1

Classification and Typology

Classifications are central to archaeology and classification schemes may be useful to archaeologists in the field. Archaeologists can use taxonomic classification to organize artifacts around a dimension and may also break a dimension into more specific units. There are various ways in which field archaeologists set about making and using classifications to meet a variety of practical needs. Though much classification takes place in the laboratory and office, there are some classification needs in the field and this chapter provides basic typologies that may be useful during excavations.

CONTENTS

Appliqué types	3
Artifact industries	3
Assemblage types	4
Attributes, basic categories of	4
Basket parts	4
Basketry types	5
Binford pipestem chronology	5
Bone classification and description	7
Bottle mold types/bottle manufacturing types	7
Bottle parts	8
Boundary types	9
Burial types and descriptions	9
Button attributes	10
Cemetery types	10
Ceramics attributes	11
Ceramics bases	12
Ceramics basic body shapes	13
Ceramics classification by attributes	13
Ceramics decoration types	13
Ceramics fluid/liquid decoration types	14

The Archaeologist's Fieldwork Guide, Second Edition. Barbara Ann Kipfer.

Ceramics fragment size classification 15
Ceramics identification chart 15
Ceramics rim classes 16
Ceramics type-function classification 16
Ceramics vessel parts 17
Ceramics ware-fabric classification 18
Ceramics ware-fabric classification, historical 18
Clay types 18
Coinage types 19
Context types 19
Data types, historical 19
Debitage types (lithic) 19
Effigy classification 20
Figurine description 20
Glass attributes 20
Glass classification 21
Glaze classification 21
Ground stone attributes 22
Ground stone uses 22
Invertebrate classification 23
Lithics attributes 24
Lithics use-wear traits 25
Materials basic categories 26
Metal artifact categories 26
Mohs scale of mineral hardness 26
Nail classification 27
Particle size descriptions 28
Perforation types 29
Plant remains categories 29
Projectile point attributes 30
Projectile point parts and measures 30
Shell classification 31
Site by function 34
Site by type 34
Soil classification, general 35
Soil horizons and subdivisions 35
Soil layers 36
Soil particle shape 36
Soil structure types 36
Soil taxonomy 37
Soil textural classes 38
Stone tool classification, flaked or chipped 41
Stone tool classification, ground 41
Stone tool parts 43
Stratigraphical context and relationship types 44
Survey classes 45
Survey methods of inspection 45
Timber/jointing description terms 46
Tin can types 46
Tooth types 46
Tyler Scale/grades of clastic sediments 47
Units and spatial divisions 47
Vertebrate classification 48
Wentworth Grain Size Classification 49

APPLIQUÉ TYPES

Appliqué is ornamental needlework in which pieces of fabric are sewn or stuck onto a large piece of fabric or other surface to form pictures or patterns.

(representative)

band
band with thumb impressions and ridge
banded finger impressions and wavy grooves
button
double nipple
earlike
fillet
flange
nipple
other attachment
parallel raised bands with finger impressions
pellet
perpendicular raised bands
pie-rim
raised angular band
raised band
raised band with concave groove
raised band with finger impressions
raised band with incisions
smooth raised band
snakelike
spike
zoomorphic

ARTIFACT INDUSTRIES

An artifact industry is a frequently repeated assemblage of a particular material or function, i.e. flake industry, flint industry. Such an assemblage of artifacts including the same types so consistently suggests that it is the product of a single society. The term also describes a large grouping of artifacts that is considered to represent or identify a particular people or culture, e.g. the Acheulian industry. If more than one class of objects (e.g. flint tools or bronze weapons) is found, it is a culture.

(representative)

ceramic: beads, figurines, musical instruments, pottery
lithic: chipped/flaked stone, ground stone
metal: bronze, copper, gold, iron, silver, tin
organic: basketry, bone, hide, horn, ivory, shell, textiles, wood

ASSEMBLAGE TYPES

An assemblage is group of objects of different or similar types found in close association with each other and thus considered to be the product of one people from one period of time.

Life assemblage: the living community or population of animals from which the remains are derived.

Death assemblage: the population of carcasses that results when life assemblage dies.

Deposited assemblage: the population of carcasses or their body parts that were deposited on an archaeological site through the actions of humans, nonhuman predators, scavengers, or such agents as gravity, water, and wind.

Fossil assemblage: a subset of the deposited assemblage that consists of those animal parts that survive in the site's deposit until their potential discovery by an archaeologist.

Sample assemblage: the portion of the fossil assemblage that has been excavated or collected and then analyzed by an archaeologist.

ATTRIBUTES, BASIC CATEGORIES OF

An attribute is a quality or characteristic ascribed to something, a construct whereby an object or entity can be distinguished.

- Form/shape attributes, such as length, width, thickness, shape.
- Stylistic/surface attributes, such as color, decoration, texture.
- Technological attributes, constituent attributes, such as the raw materials used; manufacturing attributes, such as the way it was made.

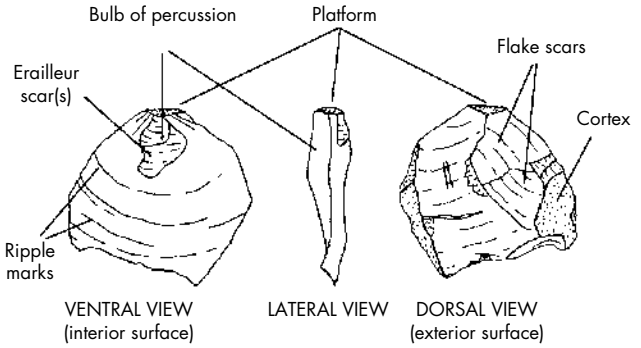

Figure 1.1 Attributes of flakes. Reproduced with permission of Crow Canyon Archaeological Center 2001.

BASKET PARTS

(not all baskets have all parts)

- wall
- rim/selvage
- start (at bottom, where weaving starts)
- shoulder (if body narrows toward opening)
- handle(s)

- lid (which will also have a wall, rim, start)
- warp (fairly rigid foundation)
- weft (fairly flexible stitching)

BASKETRY TYPES

- Coiled: foundation of horizontal elements with rigid materials interwoven vertically; about 100 different types of coiled basketry exist.
- Plaited: weave is basically the same in both directions; simple plaiting has one element passing over another and twill plaiting has more than one element passing over more than one element.
- Twined: vertical warp foundation and horizontal weft stitching; S-twined (weft angled to maker's right) or Z-twined (weft angled to maker's left).

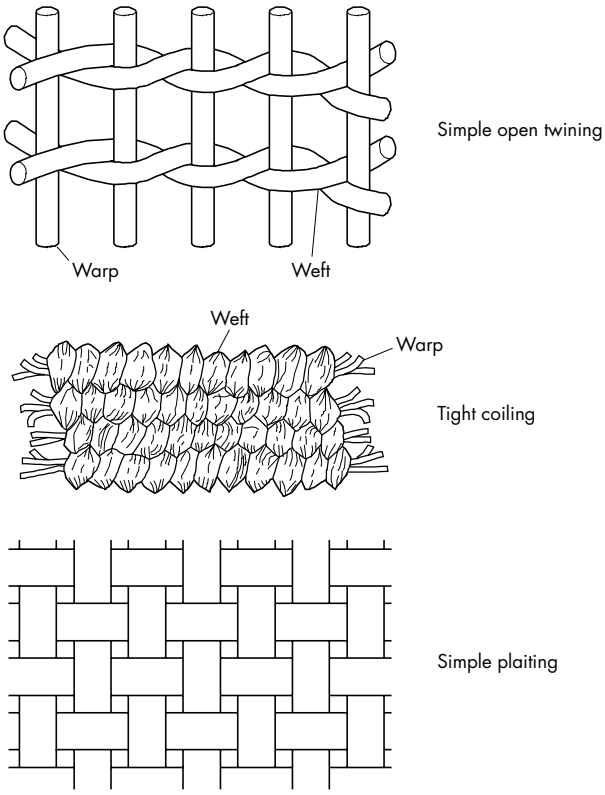

Figure 1.2 Basketry types. Reproduced with permission of Mark Q. Sutton and Brooke S. Arkush 2002/Kendall Hunt Publishing Company.

BINFORD PIPESTEM CHRONOLOGY

Louis Binford devised a mathematical formula to use as a dating technique for pipestems (hollow stem or tube of a pipe used for smoking tobacco) manufactured in England between approximately 1590–1800.

Diameter (in/)	Dates
9/64	1590–1620
8/64	1620–1650
7/64	1650–1680
6/64	1680–1720
5/64	1720–1750
4/64	1750–1800

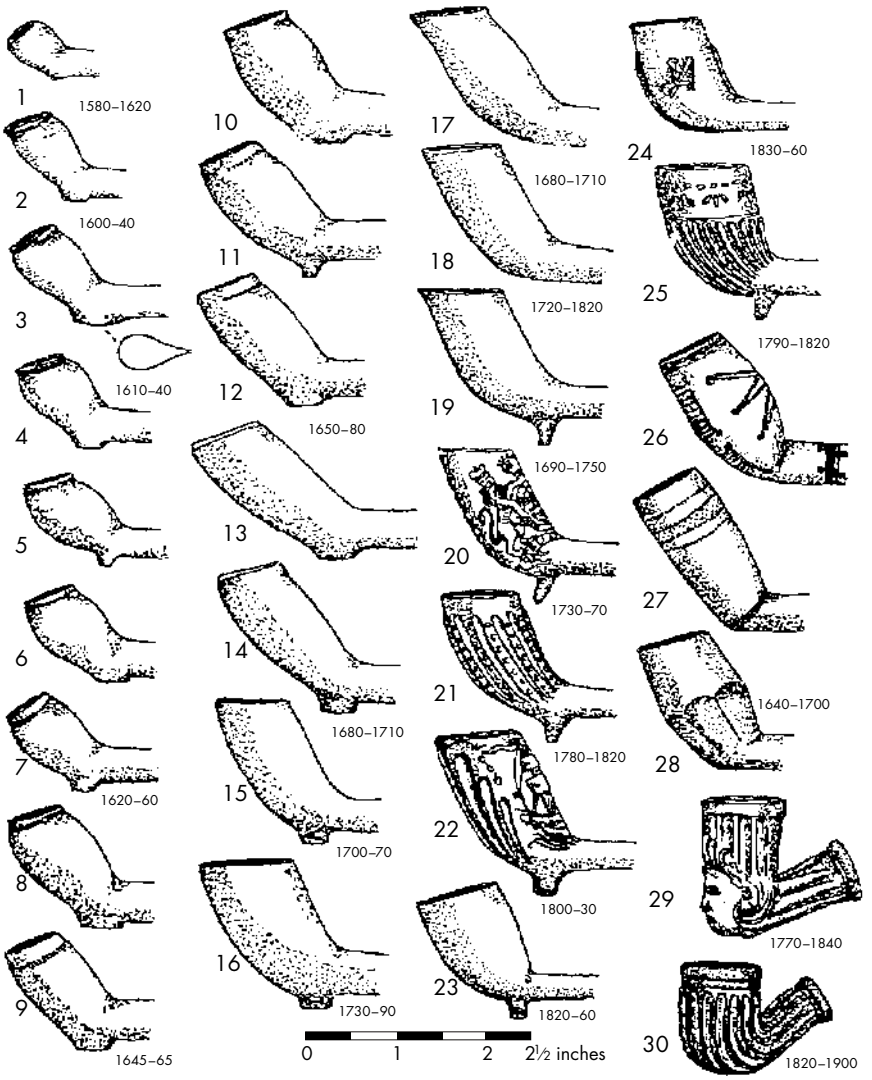

Figure 1.3 Pipestems. Reproduced with permission of Ivor Noël Hume 1970/Penguin Random House.

BONE CLASSIFICATION AND DESCRIPTION

Categories of bones

flat bones (cranial, scapula)
irregular bones
long tubular bones (e.g. limbs)
short/small tubular bones (e.g. metacarpals, metatarsals, phalanges)
unknown

Position of skeleton

lying on left side
lying on right side
prone
supine

Limb position

crouched
extended
flexed
indeterminate

Condition of bone

complete
disturbed
incomplete
intact

BOTTLE MOLD TYPES/BOTTLE MANUFACTURING TYPES

A bottle mold is a cavity or container in which a bottle is shaped during manufacture.

Non-shoulder molds

dip mold
hinged shoulder-height mold
pattern mold

Full-height molds

automatic bottle machine
blow-back mold
bottom-hinged mold
cup-bottom mold
post-bottom mold
three-part leaf mold
three-part mold with dip mold body

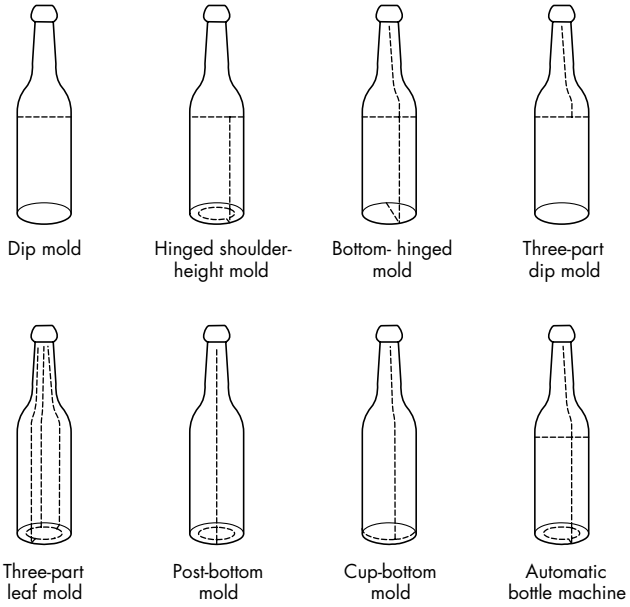

Figure 1.4 Types of bottle mold. Reproduced with permission of Mark Q. Sutton and Brooke S. Arkush 2002/Kendall Hunt Publishing Company.

BOTTLE PARTS

- Base/basal surface: the bottom, which can be convex "round bottom," slightly concave "push-up," or deeply concave "kick-up."
- Body: main and widest part of bottle.

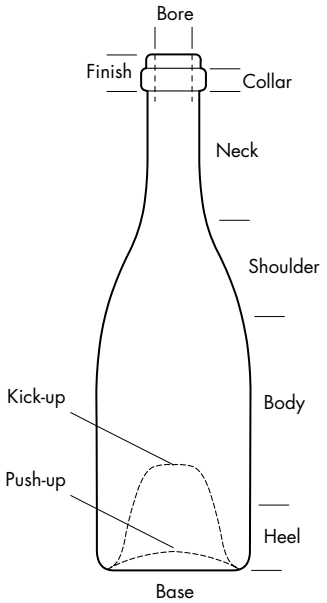

Figure 1.5 Bottle parts. Reproduced with permission of Mark Q. Sutton and Brooke S. Arkush 2002/Kendall Hunt Publishing Company.

- Bore: the opening of the bottle.
- Finish: top section attached to neck and which has a closure; the part to which a cap would be attached is the "sealing surface," the diameter of the opening is the "bore," and the ring of glass around the neck to secure the closure is a "collar."
- Insweep/heel: lower section of the body which attaches to the base.
- Lip: the edge of the opening of the bottle.
- Neck: an extension of the finish connecting it to the shoulder; the point at which it connects is "root of the neck."
- Resting point/surface: part of bottle actually touching a surface.
- Shoulder: an extension of the neck to the body.
- String rim: thick band of glass on upper neck of bottle around which strap was secured.

BOUNDARY TYPES

- Archaeological boundary: evaluation of spatial relationships such as size, structure, and man-made modifications by describing and mapping these features and site activities/uses.
- Legal boundary: before undertaking a survey, this should be determined through the city or county engineering department.
- Natural site boundary: found by studying the interrelationships between a site and its surroundings and a topographic map that covers all aspects of the site and its natural boundaries.

BURIAL TYPES AND DESCRIPTIONS

Burial types

barrow or tumulus
bundle
chamber tomb
collective burial
cremation
mass burial/ossuary
monumental tomb
pithos or jar burial
rock-shelter or cave tomb
sarcophagus
secondary burial
shaft or chamber tomb
simple burial
tholos

Burial positions

fully extended
left arm crossed over chest
left arm crossed over pelvis

left arm extended at side
left arm raised toward head
right arm crossed over chest
right arm crossed over pelvis
right arm extended at side
right arm raised toward head
semi-extended
semi-flexed
tightly flexed

Burial deposition

kneeling
lying on left side
lying on back
lying on face
lying on right side
sitting
standing

Bone preservation

fair
good
poor

BUTTON ATTRIBUTES

Buttons are made from a wide variety of materials: agate, aluminum, Bakelite, bone, brass, celluloid, glass, horn, ivory, japanning, pewter, plastic, porcelain, rubber, shell, etc.

Button size is expressed in lines/lignes, with 40 lines equal to one inch. Some equivalencies are 12 lines = ¼ inch, 14 lines = 5/16 inch, 16 lines = 3/8 inch, 18 lines = 7/16 inch, 20 lines = ½ inch, 22 lines = 9/16 inch, and 24 lines = 5/8 inch.

Buttons may have a 1) back mark (stamping on back denoting quality, manufacturer, uniform makers' names, stars, dots, or eagles); 2) quality mark (on back); or 3) registry marks (on back of British-made, is diamond-shaped with letters or numbers at points of diamond).

CEMETERY TYPES

church cemetery
customary/neighborhood cemetery
ethnic cemetery
family cemetery
lodge cemetery
mass grave
private cemetery
public cemetery

CERAMICS ATTRIBUTES

Ceramics are the products (such as brick, earthenware, porcelain) made from nonmetallic minerals (such as clay) by firing at a high temperature.

(Can use Pantone Color Chart available on the internet for identifying color)

General

base diameter
base type
body wall thickness
decoration (technique by which a pattern is applied to the ceramic surface)
decorative pattern name (name used to list a particular pattern) glaze (glassy vitreous coating on outside of ceramic)
handles
internal rim diameter
maker's mark (printed or impressed mark on base of ceramic) paste (clay fabric which forms the ceramic object)
maximum body diameter
neck diameter
neck height
preserved circumference
rim angle
rim shape
rim thickness

Specific (used to create a type-series)

appliqué and traits (raised band, etc.)
bichrome paint colors
burnish and luster
burnish application in relation to liquid direction (before or after slip, etc.)
burnish direction (oblique, vertical, etc.)
color (using Munsell)
core color (even, uneven, etc.)
decoration color
decoration condition (flaky, mottled, etc.)
excision and traits (combing, zigzag, etc.)
function (pot, bowl, etc.)
hardness (using Mohs)
impression and traits (finger-running bands, etc.)
incision and traits (herringbone, pinpricks, etc.)
inclusion size (using Wentworth) and density
inclusion type (pebble, granule, etc.)
liquid decoration type (slip, wash, glaze, etc.)
paint placement
painted decoration trait (monochrome, bichrome, etc.)
painted motifs (arc, basket, lattice, etc.)
part of vessel (rim, handle, etc.)
perforation and traits (circular, oblong, etc.)

plastic decoration placement
polychrome paint colors
shape
sherd size
slip/wash/glaze placement
ware-fabric and manufacture (plain wheel, coarse hand, etc.)

CERAMICS BASES

These terms describe types of ceramics bases.

concave base
disk base
flat base
knob base
loop base
pod base

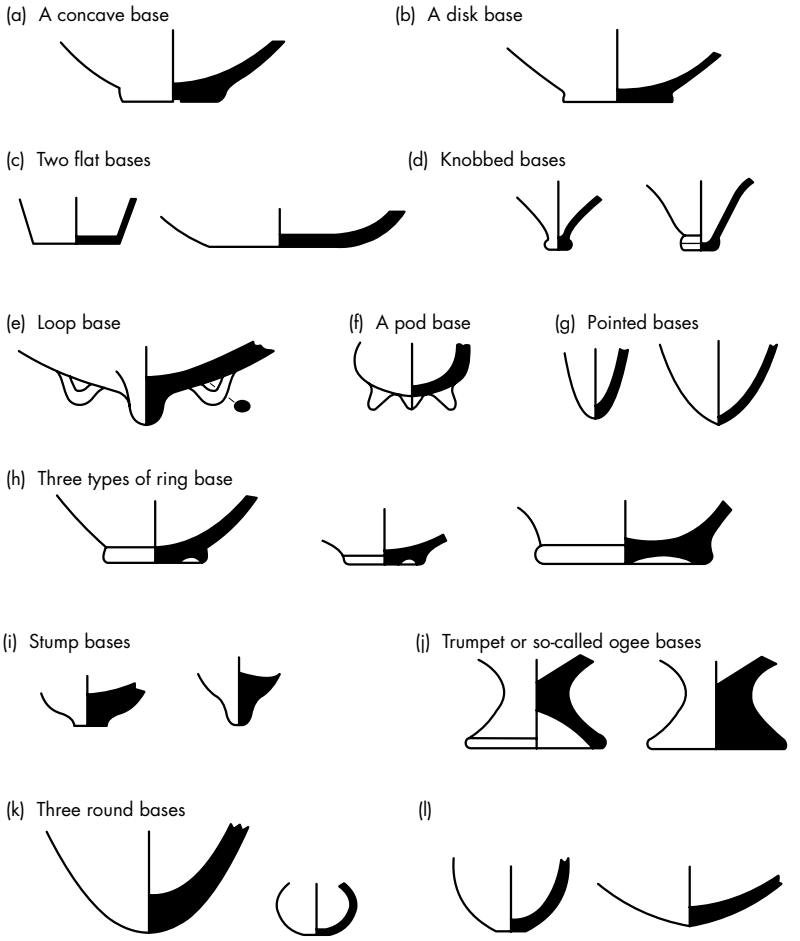

Figure 1.6 a–l Types of ceramics base. Martha Joukowsky 1980/Pearson Education, Inc.

pointed base
ring base
stump base
trumpet or ogee base

CERAMICS BASIC BODY SHAPES

biconical (two cones back-to-back)
conical
cylindrical
ovoid
pyriform/pear-shaped
spherical

CERAMICS CLASSIFICATION BY ATTRIBUTES

Form attributes of vessel

form components: rim/lip, body, base, supports and appendages overall shape: jar, bowl, other

Stylistic attributes of base surface and color

slipped: polished/unpolished; decorated/undecorated; incised, punctated, impressed, painted, modeled, etc.
unslipped: polished/unpolished; decorated/undecorated; incised, punctated, impressed, painted, modeled, etc.

Technological attributes of vessel

paste: tempered/untempered; color; composition; hardness
surface: slipped/unslipped; color; composition; hardness
other: fingermarks, wheelmarks, coil junctures, etc.

CERAMICS DECORATION TYPES

- Annual/banded design: rings around rim and base of vessel applied with brush while on wheel.
- Burnishing: made by polishing the leather-hard surface to give it sheen.
- Combing: made by a tool with multiple teeth or prongs.
- Decal: multiple color decoration placed over glaze.
- Finger-tipping
- Fretwork: made by piercing wall of vessel.
- Grooving
- Hand-painting
- Impressing
- Incision

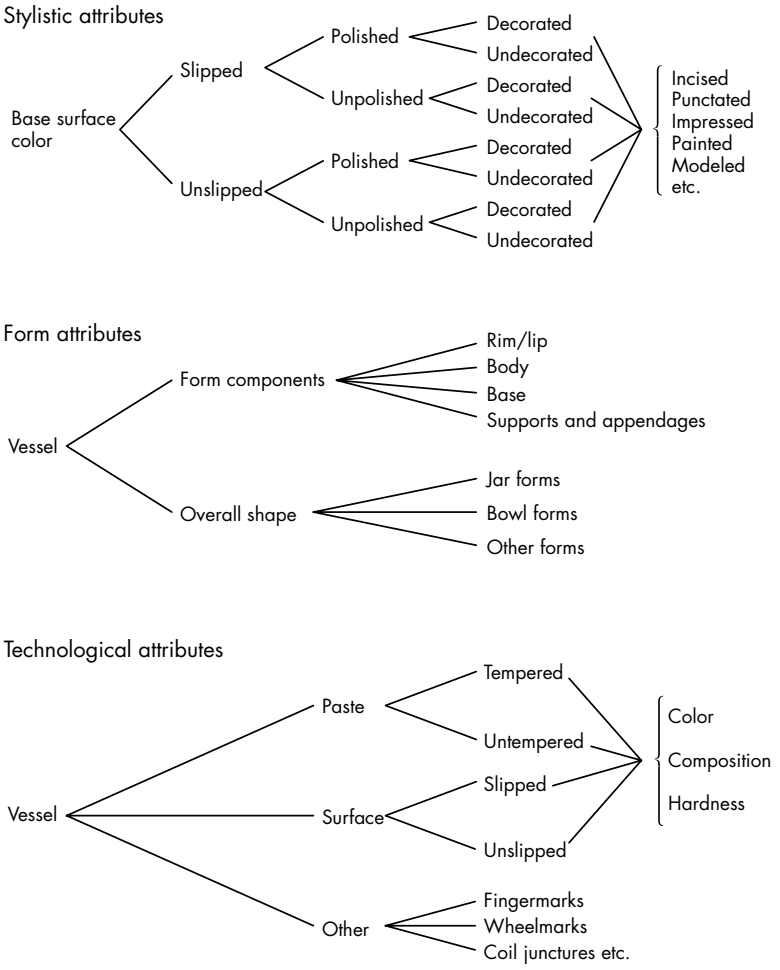

Figure 1.7 Classification of pottery: representative of kinds of attributes used to define stylistic, form, and technological types. Wendy Ashmore and Robert J. Sharer 1999/McGraw-Hill.

- Knife-trimming
- Molded relief: raised decoration integral to the mold or form.
- Paddle-stamp
- Roller-stamping: made with cylinder-shaped roller with an incised pattern.
- Rouletting: made with metal strip or blade held against the pot as it is turned on wheel.
- Spatter or sponge decoration
- Sprigging: relief design in the form of small flowers or leaves.
- Transfer printing: paper impressions taken off inked engravings, under glaze.

CERAMICS FLUID/LIQUID DECORATION TYPES

- Glaze: glossy layer on surface of ware-fabric, before or after firing.
- Lustrous slip: natural luster from fusion of its elements, applied before firing.

Other liquid decoration

- Paint: generally has additional metal oxides, applied at various stages.
- Secondary slip: applied for special surface effects, applied before second firing.
- Self-same slip: suspension made from body clay, though lighter and freer from inclusions, applied before firing.
- Slip: liquid composed of fine clay suspended in water, applied before firing.
- Slip-wash: qualities of slip and wash, applied before firing.
- Wash: thin creamy suspension, applied after firing.

CERAMICS FRAGMENT SIZE CLASSIFICATION

smaller than 2.5 cm
2.5 cm–7 cm
7 cm–12 cm
12 cm–20 cm
20 cm and larger

CERAMICS IDENTIFICATION CHART

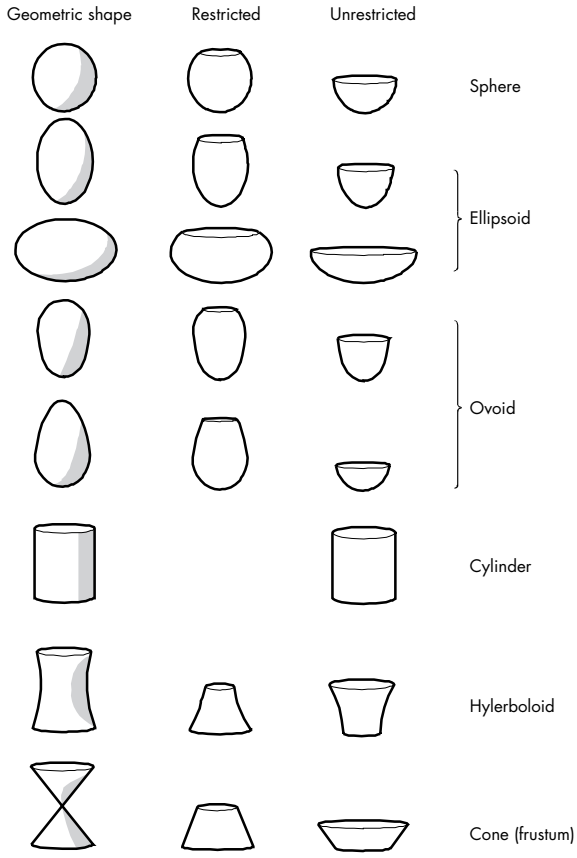

Figure 1.8 Geometric or volume classifications. Reproduced with permission of Prudence M. Rice 1987/University of Chicago Press.

CERAMICS RIM CLASSES

General rim types

plain rim (vertical or sloping)
articulated rim (inverted or everted)

Rim thickening

external thickening
internal thickening
symmetrical thickening

Rim stances

everted rim
flared rim
horizontal rim
incurving rim
inverted rim
pendant rim
T-shaped rim
vertical rim

Rim edge treatments

flattened edge treatment (horizontal, vertical and horizontal, angular)
pushed, squeezed, or pinched treatment

CERAMICS TYPE-FUNCTION CLASSIFICATION

baking tray
base
bead
body sherd
bowl
carinated body sherd
ceramic disk
clay ball, fired
clay ball, unfired
cooking pot
crescentic ceramic
cup and saucer
handle
idol
jar, jug
lid
loom weight
no function can be ascertained
perforated fragment
plaque
spindle whorl
spout
stamp seal
urn
weight
work pot

CERAMICS VESSEL PARTS

appliqué
base
decoration
disk
foot
handle
motif
neck
rim
spout

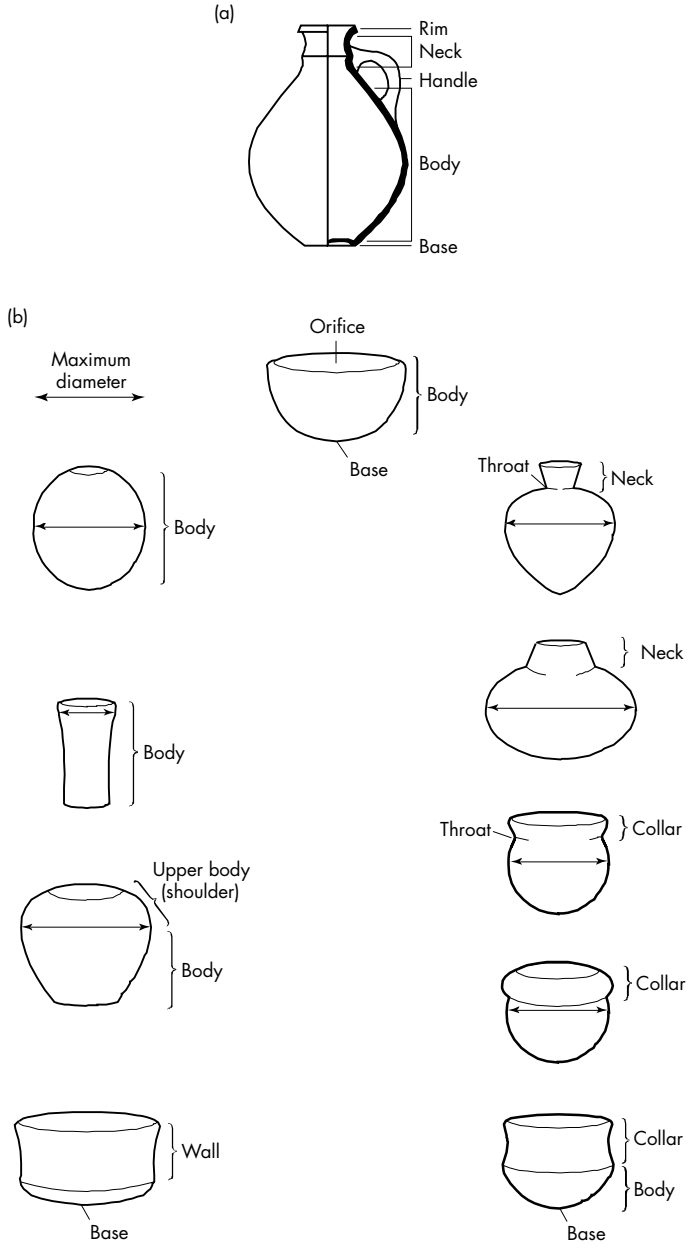

Figure 1.9 a and b Ceramics vessel parts. Martha Joukowsky 1980/Pearson Education, Inc.

CERAMICS WARE-FABRIC CLASSIFICATION

color (e.g. Fine Orange ware)
decoration (e.g. black-figured ware)
firing technology (e.g. earthenware)
form (e.g. beaker ware)
function (e.g. kitchenware)
geographical location (e.g. Glastonbury wares)
paste composition or texture (e.g. coarseware)
surface treatment or color (e.g. glazed ware, creamware)
time period (e.g. Iron Age wares)

CERAMICS WARE-FABRIC CLASSIFICATION, HISTORICAL

glaze
maker's mark
paste
porosity, hardness, and translucence
surface treatment
vessel form and function
ware identification (common pottery as terracotta and unrefined earthenware, refined earthenware, stoneware, porcelain)

CLAY TYPES

Clay is an earthy material that is plastic (pliable) when moist but hard when fired. It is composed mainly of fine particles of hydrous aluminum silicates and other minerals. Clay is used for making things like brick, pottery, and tile.

Primary (contain only impurities from mother rock)

china clay or kaolin (white, refractory, not very plastic)
fire clay, infusible clay, refractory clay (rich silica with small amounts of lime, iron, alkali)

Secondary (have been transported from site of formation and contain impurities from the process)

ball clay (fine-grained, plastic)
calcareous clay or marl (chalky mixture of carbonates of calcium and magnesium, remnants of shell)
fusible clay (capable of being melted or fused, very plastic)
red clay, earthenware clay, or cane (contain iron oxides, very plastic) sandy clay, siliceous clay (containing high proportion of sand, not very plastic)
stoneware clay (usually many impurities, plastic)

COINAGE TYPES

bullion coins
commemorative coins
error coins
foreign currency
native country currency
pattern coins/patterns
proof coins
regular issue currency
tokens or medals

CONTEXT TYPES

Context is the environment or setting in which something is found or in which something occurred. Context is the interrelated conditions or situations in which something exists or occurs.

Context can also be characterized as:

The three-dimensional location of material evidence (provenience); the spatial relationships that exist among and between artifacts or any kind of material evidence, and the matrix or sediments in which that evidence occurs; the geographical or environmental situation in which material evidence exists; the location of the behaviors represented by material evidence within a social or cultural system.

These are the types of context described by archaeologists:

- Use-related primary context: result of abandonment during acquisition, manufacture, or use activities.
- Transposed primary context: result of depositional activities, as midden creation.
- Use-related secondary context: result of human activity disturbance after original deposition of material.
- Natural secondary context: result of natural disturbance, as animal/plant activity, weather.

DATA TYPES, HISTORICAL

- Artifacts: glass (window, bottle), ceramics, pipes, metal (nails, tin cans, wire), wood, bone, buttons, etc.
- Documents: family records such as diaries, inventories; public records such as legal records; institutional records such as newspapers; and maps, photographs, drawings, etc.
- Ecofacts: plant and animal remains.
- Features: buildings, wall foundations, graves, gravestones, roads, wells, etc.

DEBITAGE TYPES (LITHIC)

Debitage is all the material produced during the process of lithic (stone tool) reduction and production. Debitage can include different kinds of flakes, blades, shatter, debris, and rejects.

For each of these three flake types – Primary (all cortex), Secondary (some cortex), and Interior (no cortex) – the following classification may be used. This is only one of many classification schemes for debitage analysis.

bipolar
complete, early-stage biface thinning
complete, late-stage biface thinning
complete, middle-stage biface thinning
complete, pressure
fragment, early-stage biface thinning
fragment, late-stage biface thinning
fragment, middle-stage biface thinning
fragment, pressure
nonbiface reduction
other
shatter

EFFIGY CLASSIFICATION

An effigy is an image or representation of a specific person or a prototypical figure.

(These can also be classified by type of material, usually lithic or ceramic.)

- Effigy figure: animal, bird, person, other figure.
- Effigy vessel: bowl, canteen, censer, jar, ladle, pipe, pitcher, scoop, other vessel.

FIGURINE DESCRIPTION

A figurine is a small carved or molded figure that represents a human, deity, or animal; a statuette.

color of ware (according to Munsell)
decoration (appliquéd, incised, incised and inlaid, liquid, other) design (clothing, jewelry, other)
method of manufacture (pinches, coil-formed, molded, other) position of figure (standing, sitting, reclining, kneeling, other)

GLASS ATTRIBUTES

coating
color (amber/brown, amethyst/purple, black, blue, clear, dark green, green, red/pink, white/milk glass)
composition (potash-lead glass, potash-lime glass, soda-lime glass)
cutting
enameling
engraving

etching
gilding
inclusions
molding (contact, optic, pattern, press) painting
staining
superimposition (glass applied to glass)
thickness

GLASS CLASSIFICATION

Appearance

aventurine (containing opaque sparkling particles)
clear
opaque
semi-opaque

Use

bangle
bead
cane or tubing
glass cameo
glassware/vessel
window glass

Decoration

acid etching
applied and fusing
cut
engraved
inclusion of nonvitreous material
inlaid
layering
mosaic

GLAZE CLASSIFICATION

Ceramic glaze is an impervious layer or coating of a vitreous substance which has been fused to a ceramic body through firing. Glaze is used to color, decorate, or waterproof an item.

(by visual effect produced)

aventurine glaze (color-flecked)
crackle glaze (crazing)
crystalline glaze (crystals form during cooling)
luster (pearly)
matt glaze (dull)

GROUND STONE ATTRIBUTES

These are examples of attributes for selected ground stone tools.

Querns or lower milling stones

area of use surface
concavity of use surface
length of use surface
orientation of use-wear
presence or type of residues
texture of use surface

Handstones or upper milling stones

curvature of use surface
macroscopic use traces or residues
mass
shape of use surface
use-surface texture

Mortars

condition of base
interior volume
orientation of use-wear
ratio of interior rim diameter to basin depth
residues of lipids, phytoliths, starch

Pestles

mass of complete pestles
number of use surfaces
striations or chipping on use surface

Axes and adzes

cross-sectional edge symmetry
edge angle
edge chipping
extent of polish
length of bit edge
location of polish
mass of complete tools

GROUND STONE USES

Ground stone is a category of stone tool formed by the grinding of a coarse-grained tool stone, usually done purposefully. Ground stone tools are usually made of basalt, granite,

rhyolite, or other cryptocrystalline and igneous stones. Their coarse structure makes them ideal for grinding other materials.

anvil
atlatl weight, bannerstone
ax
ball
bead, charm, ornament
bola
bowl, mortar
bracelet
celt
chisel
cooking slab
cylinder seal
disk
figurine
gorget
hammer
hoe
mano, handstone
maul
metate, milling stone
mill
other tool
palette
pestle
pipe
plummet, plumb
ring
shaft straightener
spindle whorl, loom weight, fishing weight, net weight
tabular knife
unidentified ground stone
utensil

INVERTEBRATE CLASSIFICATION

An invertebrate is any animal lacking a backbone, such as an arthropod, mollusk, annelid, or coelenterate. The invertebrates constitute a division of the animal kingdom comprising 95% of animal species.

Phylums/Phyla

Acanthocephala (spiny-headed worms)
Aschelminthes (sac worms)
Brachiopoda (lamp shells)
Bryozoa (tube-dwelling aquatic animals)
Coelenterata/Cnidaria (coelenterates, jellyfish, sea anemones)
Ctenophora (comb jellies)
Ectoprocta (ectoprocts, microscopic colonizers)
Entoprocta (entoprocts, tube-dwelling aquatic animals)
Mesozoa (tiny parasites)
Mollusca (clams)
  Amphineura (chitons)
  Cepalopoda (octopuses and squids)
  Gastropoda (univalves)
  Pelecypoda (bivalves)
  Scaphoda (tooth shells)
Nematoda (roundworms)
Nemertina (ribbon worms)
Phoronida (tube-dwelling wormlike animals)
Platyhelminthes (flatworms, flukes, tapeworms)
Porifera (sponges)
Protozoa (amoebas and other protozoa)

True invertebrates

Annelida (segmented; earthworms)
Arthropoda (crustaceans, spiders, ticks, centipedes, insects)
Chaetognatha (arrowworms)
Chordata (sea squirts, amphioxus, tunicates, acorn worms)
Echinodermata (spiny-skinned animals, starfish, sea urchins)
Echiuroidea (spoon worms)
Enterocoelomates (coeloms)
Oncopoda (segmented, claw-footed worms)
Pogonophora (beard worms)
Sipunculoidea (peanut worms, marine worms)

LITHICS ATTRIBUTES

Lithics are stone tools. A lithic flake is the portion of a stone removed to make a tool. A lithic core is the part of a stone which has had flakes removed from it. Lithic reduction is the process of removing flakes from a stone to make a tool. Lithic analysis is the study of stone tools and other chipped stone artifacts.

- Cortex: the amount of original exterior surface of the raw material visible on the flake – either as primary (cortex covering virtually all of exterior), secondary (some cortex), and tertiary (little or no cortex).
- Blank form: the basic shape of the flake, which can indicate certain types of technology – e.g. flake blade, blade, point, normal.
- Number of retouched edges: number of edges (distal, proximal, two lateral edges) that show retouch.
- Retouch intensity: light (shallow, sometimes discontinuous retouch with little change of the flake edge), medium (continuous and somewhat invasive into tool edge), heavy (very steep and invasive), and stepped (heavy with tiered or stacked scars).

Here are examples of lithics attributes for all types, for cores, for flakes and blades, and for retouched tools:

All lithics

color
condition
extent of cortex
pot-lid fractures
presence of cortex
raw material
surface luster

Cores

core shape
core type
number of platforms

Flakes and blades

axial length
exterior platform angle
maximum axial length
maximum thickness
platform depth
platform preparation
platform type
platform width
prominence of bulb
scar orientations
termination
thickness at midpoint

Retouched tools

haft length
haft type
haft width
height of notch
invasiveness of retouch
length of retouch
locations of retouch
presence of polish
retouch type
steepness of retouch
tool type

LITHICS USE-WEAR TRAITS

Use-wear in archaeology is the examination and study of the edges and surfaces of artifacts, mainly stone tools, to determine the type of wear they have experienced and thus the tasks for which they were used.

Type	Description
Edge damage	Mainly in area of use, not regular in shape or size, does not go beyond edge.
Motion	Cutting or sawing can be seen in area of use and usually on both sides of tools. Striations always parallel or diagonal to working edge. Scraping, engraving, shaving, planing can be seen only on surface opposite contact with material. Striations are perpendicular or diagonal to working edge. Boring removes edge damage and striations by crushing.
Raw materials	Soft edge damage is only scalar scars. Hard edge damage is step or hinge scars.
Polish	Variable edge damage, sometimes visible to naked eye.

MATERIALS BASIC CATEGORIES

Artifacts (ceramic, chipped-stone/flaked/knapped, ground stone, historical, perishable, etc.)
Ecofacts (animal/faunal, plant/floral)
Human remains
Other

METAL ARTIFACT CATEGORIES

coinage
hardware and construction (nail, cartridge case)
household and kitchen items (tin can, utensil)
machinery
ornaments (apparel accessory)
personal items (toy, pocket watch)
transportation items (horseshoe, wagon part)

MOHS SCALE OF MINERAL HARDNESS

The Mohs Scale is an ordinal scale from 1 to 10 characterizing the scratch resistance of various minerals through the ability of harder material to scratch softer material. It is mainly used to roughly identify minerals using a test kit.

1. Talc (can be crushed or very easily scratched by a fingernail)
2. Gypsum (can be scratched by a fingernail)
3. Calcite (can be scratched by iron nail, easily scratched by knife, barely scratched by penny)
4. Fluorite (can be scratched by glass or knife)
5. Apatite (can be scratched by knife with difficulty)
6. Orthoclase feldspar (can be scratched by quartz; scratches glass with difficulty)
7. Quartz (can be scratched by a steel nail; scratches glass easily)
8. Topaz, beryl (can be scratched by an emerald; scratches glass very easily)
9. Corundum (can be scratched only by diamond; cuts glass)
10. Diamond

1. Talc	Scratched by fingernail
2. Gypsum	
3. Calcite	Scratched by steel knife
4. Fluorite	
5. Apatite	
6. Moonstone	Will scratch glass – gemstones
7. Quartz	
8. Topaz	
9. Corundum	
10. Diamond	

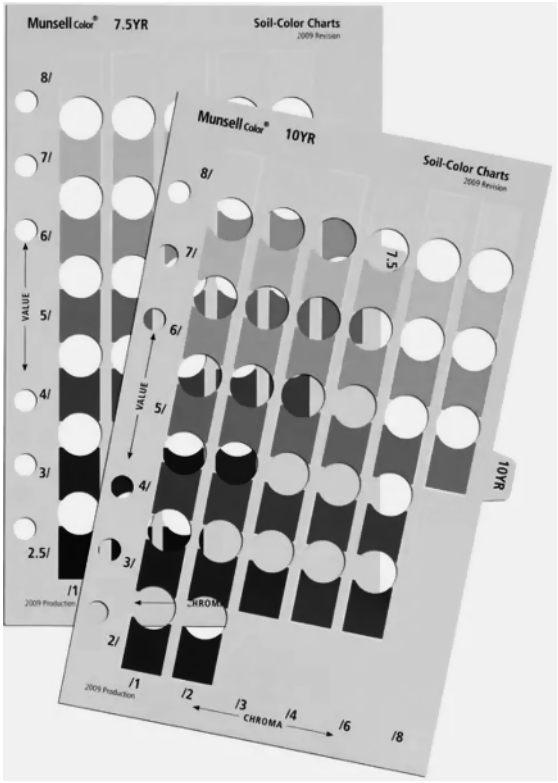

Figure 1.10 Munsell Sheets. *Source*: munsell.com.

NAIL CLASSIFICATION

Types

machine-cut with handmade head
machine-cut
hand-wrought or hand-forged (taper on all four sides toward the point; vary in thickness throughout shank)
  rose head
  T head
modern wire
  common
  finish
  flooring
  roofing

Sizes

2d 1″
3d 1¼″
4d 1½″
5d 1¾″
6d 2″
7d 2¼″
8d 2½″
9d 2¾″
10d 3″
12d 3¼″

16d 3½″
20d 4″
30d 4½″
40d 5″
50d 5½″
60d 6″

Uses

annular ring nail
barbed dowel pin
casing nail
common brad
common nail
corrugated fastener
cut flooring nail
duplex head nail
finishing nail
roofing nail
sealing roofing nail
spiral nail
square-shank concrete nail
staple
tack
upholstery nail

PARTICLE SIZE DESCRIPTIONS

The breakdown of rocks by weathering and other actions produces fragments or particles. These fragments or particles can be described using characteristics such as shape and size.

Sedimentary units

boulder > 256 mm
cobble 64–256 mm
pebble 4–64 mm
granule 2–4 mm
very coarse sand 1–2 mm
coarse sand ½–1 mm
medium sand ¼–½ mm
fine sand ⅛–¼ mm
very fine sand 1/16–⅛ mm
silt 1/256–1/16 mm
clay < 1/256 mm

Volcanic/pyroclastic units

bomb or block > 32 mm
lapilli 4–32 mm
coarse ash ¼–4 mm
fine ash < ¼ mm

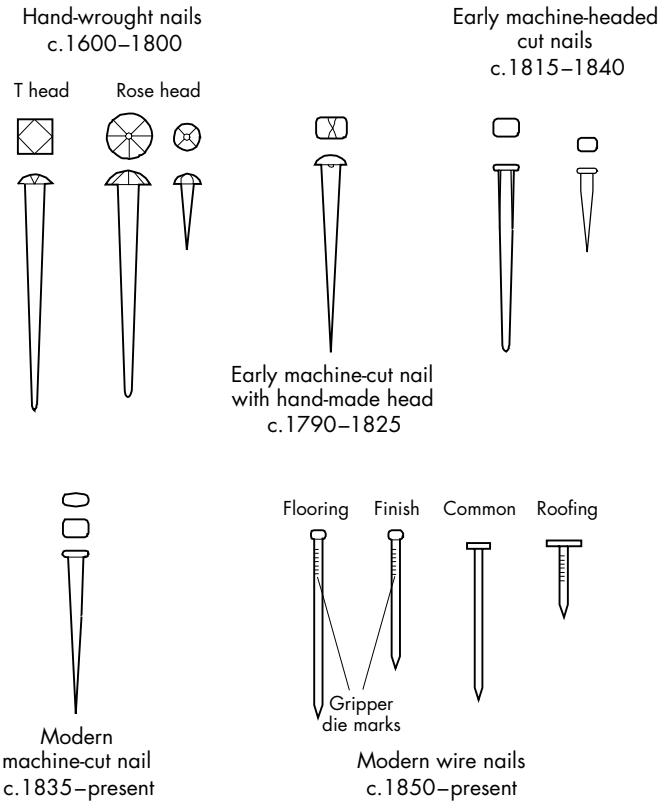

Figure 1.11 Major nail types. John P. Staeck 2001/McGraw-Hill.

Igneous units

pegmatitic > 30 mm
coarse grained 5–30 mm
medium grained 1–5 mm
fine grained < 1 mm

PERFORATION TYPES

A perforation is a small hole, usually one of a series of holes in a surface. On an artifact, it is any hole or pattern made by piercing or boring.

circular
incomplete
oblong
other
oval
rhomboid
semi-lunar
triangular

PLANT REMAINS CATEGORIES

Macroplant remains (large enough to be seen with naked eye)

charcoal

fibers
leaves
seeds
tubers

Microplant remains (very small plant remains)

phytoliths
pollen

Chemical remains

protein residue

PROJECTILE POINT ATTRIBUTES

A projectile point is the general term for the stone, bone, or wooden tip of a projectile. The point that is attached to a weapon such as an arrow, dart, lance, or spear.

Shankless

articulate (bow-sided)
- lanceolate (concave base, flat base)
- ovate (pointed base, round base)
- trianguloid

rectilinear (straight-edged)
- pentagonal (concave base, flat base)
- triangular (equilateral, isosceles or spirate)

Shanked

stemmed
- full-stemmed (contracting, flare, pinched, shoulderless, square)
- semi-stemmed

notched blade
- basal notched (double-notched, single-notched or bifurcate)
- corner or bias (notching above corner, notching at corner)
- neck-and-yoke (notched, stemmed)
- side-notched (base as wide or wider than shoulders, base narrower than shoulders)

PROJECTILE POINT PARTS AND MEASURES

base width
distal end (point, tip, working end)
maximum length
maximum thickness

maximum width
neck width (if present)
proximal end (butt, handle)

SHELL CLASSIFICATION

Bivalves

Arctic hard-shelled clams (Arcticidae)
ark shells (Arcidae, Noetiidae)
astartes (Astartidae)
basket clams (Corbulidae)
bean clams (Donacidae)
bittersweet shells (Glycymerididae)
carditas (Carditidae)
cleft clams (Thyasiridae)
cockles (Cardiidae)
coral-boring clams (Trapeziidae)
crassatellas (Crassatellidae)
diplodons (Ungulinidae)
dipper clams (Cuspidariidae)
dipper clams (Poromyidae)
false mussels (Dreissenidae)
file shells (Limidae)
gaping clams (Gastrochaenidae)
gari shells (Psammobiidae)
hard-shelled clams (Veneridae)
jewel boxes (Chamidae)
jingle shells (Anomiidae)
kitten paws (Plicatulidae)
limopsis (Limopsidae)
lucines (Lucinidae)
marsh clams (Corbiculiidae)
marsh clams (Cyrenoididae)
mussels (Mytilidae)
nut shells (Nuculidae)
nut shells and yoldias (Nuculanidae)
oysters (Ostreidae)
pandoras (Pandoridae)
paper shells (Lyonsiidae)
pearl oysters (Pteriidae)
pen shells (Pinnidae)
piddocks (Pholadidae)
purse shells (Isognomonidae)
razor clams (Solenidae)
rock borers (Hiatellidae)
rock dwellers (Petricolidae)
scallops (Pectinidae)
semeles (Semelidae)

shipworms (Teredinidae)
soft-shelled clams (Myidae)
spiny oysters (Spondylidae)
spoon shells (Periplomatidae)
surf clams (Mactridae)
tellins (Tellinidae)
thracias (Thraciidae)
veiled clams (Solemyidae)
verticords (Verticordiidae)
wedge clams (Mesodesmatidae)

Gastropods

abalones (Haliotidae)
atlantas (Atlantidae)
atom snails (Omalogyridae)
auger shells (Terebridae)
barrel bubble shells (Retusidae)
barrel shells (Cylichnidae)
bivalved snails (Juliidae)
blind limpets (Lepetidae)
caecum (Caecidae)
canoe shells (Scaphandridae)
cap shells (Capulidae)
carinarias (Carinariidae)
carrier-shells (Xenophoridae)
chank shells (Turbinellidae)
chink shell (Lacunidae)
clione sea butterflies (Clionidae)
cone shells (Conidae)
coral snails (Coralliophilidae)
cowries (Cypraeidae)
crown conchs (Melongenidae)
cup-and-saucer and slipper shells (Crepidulidae)
dog whelks (Nassariidae)
doris nudibranch (Chromodorididae, Cadlinidae)
dove shells (Columbellidae)
duckfoot shells (Aporrhaidae)
elysias (Elysiidae)
eolid nudibranch (Aeolididae, Dendronotidae)
facelina nudibranch (Facelinidae, Favorinidae)
false limpets (Siphonariidae)
fig shells (Ficidae)
flat snails (Skeneopsidae)
fossarus (Fossaridae)
frog shells (Bursidae)
glassy bubble shells (Atyidae)
hairy-keeled snails (Trichotropidae)
harp shells (Harpidae)
helmet shells (Cassidae)
hoof shells (Hipponicidae)

horn shells (Cerithiidae)
horn shells (Potamididae)
keyhole limpets (Fissurellidae)
left-handed snails (Triphoridae)
limpets (Acmaeidae)
marginellas (Marginellidae)
melanella shells (Melanellidae)
miter shells (Mitridae)
modulus (Modulidae)
moon shells (Naticidae)
nerites (Neritidae)
nutmegs (Cancellariidae)
olive shells (Olividae)
paper bubble shells (Hydatinidae)
pearly top shells (Trochidae)
periwinkles (Littorinidae)
pheasant shells (Phasianellidae)
planaxis (Planaxidae)
polycera nudibranch (Polyceratidae, Phyllidiidae, Tritoniidae, Dotoidae)
pyramid shells (Pyramidellidae)
rissos (Rissoidae)
rock or dye shells (Muricidae)
rock shells or dogwinkles (Thaididae)
salt-marsh snails (Ellobiidae)
sea butterflies (Cavolinidae)
sea buttons (Eratoidae)
sea hares (Aplysidae)
simnias (Ovulidae)
slit worm shells (Siliquariidae)
slit-shells (Pleurotomariidae)
small bubble shells (Acteonidae)
spindle shells (Fusininae)
strombs (Strombidae)
sundials (Architectonicidae)
swamp snails (Hydrobiidae)
tritons (Ranellidae)
true bubble shells (Bullidae)
tulip shells (Fasciolariidae)
tun shells (Tonnidae)
turbans (Turbinidae)
turret-shells (Turritellidae)
turrids (Turridae)
umbrella shells (Umbraculidae)
vase shells (Vasidae)
violet snails (Janthinidae)
vitreous snails (Vitrinellidae)
volutes (Volutidae)
wentletraps (Epitoniidae)
whelks (Buccinidae)
wide-mouthed bubble shells (Philinidae)
wide-mouthed snails (Lamellariidae)
worm shells (Vermetidae)

Amphineurans or Chitons

chitons (Chitonidae)
chitons (Ischnochitonidae)
glass-haired chitons (Acanthochitonidae)
red chitons (Lepidochitonidae)

Scaphopods

swollen tusk shells (Siphonodentaliidae)
tusk shells (Dentaliidae)

Cephalopods

octopods (Octopodidae)
paper argonauts (Argonautidae)
spirulas (Spirulidae)
squids (Gonatidae, Loliginidae, Ommastrephidae)

SITE BY FUNCTION

An archaeological site is a place (or group of places) in which evidence of past activity is preserved and which has been, or may be, investigated by archaeologists.

art sites
burial sites
ceremonial and ritual sites
commerce sites
fishing stations
flint collection sites
habitation and industry sites
habitation sites
habitation, industry, and ritual sites
hunting sites
industry sites
kill sites
quarry sites
shell middens
trading sites
water collection sites
way stations for migrations
wild food collection sites

SITE BY TYPE

camps
caves
cemeteries
flintknapping stations
gathering stations
hunting stations
monumental cities
mounds
plains
quarries
raised beaches
riverside terraces
rock carvings
sacred areas
shell middens
specialized camps
tells or tumuli
towns
underwater sites
villages
waterholes

SOIL CLASSIFICATION, GENERAL

#1

- Azonal soil: recently deposited soil in river deltas, mountain regions, sand dunes, often with no profile.
- Intrazonal soil: e.g. swamps and marshes, having poorly defined profiles.
- Zonal soil: which has two distinct zones or horizons, topsoil and subsoil.

#2

Seventh Approximation Soil Classification, US Dept. of Agriculture

- Alfisols: soil with more clay in B horizon than in A, high base status.
- Andisols: formed from volcanic parent materials.
- Aridsols: dry soil with salic, calcic, and gypsic horizon.
- Entisols: young soils lacking horizons.
- Histosols: wet soils made of decaying plants.
- Inceptisols: young soils with poor horizons, e.g. rice paddies.
- Mollisols: fertile soil that is base rich.
- Oxisols: mature, well-leached soils with distinct oxic horizon.
- Spodsols: soil with illuvial accumulation of humus with iron and/or aluminum.
- Ultisols: red soil, less leached, with clay argillic horizon.
- Vertisols: dark soil with deep vertical cracks.

SOIL HORIZONS AND SUBDIVISIONS

A soil horizon is a natural soil layer deposited at a particular time and whose physical, biological, and chemical characteristics differ from the layers above and below. Horizons are defined in many cases by physical features, mainly color and texture, and sometimes by fossils.

O horizon: fresh or decomposed organic material, dark in color.

O1: fresh organic material, still identifiable.
O2: decomposed organic material, not identifiable.

A horizon: mainly inorganic or mineral, dark in color; also called topsoil.

A1: mineral with dark colors.
A2: lower portion of A horizon where leaching is intense.
A3: transitional, more like A than underlying B; also called A/B.

E horizon: mineral with intense leaching or removal of well-decomposed organic matter, clay, iron, or aluminum; gray or grayish brown, lighter than A or B; also called subsurface layer.

B horizon: mineral, zone of illuviation or accumulation of clay, iron, aluminum, carbonates, gypsum, silica, illuviated organic matter; yellowish brown to reddish brown compared to overlying and underlying horizons; also called subsoil.

B1: transitional, more like B than A; also called B/A.
B2: zone of accumulation for clay, iron, aluminum, illuviated organic matter; strong development of blocky, subangular blocky, prismatic, columnar structure.
B3: transitional, more like B than C; also called B/C.

C horizon: unweathered and unconsolidated material; also called parent material; also called substratum.

R horizon: bedrock or consolidated rock underlying soil.

SOIL LAYERS

humus (O horizon, decaying plant material and leaves)
topsoil (A horizon, top layer where moisture seeps down, dissolving chemical elements; minerals in the moisture enter bodies of water)
subsoil (B horizon, middle layer including iron oxides, clay, other insoluble substances, touched by deep-rooted plants, as trees) parent rock (C horizon, bottom layer which is combination of decomposed rock and shale-like materials)
rock zone (D horizon, underlying bedroom, layer of crumbled rock)

SOIL PARTICLE SHAPE

(for sand- and gravel-sized particles)

angular (all edges are sharp)
rounded (all edges are smooth)
subangular (one-third of edges are smooth)
subrounded (two-thirds of edges are smooth)
very angular (all edges very sharp)
well-rounded (all edges smooth and very round)

SOIL STRUCTURE TYPES

#1

Blocky: blocks with sharp faces that fit adjoining ped faces; can break into smaller blocky peds.
Columnar: particles aggregate and create columnlike peds with rounded caps.
Crumb: relatively porous, small and spheroidally shaped peds; not fitted to adjoining aggregates.
Granular: relatively nonporous, small and spheroidally shaped peds; not fitted to adjoining aggregates.
Platy: platelike aggregates that often overlap.
Prismatic: particles aggregate and create columnlike peds without rounded caps.
Subangular blocky: blocks with rounded faces that accommodate adjoining peds.

#2

Blocky
very fine < 5 mm
fine 5–10 mm
medium 10–20 mm
coarse 20–50 mm
very coarse > 50

Granular
very fine < 1 mm
fine 1–2 mm
medium 2–5 mm
coarse 5–10 mm
very coarse > 10 mm

Platy
very fine/very thin < 1 mm
fine/thin 1–2 mm
medium 2–5 mm
coarse 5–10 mm
very coarse > 10 mm

Prismatic
very fine < 10 mm
fine 10–20 mm
medium 20–50 mm
coarse 50–100 mm
very coarse > 100 mm

SOIL TAXONOMY

Epipedons

- Anthropic: similar to a mollic, but man-made with a large amount of phosphate accumulated by continuous farming.
- Histic: peaty surface horizon, saturated with water part or all of the year, having a large amount of organic carbon.
- Mellanic: black, thick epipedon occurring in soils developed in volcanic ash.
- Mollic: dark-colored, thick surface horizon, heavy base.
- Ochric: light in color, low in organic carbon, thin.
- Plaggen: man-made epipedon more than 50 cm thick raised above the original soil surface with properties that depend on the original soil.
- Umbric: similar to mollic, except that the base saturation is less than 50%.

Diagnostic subsurface horizons

- Agric: compact horizon formed immediately below the plow layer by cultivation, and contains significant amounts of illuvial silt, clay, and humus.

- Albic: bleached, light colored horizon from which the clay and free iron oxides have been removed.
- Argillic: illuvial horizon enriched with clay.
- Calcic: enriched with calcium carbonate or calcium and magnesium carbonate in the form of powdery lime or secondary concretions, more than 15 cm thick.
- Cambic: altered horizon in which the parent material has been changed into soil by formation, of soil structure, liberation of iron oxides, clay formation, and obliteration of the original rock structure.
- Gypsic: enriched with calcium sulphate, more than 15 cm thick.
- Kandic: kaolinitic clay minerals with abrupt change of texture between the surface and lower horizons.
- Natric: clay-enriched illuvial horizon, with the cation exchange complex dominated by a high sodium content.
- Oxic: very low content of weatherable minerals, clay composed largely of kaolinite, contains accessory highly insoluble minerals such as quartz sand, low exchange capacity, and clays are poorly dispersed.
- Placic: thin, black or reddish-brown brittle pan, cemented with iron, iron and manganese, or an iron-organic complex; forms a barrier to roots.
- Salic: enriched with salts more soluble than gypsum, more than 15 cm thick.
- Sombric: freely drained, dark subsurface horizon containing illuvial humus with low base saturation.
- Spodic: illuvial enriched with organic matter, iron, and aluminum.
- Sulfuric: mineral or organic horizon more than 15 cm thick which has a pH of 3.5 or less and contains the mineral jarosite or more than 0.05% water-soluble sulphate.

Other diagnostic horizons

- Andic: composed of volcanic glass.
- Duripan: subsurface horizon cemented by silica or aluminum silicate.
- Fragipan: compact, slowly permeable loamy subsurface horizon with a high bulk density, brittle when moist, but hard when dry.
- Glossic: more than 5 cm thick in which an upper E horizon penetrates (tongues) down into a lower argillic, natric, or kandic horizon.
- Permafrost: horizon where temperature is constantly below 0°C, with permanent ice.
- Petrocalcic: cemented calcic horizon.
- Petrogypsic: cemented gypsic horizon.
- Plinthite: found in tropical regions, arising due to laterization soil formation processes; hardens into iron crust.

SOIL TEXTURAL CLASSES

- Sand: very gritty, does not form stable ball, does not ribbon out, does not soil hands, no plastic properties, not sticky, loose moist consistency, loose dry consistency.
- Loamy sand: very gritty, does not form stable ball, does not ribbon out, slightly soils hands, no plastic properties, not sticky, loose moist consistency, loose dry consistency.
- Sandy loam: gritty, forms stable ball that is easily deformed, ribbons out but poorly formed with dull surface, soils hands, no plastic properties, not sticky, very friable moist consistency, soft dry consistency.

Table 1.1 Characteristics of major sediment textural classes (adapted from Foss et al. 1975).
(Table 1: Characteristics of major sediment textural classes, p. 41 from The *Crow Canyon Archaeological Center Field Manual [HTML Title]*. Crow Canyon Archaeological Center, 2001a. Copyright © 2001 by Crow Canyon Archaeological Center. Reprinted by permission)

TEXTURAL CLASSES	CONSISTENCE				FORMS STABLE		Properties when moist
	Dry	Moist	Wet				
			Stickiness	Plasticity	Molded ball	Ribboning	
Sand	Loose	Loose	Nonsticky	Nonplastic	None	None	Very gritty
Loamy sand	Loose to soft	Loose	Nonsticky	Nonplastic	Very weak	None	Very gritty
Sandy loam	Soft to slightly hard	Very friable	Nonsticky to slightly sticky	Nonplastic to slightly plastic	Very weak to fragile	None	Gritty
Loam	Slightly hard to soft	Friable	Slightly sticky to nonsticky	Slightly plastic to nonplastic	Strong to fragile	Slight to none	Gritty
Silt loam	Slightly hard to soft	Friable	Slightly sticky to nonsticky	Slightly plastic to nonplastic	Strong	Slight	Velvety
Silt	Soft to slightly hard		Nonsticky	Nonplastic		Slight	Velvety
Silty clay loam	Slightly hard to hard	Friable to firm	Sticky	Plastic	Strong	Medium	Velvety
Clay loam	Slightly hard to hard	Firm	Sticky	Plastic	Strong	Medium	Gritty
Sandy clay loam	Slightly hard to hard	Friable to firm	Sticky	Plastic	Strong	Medium	Very gritty
Silty clay	Hard to very hard	Firm to extremely firm	Very sticky	Very plastic	Very strong	High	Very smooth
Clay	Hard to extremely hard	Firm to extremely firm	Very sticky	Very plastic	Very strong	High	Smooth
Sandy clay	Hard to very hard	Firm to extremely firm	Very sticky	Very plastic	Very strong	High	Gritty

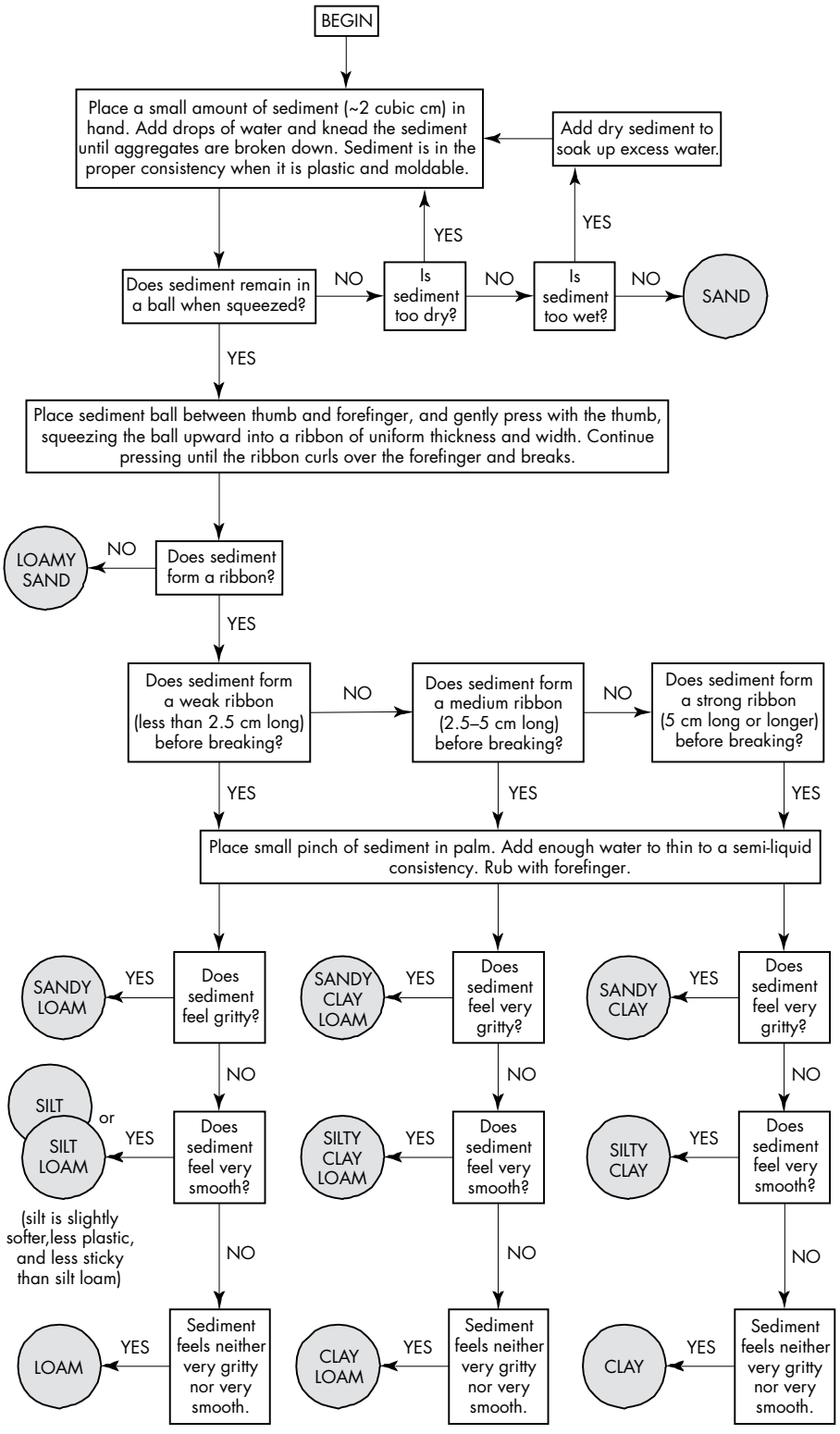

Figure 1.12 Flow diagram for determining sediment texture. Reproduced with permission of Thien 1979/Crow Canyon Archaeological Center.

- Loam: gritty, forms stable ball, ribbons out but poorly formed with dull surface, soils hands, slight plastic properties, slightly sticky, friable moist consistency, soft dry consistency.
- Silt loam: velvety, forms stable ball, ribbons out but poorly formed with dull surface, soils hands, slight to moderate plastic properties, friable moist consistency, soft dry consistency.
- Silty clay loam: velvety and sticky, forms very stable ball, ribbons out well with shiny surface, soils hands, moderate plastic properties, sticky, friable to firm moist consistency, slightly hard dry consistency.
- Clay loam: gritty and sticky, forms very stable ball, ribbons out well with shiny surface, soils hands, moderate plastic properties, sticky, firm moist consistency, slightly hard to hard dry consistency.
- Sandy clay loam: very gritty and sticky, forms very stable ball, ribbons out well with shiny surface, soils hands, moderate plastic properties, sticky, friable to firm moist consistency, slightly hard to hard dry consistency.
- Silty clay: extremely sticky and very smooth, forms ball that is very resistant to molding, ribbons out well with very shiny surface, soils hands, strong plastic properties, very sticky, firm to extremely firm moist consistency, hard to very hard dry consistency.
- Clay: extremely sticky, forms ball that is resistant to molding, ribbons out well with very shiny surface, soils hands, strong plastic properties, very sticky, firm to extremely firm moist consistency, hard to very hard dry consistency.

STONE TOOL CLASSIFICATION, FLAKED OR CHIPPED

#1

- Blade: parallel-sided flake tool struck from prepared core
- Core: the mass from which flakes are removed
- Flake: tool that has been chipped or knapped from a core

#2

- Biface: flaked alternately on two sides or surfaces, producing a series of platforms along a margin/tool's edge; includes projectile points

  early-stage bifaces (sinuous margins and limited number of flake scars)
  late-stage bifaces (straight margins and numerous patterned flake scars)

- Uniface: worked only on one side

STONE TOOL CLASSIFICATION, GROUND

Ground in manufacture

atlatl weight/bannerstone: A stone atlatl – a throwing-stick weight – put on the shaft to give great propulsion to a thrown dart. The stone is perforated for hafting and often has a bipennate, "butterfly," or banner-like appearance.

ax: A flat, heavy cutting tool of stone or metal (bronze) in which the cutting edge is parallel to the haft and which might have the head and handle in one piece.
ball: A round object.
bead: A small, circular, tubular, or oblong ornament with a perforated center; usually made from shell, stone, bone, or glass.
bola: A weighted ball of stone, bone, ivory, or ceramic that is either grooved or pierced for fastening to rawhide thongs and used to hunt prey.
bowl: A round, deep dish or basin.
bracelet: An ornamental band or chain worn on the wrist or arm.
celt: A polished, ungrooved ax or adz head or blade that would be attached to a wooden shaft.
charm: A small ornament worn on a necklace or bracelet.
chisel: A long-bladed hand tool with a beveled cutting edge, struck with a hammer or mallet to cut or shape wood, stone, or metal.
cooking slab/stone: Any stone heated for a long time or several times by being placed in water or stew in order to convey heat to the water or stew.
cylinder seal: A cylinder engraved with a design, scene, and/or inscription which was impressed onto the plastic clay when the cylinder seal was rolled over a clay tablet.
disk: A flat, thin, round object.
figurine: A small carved or sculpted figure of a human or animal, usually of clay, stone, wood, or a metal.
gorget: A flat artifact made of stone or another material and worn as an ornament over the chest.
hammer: A hand tool with a heavy, rigid head and a handle; used to deliver an impulsive force by striking.
hoe: A digging implement consisting of a blade set at right angles to a long handle (haft).
loomweight: A perforated stone or ceramic block weighing around 1kg that was used for stretching the threads forming the warp or the weft on a loom.
maul: A heavy, massive, long-handled hammer.
net weight/fishing weight: A term applied loosely to any perforated stone or terra-cotta object which may have been used to keep a fishing net vertical in the water.
ornament: Any purely decorative object that has no practical purpose, esp. a small object such as a figure.
other: Category for an unknown object.
palette: A small slab of stone for grinding and mixing substances like paint or cosmetics.
pipe: A tube with a small bowl at one end, esp. used for smoking tobacco, etc.
plummet/plumb: A stone artifact resembling a carpenter's plumb bob, usually made of basalt, slate, or hematite.
ring: A small circular band, typically of precious metal and sometimes set with one or more gemstones.
ritual object: Any object made and intended for the worship of ancestors, who may be named in inscriptions on the object.
spindle whorl: A circular object with a central perforation intended to act as a fly wheel on a spindle, giving momentum to its rotation, providing evidence of the spinning of thread.
utensil: An implement, container, or other article, especially for household use.

Ground in use

handstone/mano: A handheld milling stone used to process materials on a metate.
mill: A domestic device for grinding a solid substance to powder or pulp.
milling stone/metate: Any stone slab or basin that is used to process seeds, nuts, and other such foods by rubbing, grinding, or pounding them against this object with another stone.

mortar/bowl: A stone or wooden receptacle with a cup-shaped depression, for processing plant foods, usually with a pestle.
other: Category for an unknown object.
pestle: Club-shaped (oblong cylindrical or subcylindrical) implement of stone used for pounding, crushing, or grinding substances in a mortar.

STONE TOOL PARTS

blade: A long, narrow, sharp-edged, thin flake of stone, used especially as a tool.
bulb of percussion: A swelling or bulb left on the surface of a blade or flake directly below the point of impact on the striking platform.
compression rings/ripple marks: The faint lines on the dorsal side of a flake, indicating the direction of force.

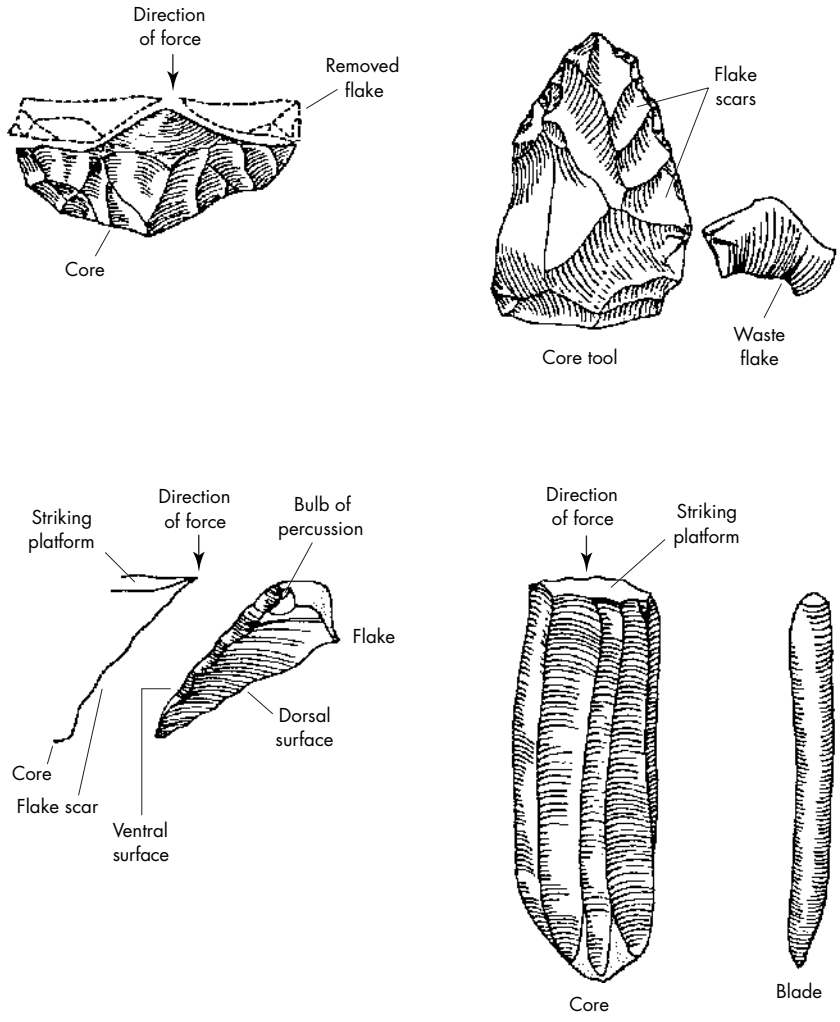

Figure 1.13 Stone tool parts terminology. Reproduced with permission of Oakley 1956/The Trustees of The British Museum.

core: A piece of stone used as a blank from which flakes or blades were removed by toolmakers.
core tool: A stone tool, such as a hand ax, chopper, or scraper, formed by chipping away flakes from a core.
cortex: A tough covering or crust on an unmodified stone cobble or newly exposed flint nodules and tabular flint.
direction of force/direction lines: The nested series of curved lines drawn in each flake scar to indicate, by their placement, the direction of the blow or pressure that produced that scar when the force detached a piece of the stone.
dorsal surface: On the side of a lithic flake or blade that would have been on the outside of the core (during striking) which shows cortex or scars from previous flake removals.
eraillure (small secondary flake) scar: The small flake scar on the dorsal side of a flake next to the platform.
flake: A thin, broad piece of stone detached from a larger mass for use as a tool; a piece of stone removed from a larger piece (core or nucleus) during knapping (percussion or pressure).
flake scar: A mark or trace on a stone showing the point of attachment of a flake that has been removed; the point where a flake has been chipped off in the making of a tool.
profile: A vertical cross-section of an object.
removed flake: Any flake removed by striking the edge of the core with a sharp, forceful blow in percussion flaking.
striking platform: The area on a store core which is struck to remove a flake or blade in toolmaking; part of the original platform is removed with the detached flake.
ventral surface: The part toward the side that was not exposed until after removal from the core.
waste flake: A byproduct, eliminated or thrown away as worthless after the making of a stone tool; either a larger piece flaked off from the original stone (primary waste flake) or a smaller piece removed during finishing (secondary waste flake).

STRATIGRAPHICAL CONTEXT AND RELATIONSHIP TYPES

Stratigraphy is the study of rock and soil layers (strata) and layering (stratification). Stratigraphical context deals with the composition, distribution, origin, and succession of strata.

Context

artificial layer
cut
horizontal interface
no context
stratigraphical layer
vertical interface

Relationship

above/below
abuts/abutted by
cut/cut by

equals
fills/is filled by
no relationship

SURVEY CLASSES

Survey (or field survey) is a type of field research by which archaeologists search for archaeological sites and collect information about the location, distribution, and organization of past human cultures across an area. Different types of survey are used to search for sites or kinds of sites, to detect patterns in the distribution of material culture over regions, to make generalizations or test hypotheses about past cultures, and to assess the risks that development projects will have adverse impacts on archaeological heritage.

Surveys may be intrusive or nonintrusive, depending on the methods used. Surveys may be extensive or intensive, depending on the types of research questions being asked.

Plane survey

land survey
  pedestrian or foot survey
  subsurface survey
ongoing excavation survey
topographic survey

Other types of plane survey forest survey (forest resources)

geologic survey (geological deposits)
hydrographic survey (measure of water resources)
mine survey (mine shafts, tunnels, deposits)
photogrammetric survey (aerial photography of ground checks)

Geophysical/geodetic survey

SURVEY METHODS OF INSPECTION

aerial photography with ground checks, also SAT images
geophysical survey
  auguring
  bosing/bowsing (thumping the ground and sensing the differences between compacted and undisturbed earth)
  chemical survey
  dowsing (use of a Y-shaped hazel wand or bimetal strip – similar to water divining)
  electromagnetic survey (for sump features/pits/houses/trenches/ metal objects, moderate cost, limited by environmental interference)
  ground-penetrating radar (for voids/grave shafts/tombs/coffins/foundations/cellars/ cisterns, high cost, limited by wet matrix/clay/saline soils)
  magnetometer survey (for subsurface anomalies/pits/houses/ trenches, foundations/wells, moderate cost, limited by magnetic storms, diurnal variation, random intrusions)
  metal detector survey (for metal objects, relatively low cost, limited to shallow depths)
  probing
  seismic survey (remote sensing that uses vibrations sent into the earth which are flected back by buried matter)

soil resistivity survey (for features near surface/rocks features/hearths/pits/houses/mounds, low-to-moderate cost, limited when there is thick brush)
sonar or acoustic survey (using sound waves)
thermal survey (using heat waves)
pedestrian surface survey (also called field walking)
subsurface survey by test pits, divoting, coring, or augering
underwater survey

TIMBER/JOINTING DESCRIPTION TERMS

brace or shore: a member, usually diagonally set, which props up a structure
joist: base for a floor or ceiling
lap: joining piece for end or face of one timber for the face of another member; essential part of a framed structure
mortise and tenon: a tongue set into a slot cut into the edge or face of another timber
plank: part of horizontal or vertical surface
plate: horizontal member for a structure
post: vertical member
stake: pointed vertical member
tie-back: a piece joined to a plate or principal vertical member to prevent movement

TIN CAN TYPES

hole-and-cap (filler hole at one end, closed by a cap)
hole-in-cap (filler hole at one end, sealed with a tin plate cap that has a pinhole vent in its center)
vent hole (stamped ends and single pinhole or "matchstick" filler hole no larger than ⅛ inch in center of one end)
sanitary (also called open-top; ends attached to body by crimping edges together and made airtight)

TOOTH TYPES

canine
incisor
molar
premolar

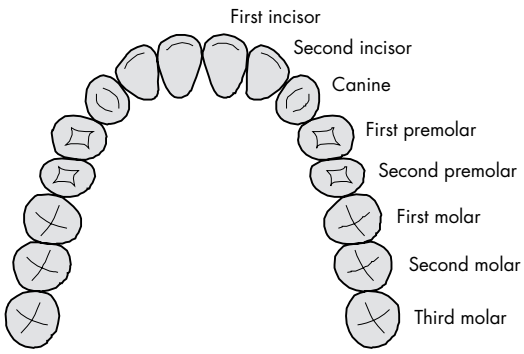

Figure 1.14 Permanent human teeth.

TYLER SCALE/GRADES OF CLASTIC SEDIMENTS

The use of sieves to separate particulate material (particles) into various sizes is used for archaeology. Sieving is one of the simplest methods of determining particle size distributions. The Tyler scale is based on the size of openings in wire cloth having 200 openings per linear inch (200 mesh). The Tyler scale matches screens manufactured by W.S. Tyler Co. of Mentor, Ohio.

Dimensions	Fragment/particle	Unconsolidated aggregate	Consolidated rock
> 256 mm	boulder	boulder gravel	boulder conglomerate
64–256 mm	cobble	cobble gravel	cobble conglomerate
4–64 mm	pebble	pebble gravel	pebble conglomerate
2–4 mm	granule	granule gravel	granulate conglomerate
1–2 mm	very coarse sand grain	very coarse sand	very coarse sandstone
½–1 mm	coarse sand grain	coarse sand	coarse sandstone
¼–½ mm	medium sand grain	medium sand	medium sandstone
⅛–¼ mm	fine sand grain	fine sand	fine sandstone
1/16–⅛ mm	very fine sand grain	very fine sand	very fine sandstone
1/256–1/16 mm	silt particle	silt	siltstone
< 1/256 mm	clay particle	clay	claystone

UNITS AND SPATIAL DIVISIONS

A unit in archaeology is an arbitrary classification set up by an archaeologist to separate one grouping of artifacts from another in space and time.

Basic units

- Phase: defined by artifacts and cultural traits identified precisely in time and space and which distinguish it from other units.
- Component: the manifestation of a given archaeological phase at a site.

Spatial divisions

(Some archaeologists see the four spatial divisions as being Artifact, Structure, Site, and Region.)

- Site: any location that demonstrates past human activity, especially community activity, evidenced by the presence of artifacts, ecofacts, features, structures, or other material remains.
- Locality: a large site composed of two or more clusters of material remains.

- Region: geographically defined area containing a series of interrelated human communities sharing a single cultural-ecological system; sometimes referred to as a settlement pattern.
- Area: broad tracts of land which roughly correspond to ethnographically defined cultural areas recognized by early anthropological work.

VERTEBRATE CLASSIFICATION

A vertebrate is any animal possessing a backbone or spinal column – including mammals, birds, reptiles, amphibians, and fishes.

Cyclostomata (jawless fishes)
Chondrichthyes (cartilaginous fishes)
Osteichthyes (bony fishes)
Reptilia: reptiles
  Chelonia (turtles, tortoises)
  Squamata (lizards, snakes)
  Crocodilia (crocodiles, alligators)
  Tuatara (lizard-like New Zealand creatures)
Amphibians
  Caecilians (limbless, worm-like)
  Caudata (tailed amphibians)
  Anura (tailless amphibians, i.e. frogs, toads)
Birds
  Struthioniformes (ostriches)
  Rheiformes (rheas)
  Casuariiformes (emus, cassowaries)
  Apterygiformes (kiwis)
  Tinamiformes (tinamous)
  Gaviiformes (divers)
  Podicipediformes (grebes)
  Sphenisciformes (penguins)
  Procellariiformes (albatrosses, petrels)
  Pelecaniformes (pelicans, cormorants, gannets)
  Ciconiiformes (herons, storks)
  Phoenicopteriformes (flamingos)
  Anseriformes (ducks, geese)
  Falconiformes (falcons, eagles, hawks, vultures)
  Galliformes (pheasant, turkey, game birds)
  Gruiformes (cranes, rails)
  Charadriiformes (gulls, waders, terns, plovers)
  Columbiformes (doves, pigeons)
  Psittaciformes (parakeets, parrots, cockatoos)
  Cuculiformes (cuckoos)
  Strigiformes (owls)
  Caprimulgiformes (goatsuckers, nightjars)
  Apodiformes (hummingbirds, swifts)
  Coliiformes (colies, mousebirds)
  Trogoniformes (trogons)
  Coraciiformes (kingfishers, hornbills, toucans)

- Piciformes (woodpeckers)
- Passeriformes (perching birds, thrushes, sparrows)

Mammals
- Monotremata (monotremes, as duck-billed platypus)
- Marsupiala (pouched animals, koalas)
- Eutheria (placental animals)
  - Insectivora (insectivores, moles, shrews)
  - Tupaioidea (tree shrews)
  - Dermoptera (colugos, flying lemurs)
  - Chiroptera (bats)
  - Primates (monkeys, humans, apes)
  - Edentata (anteaters, armadillos)
  - Pholidota (pangolins)
  - Lagomorpha (rabbits, hares)
  - Rodentia (mice, squirrels, rats)
  - Cetacea (whales, dolphins)
  - Carnivora (bears, cats, wolves)
  - Pinnipedia (sea lions)
  - Tubulidentata (aardvarks)
  - Proboscidea (elephants)
  - Hyracoidea (hyrax)
  - Sirenia (sea cows)
  - Perissodactyla (horses, rhinos)
  - Artiodactyla (camels, giraffes, pigs, cattle)

WENTWORTH GRAIN SIZE CLASSIFICATION

The Udden-Wentworth scale, commonly called the Wentworth scale, is a grade scale for classifying the diameters of rock sediments.

boulder 256–4,096 mm
cobble 64–256 mm
pebble 4–64 mm
granule 2–4 mm
very coarse sand 1–2 mm
coarse sand 0.5–1 mm
medium sand 0.25–0.50 mm
fine sand 0.125–0.25 mm
very fine sand 0.0625–0.125 mm
coarse silt 0.0312–0.0625 mm
medium silt 0.0156–0.0312 mm
fine silt 0.0078–0.0156 mm
very fine silt 0.0039–0.0078 mm
clay < 0.0039 mm