly in order to transform the qualitative data into a form of documentable text and therefore increase its potential for further analysis.

Dance Notation Systems

Coding systems that are used to record and document dance, including, but not limited to: Feuillet, Laban, Benesh, Eshkol-Wachman systems.

LOMAX'S PERFORMANCE STYLES RESEARCH

Cantometrics

A method developed by Alan Lomax and his team members for relating folkloric data of each culture's traditional vocal music and folk songs to features of social organization

Choreometrics (choros – χορός + metrics – μετρική)

Method developed by Alan Lomax, Irmgard Bartenieff and Forrestine Paulay for studying dance as formalized, culturally conditioned communicative behavior. ¹

Parlametrics

Comparative study of conversational style²

Phonotactics (phono – φωνή (voice) + tactics – τακτικός (arranging))

Study of possible and impossible combination of sounds within a culture

Global Jukebox

Dataset in which musical, dance, and speech styles of single performances, whole cultures or regions of the world could be called up by the user.

SPECIFIC MOVEMENT OBSERVATIONS

Step style

Walking style that appears to be shared and continued within the same cultural framework

Palm presentation

¹ www.culturalequity.org

² www.culturalequity.org

Refers to palm gesture and movement that could be performed and perceived as a means of self representation.

LOMAX'S VOCABULARY THAT CAN BE ARTICULATED IN LMA TERMS

Flexion

Bend or decrease the angle between the bones of a joint

Extension

Reaching out towards the periphery of the kinesphere

Rotation

movement around the central axis³

Kinesphere (reach space):

“the sphere around the body whose periphery can be reached by easily extended limbs without stepping away from that place which is the point of support when standing on one foot, which we should call the stance”⁴

Monolinear

One limb or one part of the body at a time moves into a new space

Effort

A visible change in attitude. Effort is a system for understanding the more subtle characteristics about the way a movement is done to reflect inner intention or attitude.

Lomax uses the term energy. Forrestine Paulay described his understanding of energy as differentiating between forceful performance and languid or soft performance.

Space

³ www.stolaf.edu

⁴ Laban, Rudolf , and Lisa Ullmann. The Language of Movement: A Guidebook to Choreutics. Boston: Plays, inc, 1974. Print.

This category involves motion in connection with the environment, and with spatial patterns, pathways, and lines of spatial tension. Laban described a complex system of geometry based on crystalline forms, Platonic solids, and the structure of the human body⁵

Lomax uses the terms spatial frame

Polylinear: two or more limbs or parts of the body perform the change in space simultaneously⁶

Trace forms

The pathway or shape a movement makes in the air⁷

Pathways

The route of a single movement traced by the body or by a specific body part from one point to another⁸

Posture

Movement of the torso, including the spine; differentiated from gesture.

Gesture

Movement of the limbs, including the head, in an isolated but meaningful manner; differentiated from postural shifts or movements.

Actions

Verbs in the grammar of body language

⁵ http://en.wikipedia.org/wiki/Laban_Movement_Analysis

⁶ Laban, Rudolf , and Lisa Ullmann. The Language of Movement: A Guidebook to Choreutics. Boston: Plays, inc, 1974. Print.

⁷ Newlove, Jean, and John Dalby. Laban for All. London: Nick Hern, 2004. Print.

⁸ Ibid

One dimensional movement

The fundamental extension of the body towards either the vertical (gravity)/ up – down, the horizontal / right – left or the sagittal dimension / back – front⁹

Singular pull movement that takes the mover back and forth along the pull

Two dimensional movement

Originates from bilateral organization of our body.

It involves two pulls and unequal tensions between those pulls

Planal movement is a two dimensional movement that is unequally stressed

Door plane: vertical dimension is the primary pull – horizontal dimension is the secondary

Table plane: horizontal dimension is the primary pull – sagittal dimension is the secondary

Wheel plane: sagittal is the primary pull – vertical dimension is the secondary

Three dimensional movement

Between the bilateral extension and the movement into the third dimension there is a transitional stage which leads to diagonal directions¹⁰

Engages with all three spatial pulls, Vertical – Horizontal – Sagittal at the same time

Body Attitudes

Physical stance – an unchanging or based line shape that the body maintains.

⁹ Newlove, Jean, and John Dalby. Laban for All. London: Nick Hern, 2004. Print.

¹⁰ Laban, Rudolf , and Lisa Ullmann. The Language of Movement: A Guidebook to Choreutics. Boston: Plays, inc, 1974. Print.

Body stance in terms of still shape (wall like, ball like, pin like, screw like) that also refers to psychic states of mind. Often divided into concave and convex body shapes

Modes of Shape Change

Describe the way the body is interacting with and the relationship the body has to the environment. There are three Modes of Shape Change:

- Shape Flow: Representing a relationship of the body to itself. This could be amoebic movement or could be mundane habitual actions, like shrugging, shivering, rubbing an injured shoulder, etc.
- Directional: Representing a relationship where the body is directed toward some part of the environment. It is divided further into Spoke-like (punching, pointing, etc.) and Arc-like (swinging a tennis racket, painting a fence)

Shaping: Representing a relationship where the body is actively and three dimensionally interacting with the volume of the environment.

Successive

Monolinear movement/ kinetic chain through which adjacent joints move in a continuous sequence

Simultaneous

Polylinear movement/ kinetic chain during which all the joints move at once

Sequencing

How we guide the continuity of movement as it travels through us

Vertical plane

The door plane – feels like standing in a doorway – vertical is the primary pull while horizontal is the secondary.

Horizontal

The table plane – feels like standing in the middle of a rectangular plane with a side to side stress – horizontal pull is the primary while sagittal is the secondary

Sagittal

The wheel plane – feels like a rectangular “wheel” because of its mobility with a forward – backward stress / sagittal is the primary pull while vertical is the secondary

LMA

Applied movement analysis that maps human movement that can also be used as a recording system

Linear

Movement that traces or shapes lines in space

Curved

Movement that traces or shapes curves in space

Spiral

Movement that traces or shapes spirals in space

Phrasing

Perceivable units of movement which are in some sense meaningful. They begin and

end while containing a through line.¹¹

The length of a breath.

Shadow Movements

Shadow movements tell us about inner processes, are done unconsciously and accompany, precede, accompany or shadow one's deliberate actions. "They are tiny muscular movements such as the raising of the brow, the jerking of the hand, or the tapping of the foot, which have no other expressive value. They are usually done unconsciously and often accompany movement of purposeful action like a shadow – hence the term"¹²

¹¹ Hackney, Peggy. Making Connections: Total Body Integration Through Bartenieff Fundamentals. Australia: Gordon and Breach Pub, 1998. Print.

¹² Ibid

Glossary of Neuroscience Terms

action potential

an electrical signal that travels along the axon, away from the cell body to the axon terminal where it triggers the release of neurotransmitters

afferent

incoming information or neuronal connection; coming into or towards the central nervous system

amygdala

part of the brain involved in processing the memory of emotional reactions, notably fear and anger

anterior

toward the front or the head, see also *rostral*

association cortex

parts of cortex putting together and interpreting sensory information

audition

the sense of hearing; the ability to detect information from sound waves

axon

the neuronal process that sends the signal or message away from the cell body toward target cells or neurons

axon terminal

the very end part of an axon that makes a synaptic contact with another cell; the point where neurotransmitters are released

balance

the sense of body movement with respect to gravity

brainstem

the part of the central nervous system connecting the brain to the spinal cord; contains pathways sending information to and receiving information from the spinal cord and peripheral nerves; also contains neurons that control respiration and regulation of heart rhythms

caudal

towards the tail; the tail end of the nervous system

cell body

the bulbous part of the neuron, also called the soma, that contains the nucleus; controls processes by dendrites and axons

central nervous system

the brain and spinal cord

cerebellum

the highly folded part of the central nervous system above or dorsal to the brainstem that helps control movement, balance, and muscle coordination

cerebral cortex

the largest and most complex part of the mammalian central nervous system; appears as tightly packed fat ridges (gyri) and narrow folds (sulci); responsible for all forms of conscious experience, including perception, emotion, thought, and planning (cortex means *bark* in Greek; the bark of the cork tree looks like the cerebral cortex)

cerebral hemispheres

the two halves of the cerebral cortex: the left hemisphere is specialized for initiating speech, language, writing, and calculations, the right hemisphere is specialized for initiating spatial abilities, face recognition in vision, and some aspects of music perception and production

cerebrum

see cerebral cortex

circuit

sets of neurons connected in a pathway that perform a function; carries information from one point in the body or nervous system to another; uses electrical and chemical energy to carry information along a path and can have feedback and feed forward loops within it

corpus callosum

a large bundle of nerve fibers (myelinated axons) that link the right and left hemispheres of the brain; enables the two hemispheres to share information

cranial nerve

twelve pairs of nerves that arise from each side of the brain stem numbered I to XII from anterior to posterior

declarative memory

see memory, declarative

dendrite

tree-like extension of the neuronal cell body; receives chemical neurotransmitter signals or messages from other neurons

depolarize

movement of membrane potential to a higher (more positive) value

distal

away from, far end

dopamine

a neurotransmitter used in the brain's reward circuit which signals a positive benefit to an action not met expectation

dorsal

toward the back of the body or top of the head

dorsal horn

dorsal part of the spinal cord gray matter where axons from sensory neurons enter and make their first synapses

dura mater

tough, leathery outermost layer of the membranes surrounding and protecting the brain and spinal cord; lines the inside of the skull and drapes loosely around the spinal cord (*dura mater* is Latin for "tough mother")

electrolytes

charged ions such as sodium, potassium, chloride, and bicarbonate

endocrine system

system of glands and groups of cells that secrete hormones to control internal body states

efferent

outgoing information or neuronal connection; going away from or out of the central nervous system

episodic memory

see *memory, episodic*

feedback

when information from the end is also used to modify the process that produced it; in a feedback loop, information moves backwards to add into an earlier part of the pathway.

feedback loop

in a feedback loop, information moves backwards to add into an earlier part of the pathway

feed-forward

when information from one point in a process jumps ahead and adds into the process further on

firing rate

the number of action potentials generated per second

frequency

the rate of a repeated event; usually measured in # of events per second = Hertz (Hz); $\text{frequency} = 1 / \text{period}$

frontal cortex

any part of the frontal lobe; involved in decision making, evaluating, and directing behaviors

frontal lobe

front region of the cerebrum; the part of the cortex responsible for attention, decision making, abstract thinking, problem solving, emotion, intellect, muscle

movements, smell, and personality; motor cortex

ganglion (plural = ganglia)

a group or collection of neuronal cell bodies

gap junction

ion channels in adjoining cells that align to form electrical synapses; gap junctions are turned on and off by calcium and pH

glands

specialized groups of cells in the endocrine system that secrete hormones, directly into the blood rather than through a duct

graded synaptic potential

small change in membrane potential of the post-synaptic dendrite caused by transmitter released from the pre-synaptic nerve terminal; synaptic potentials are much smaller than action potentials.

gray matter

areas of the brain made up of neuronal cell bodies, dendrites and synapses; without a lot of myelin, these areas appear grayer in freshly dissected brain tissue.

gyrus (plural = gyri)

ridges or bumps of folded cerebral cortex

hippocampus

the oldest part of cerebral cortex responsible for spatial localization, formation of declarative memory, and transfer of short-term to long-term memories

homeostasis

self-regulating process by which a system remains stable by adjusting to changing

conditions

hyperpolarize

movement of membrane potential to a lower (more negative) value

hypothalamus

part of the brain that processes appetite, thirst, hormone regulation, control of internal body functions, sexual functions, and diurnal rhythms; the hypothalamus is a medial structure below (more ventral than) the thalamus

inertia

the tendency of a body to remain in a state of rest or uniform motion unless acted upon by an external force

ion channel

a membrane-spanning protein that forms a pore or hole through the plasma membrane; when the ion channel is open, ions move between the inside and outside of the cell (most ion channels are opened or closed by energy, for example, from a binding reaction, voltage, temperature, or light)

latency

a property of neurons specifying the time (in milliseconds) between arrival of a stimulus and production of the response; the time between a stimulus and its response

lateral

toward the left or right sides of the body, away from the middle; opposite of medial

lobe

large division of the cerebral cortex

long-term memory

memories that are stored in a variety of places in the brain over long periods of time

medial

toward the middle of the body; opposite of lateral

membrane potential

electrical difference between the inside and outside of a neuron or muscle cell

memory, declarative

type of memory used when recalling (or declaring) facts or experiences, as opposed to skills. Both semantic and episodic memories are declarative memories and can easily be forgotten

memory, episodic

type of declarative memory used when one talks about events in one's life (includes time, place and emotions)

memory, procedural

type of memory used in performing skills, learned behaviors, or procedures; remembering how to do something like tie a shoelace; procedural memories are easy to do but difficult to explain to others (for example, it is easy to demonstrate how to ride a bike but it is not easy to describe how to do it); procedural memories are less likely to be forgotten.

memory, semantic

type of declarative memory used when talking about facts and concepts

meninges

three membranes (the dura mater, arachnoid mater, and pia mater) that cover and protect the brain and spinal cord against shocks, knocks, and vibrations; blood vessels run between the arachnoid and pia mater before entering into the cortex

motor cortex

part of frontal cortex that sends messages to the spinal cord for movement control;
see frontal lobe

motor learning

is the process of improving the smoothness and accuracy of movements through practice. During motor learning (and other learning), synapses in neural pathways in the brain are strengthened so that the actions (or thought) progress smoothly with less conscious direction.

motor neuron

a neuron that carries information away from the central nervous system to muscles;
a motor neuron sends messages to move muscles

muscle fiber

muscle cells fused into a long multinucleated cell which can contract and exert force;
motorneurons innervate muscle fibers, not individual muscle cells; many muscle fibers running in parallel form a muscle.

muscle spindle

senses the stretch of a muscle and sends that information back to the spinal cord and cerebellum to help control muscle length

myelin

compact fatty material that surrounds axons of some neurons; acts as an insulator to enhance electrical conduction of action potentials

myelinate

to form myelin around an axon

negative feedback

information feeding back which is subtracted from the process thereby slowing the process down

nerve terminal

the end region of an axon; usually a site of synaptic contact with another cell

nervous system

a vast network of cells that carry information to and from all parts of the body

neural circuit

the set of neurons that are connected in sequence to produce a sensation, behavior, or function; neural pathway or network; see *circuit*

neural pathway

set of connected neurons that are regularly activated in sequence to produce a specific function; neural circuit or network

neuromuscular junction

a specialized synapse onto a muscle; the place where the neuron connects to the muscle

neuron

a cell that is specialized for the transmission of information and characterized by long fibrous projections called axons, and shorter, branch-like projections called dendrites; the basic functional unit of the nervous system; also called a *nerve cell*

neurotransmitter

a chemical, released by nerve terminals at a synapse, that crosses the synapse carrying information from the nerve terminal (pre-synaptic cell) to the dendrite (post-synaptic cell). Neurotransmitters, which are stored in synaptic vesicles in the pre-synaptic cell, bind to receptors on dendrites of neighboring neurons; neurotransmitters relay information across the space between one neuron's nerve terminal and another neuron's dendrites

occipital lobe

the part of the cortex responsible for vision and visual object and face recognition; the most caudal or posterior part of the cerebral cortex

olfactory bulb

anterior part of the brain concerned with the sense of smell

optic chiasm

where the optic nerves from the left and right eyes come together; some nerve fibers cross to the other side and some do not; all fibers continue in the optic track and synapse in the lateral geniculate nucleus of the thalamus

optic nerve

nerve that connects the retina to the brain

parietal lobe

region of the cerebrum located in the dorsal and medial region of the posterior cerebrum; processes higher sensory and language functions; association cortex

pathfinding

the process of the axons finding the right neuron or target to connect to

period

the time from the beginning of one event until the beginning of the next; usually measured in seconds; $\text{period} = 1 / \text{frequency}$

peripheral

away from, outside

peripheral nervous system (PNS)

nerves beyond the brain and spinal cord

pia mater

innermost layer of the membranes surrounding and protecting the brain that closely follows the bumps and wrinkles of the brain's surface; the space between the arachnoid and pia mater contains many blood vessels that supply the brain

pituitary gland

gland at the base of the brain; makes and releases growth, reproductive, and other hormones into the blood stream

positive feedback

the information feeding back is added to the process thereby speeding up the process

towards the back of the head

potassium (K⁺)

element with a single positive charge found mostly inside neurons and muscles; K⁺ can move through some ion channels.

prefrontal cortex (PFC)

the very most anterior (rostral) part of the cortex which controls planning and thought

pruning

the process of shortening or reducing number of neuronal synapses, axons, or dendrites in response to use or growth signals

proprioception

the sense of oneself; where one feels the muscles, limbs, and body are with respect to one's surroundings; sensory receptors in the muscles and joints send this information to the brain

proximal

close to, nearest

Purkinje cells

large neurons arranged in a single layer in the cerebellum that send messages to other areas of the brain that influence or refine movement

reaction time

time it takes to react to a stimulus

recall

the act of retrieving memory

receptor

a special molecule on a dendrite that tastes each specific neurotransmitter;
neurotransmitter and receptor must fit together like a lock and key

recognition

the act of remembering words or situations that were previously learned or studied;
also acknowledging and understanding something that is familiar

refractory period

a short time (a few msec) after an action potential when the neuron cannot produce
another action potential

rod

photoreceptor cell in the retina of the eye that functions in low light; detects light
and dark but not color

rostral

towards the nose or front of the nervous system; see also *anterior*

sensation

the ability to detect chemical or physical changes in the environment

sensory neuron

a neuron that picks up information from the body's sensory receptors in the skin,
muscle, joints, tongue, ear, nose, and eyes and carries it toward the central nervous
system; sensory neurons detect environmental information necessary for the body
to survive (e.g., touch, pain, temperature, light, sound, taste, smell, balance, and
information about muscles and joints)

short-term memory

an early stage in the processing of information in the brain; information only held for a few minutes; some of this information will be lost or forgotten, while some will be processed into long-term memory

soma

see *cell body*

somatosensation

the senses of touch, pressure, and pain as localized on the body surface

spinal cord

part of the central nervous system located inside the backbone containing cell bodies and bundles of nerve fibers; connects the brain to different sensory and motor parts of the body

sprouting

formation of new branches on axons or dendrites as they grow

sulcus (plural = sulci)

the valleys or spaces between the folds or gyri of the brain

synapse

the gap between two neurons forming the site of information transfer, via neurotransmitters, from one neuron to another, including the pre-synaptic nerve terminal and the post-synaptic dendritic site; at synapses, neurotransmitters released from pre-synaptic axon terminals bind to receptors on post-synaptic dendrites

temporal lobe

the part of the cortex responsible for hearing, olfaction, object recognition, language, speech, learning, and memory; located in the ventral region of the lateral cerebrum near the temples and ears

thalamus

interior part of the brain responsible for intermediate processing of motor and sensory functions and sleep

threshold

the sum of incoming inputs needed to start an action potential; this value varies and is determined by the number of sodium channels in a neuron's cell body and the recent firing rate of that neuron

tract

a bundle of axons in the central nervous system; a pathway

ventral

towards the front or stomach side of the body and head

ventral horn

ventral part of spinal cord gray matter containing large motor neuron cell bodies

ventricle

one of four fluid-filled cavities inside the brain

vestibular system

specialized sensory organs in the inner ear that sense head and body movements, the nerve that conveys this information into the brain, and the brain stem nuclei that process this information; responsible for our sense of balance

visual cortex

see occipital lobe

white matter

areas of the brain made up of myelinated axons; the high lipid content of the myelin makes these areas appear whiter in freshly dissected brain tissue