CHAPTER II

The Recovery of Human Remains and Associated Evidence

II. A. Rationale and General Principles

All known or suspected human bones are protected by law whether they are prehistoric or recent. It can be a punishable offence for casual persons to disturb them. Yet most skeletal remains are found by ordinary people doing ordinary things, such as hunting or digging a house foundation. Regardless of how the bones come to light, the police are usually directed or empowered by the Coroner or Medical Examiner to recover or take possession of the remains and attempt to have them identified.

The objectives of recovery are twofold: firstly, to identify the individual(s) represented by the remains and, secondly, to collect any and all evidence which might explain how the bones arrived at their present state and location. This latter information could indicate the commission of a crime and possibly provide clues to the identity of the criminal(s) involved.

The methods employed in the recovery of skeletal remains will determine the ease and reliability with which the case is resolved. Indeed, the bones themselves may constitute the only physical evidence contributing to the apprehension and conviction of the person(s) responsible. As such, the techniques and procedures followed in the retrieval of the remains become most important. A thorough recovery operation strives to gather much more than the skeletal material alone.

A number of general principles must be borne in mind throughout the process of recovery:

1) The collection of information is invariably accompanied by the loss of information. It is the responsibility of those individuals involved in the recovery to insure that as much information as possible is discovered and retained. Only certainty of complete recovery will allow the specialist examining the remains to ascertain the significance of absences. For example, upon receipt of a jumble of bones it is discovered that those of the hands are missing. Is their absence due to poor recovery, animal activities, or to their deliberate removal by an assailant to deter fingerprint identification of the victim?

2) Not all important and recoverable evidence has been intentionally deposited. For example, a body deposited and cremated outdoors may include in the debris, plants and insects burned and preserved at a particular season of their life cycle. Further instances of this adventitious inclusion of evidence are insect species invading the corpse and a beer bottle discarded by an assailant.

3) Not all potentially significant evidence is physically retrievable. For example, orientation and location of body parts, exposure to sunlight, and extremes of temperature in the immediate locale promote or retard decay of the body. This information may be crucial to establishing elapsed time since death. In these instances accurate, detailed notes, sketches, and photographs are an absolute necessity.

4) The evidence may not be obvious. The importance of certain features, items, and physical relationships is not always immediately appreciated or even apparent. This is of course the most easily lost of all potentially recoverable information. For example, *IN SITU* (in place) cremation can scorch nearby trees affecting their growth. The year and even the season of this event can be subsequently determined from the altered tree ring widths. Personnel should refrain from ascribing relative degrees of significance to evidence encountered in the field; rather, they should record and collect everything that could be important, regardless of whether it proves to be so in the final analysis.

5) Be equipped to recover the evidence. Appendix 2 lists recommended equipment (Fig. 4) for surface collection and burial excavation. There is no substitute for prior practice with this equipment under field conditions. As a useful exercise we recommend the systematic excavation of animal remains (for example, road

kills) which have been intentionally buried and left for at least a year. This type of practice will go a long way towards alleviating that overwhelming feeling of unpreparedness when faced for the first time with the field recovery of forensically significant human remains.

II. B. Recovery Procedures

The following is a recommended sequence of procedures for the recovery of human skeletal remains in the field:

1. Appraising constraints on recovery

2. Evaluating the search and recovery areas

3. Establishing spatial controls

4. Excavating to expose the remains

5. Excavating to remove the remains

6. Cataloguing, packing, and transport

Each step is outlined in some detail below. Aspects of procedure specific to either surface or buried remains are noted. The most significant difference between the two is that in the case of a burial one is definitely dealing in three dimensions, rather than basically two. In order to recover buried remains it is necessary to remove the associated matrix (soil, sand, gravel) surrounding the bones. If excavation of the matrix is not systematic then the spatial and possibly **TEMPORAL** relationships of the evidence will go unrecognized and unrecorded.

II. B. 1. *Appraising constraints on recovery*

A 'constraint' for our purposes is anything which requires modification of standard procedure even to postponing the recovery. It is essential that the recovery team be aware beforehand of any such constraints. This is not always possible of course but every effort should be made to anticipate these events.

The nature of constraints can vary, but generally belong to one of the following categories: legal, financial, physiographic, or technical.

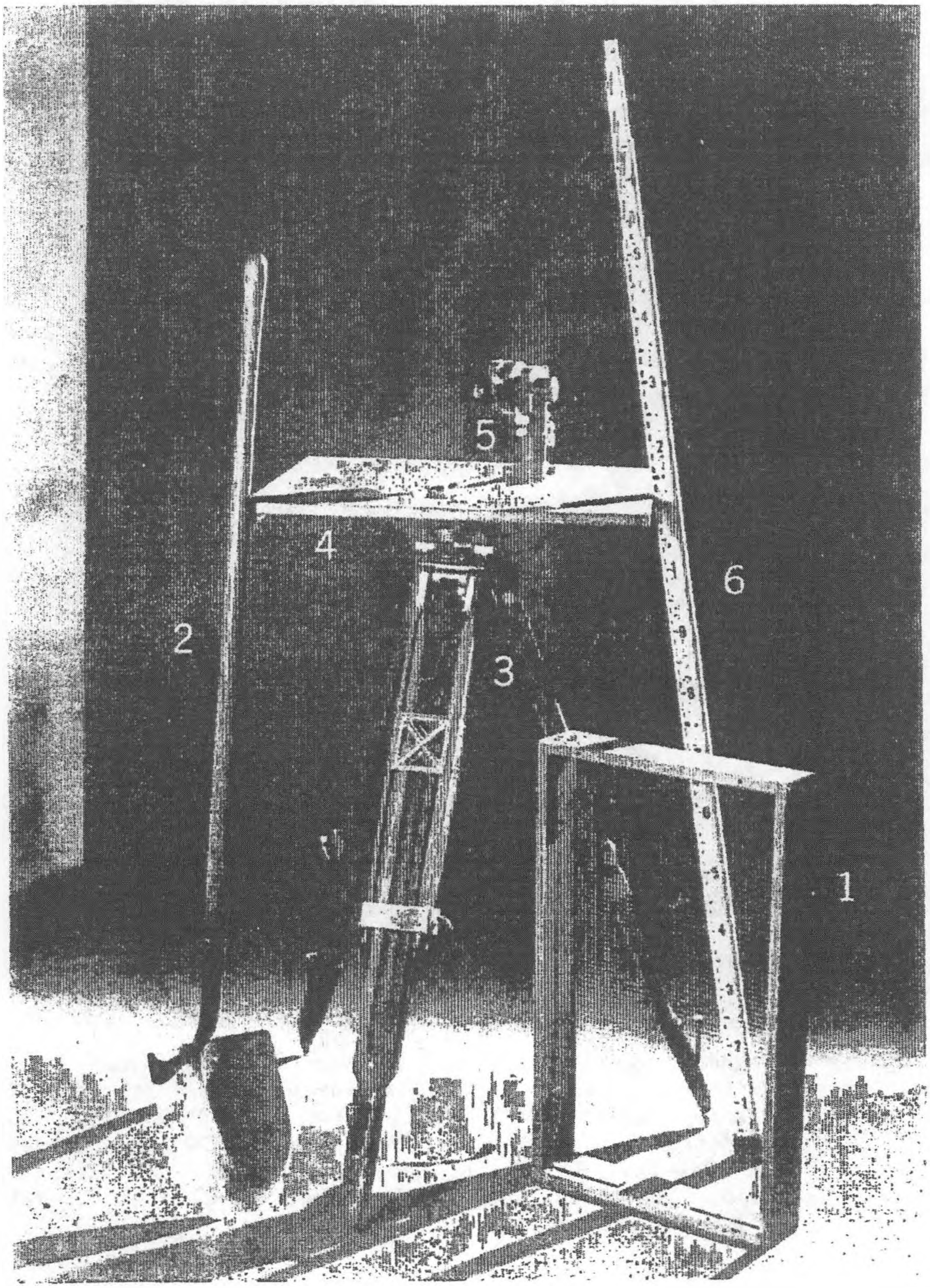


Figure 4a. Standard equipment for the recovery of recent human skeletal remains. 1) Screen, 2) Shovel (for minimum use), 3) Tripod, 4) Plane table, 5) Alidade, 6) Stadia rod.

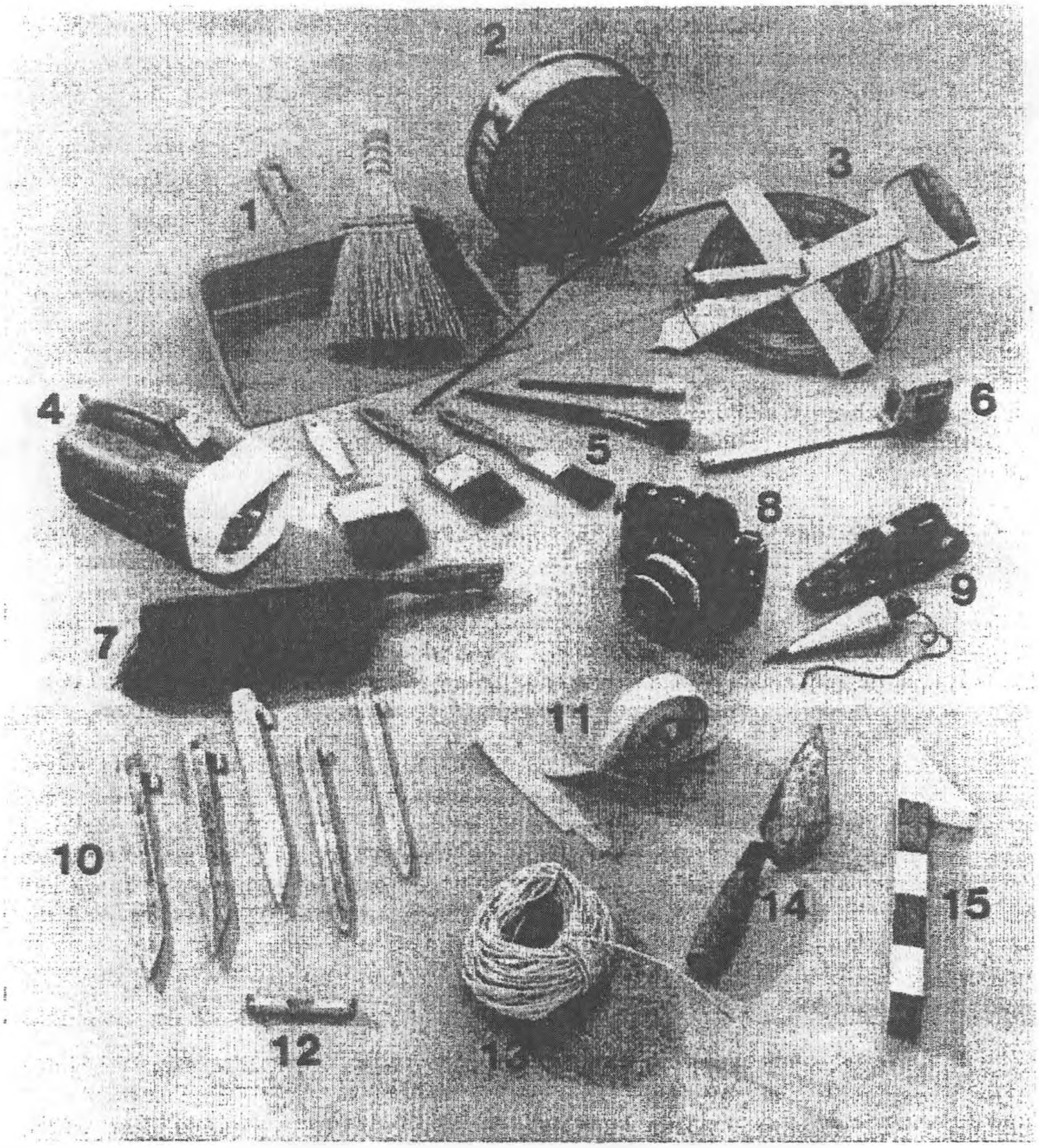


Figure 4b. Standard equipment for the recovery of recent human skeletal remains. 1) Whisk broom and dust pan, 2) Nesting screen, 3) Steel tape, 4) Flashlight, 5) Selection of brushes, 6) Meter tape, 7) Hand brush, 8) Camera, 9) Plumb bob, 10) Pegs, 11) Flagging tape, 12) Line level, 13) Nylon cord, 14) Trowel, 15) North arrow/scale.

Legal constraints might involve obtaining a search and seizure warrant or other authorization, or notifying the local coroner or native band council in case the find locale is an unrecorded (but locally known) burial ground.

Financial constraints usually occur with respect to special cases. Some recovery situations (for example, cremations and multiple burials) are best left alone until personnal with requisite skills can be employed, sometimes at significant expense.

PHYSIOGRAPHIC and technical constraints are no doubt the most common restrictions encountered in the field. The first refers to those aspects of terrain or climate which force change in procedure, while technical constraints develop when the requisite personnel or equipment necessary for recovery are not immediately available; but if obtainable later would enhance the quality of recovery technique and evidence.

A recent case can illustrate how several constraints can operate together, any one of which should have dictated the postponement of recovery. This case involved an alleged sudden infant death in which the mother volunteered information, five years after the fact, indicating the approximate locale ("behind the cabin") where she had buried the naked body of the child, wrapped in a blanket. The local non-commissioned officer in charge, realizing a snowfall was imminent, decided to look for the infant's bones himself, armed only with a shovel. The officer lacked any familiarity with the infant human skeleton, intact or **DISARTICULATED**. As well, the area had been disturbed by heavy logging machinery in the interim. Several holes were dug by the officer with no results. In this situation the recovery should have been put off till spring when a specialist familiar with immature human skeletal remains could have assisted. As an added note, no follow-up investigation has occurred to date in this matter, possibly because this initial attempt, however cursory, was unproductive.

Technical constraints can arise in other ways. In northern British Columbia a man was seen very early one morning dumping a bundle onto a conveyor belt leading up to the top of a 'beehive' sawdust burner. His report that his wife had 'run off' was viewed with some suspicion and it was decided to check out the contents of the burner. After a week the slag had cooled to the point where it could be bulldozed into the open for examination. Repeated clambering over the sharp glassy slag, looking for bone, yielded nothing, except the remark that townsfolk customarily disposed of dead pets into the burner. Consideration of this and the enormous heat and duration of the fire prompted us to search the river instead!

II. B. 2. *Evaluating the search and recovery areas*

It is at this stage that accurate documentation must be initiated. No matter how technically elaborate and perfectly executed are the recovery methods employed, they are wasted effort if the evidence brought to light is not recorded properly. This entails photographs, sketches, maps, detailed notes and possibly even video taped recording of every phase of the recovery, material collected or exposed, and of the contextual relationships.

The investigating officer should distinguish between the **RECOVERY AREA** and the **SEARCH AREA**.

The search area

This larger unit, surrounding the recovery area, constitutes the maximum areal extent in which observations should be made. Both the field worker and the villain are likely to take the 'path of least resistance' to where the body will be found. Particular attention should be paid to approaches and exits from the find locale looking for discarded objects and evidence of a person or persons passing that way (for example, snapped branches, footprints, tiretracks). It may be essential to obtain a statement from the original discoverer of the remains in order to interpret this sort of evidence. Within the search area, observations should be made of the following:

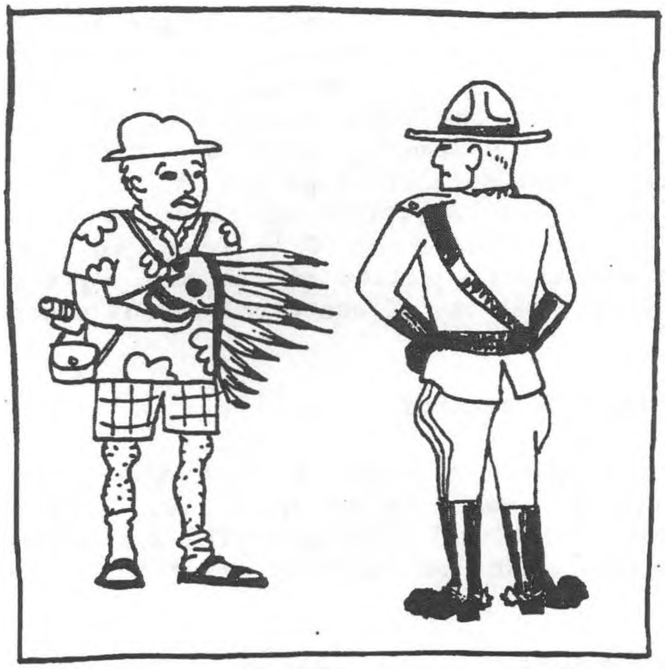
1) surface features, such as relief, vegetation type and amount, large boulders, trees, the proximity of water;

2) local climatic conditions, such as weather conditions at the time of appraisal, shaded and sunny areas, freezing altitude, recent climatic history;

3) degree of disturbance of vegetation and soil; and

4) evidence: note and mark (with taped pins or stakes) the position of surface material; do <u>not</u> collect the evidence at this time.

A paramount consideration is the need to maintain security of the site and **CONTINUITY OF EVIDENCE** recovered. Human remains are fascinating to many people, not just **FORENSIC ANTHROPOLOGISTS**. Invariably the matter of public relations and the media arises. These should be handled by the appropriate personnel. At no time should unauthorized persons be allowed to approach the site. It has proved embarrassing in the past to lose a **SKULL** to trophy hunters part way through the recovery operation.



"You mean I can't keep it?"

II. B. 3. *Establishing spatial controls*

The recovery area

In that this represents the area from which evidence is to be recovered it must be mapped. Establishing spatial controls is undertaken so as to record and reveal spatial relationships among recovered items, and between these and the immediately surrounding area. The meaning of spatial relationships, although not apparent in the field, may be even more important than the physical evidence; the most obvious example being cases of bone scattering due to animal activity differentiated from deliberate secretion of body parts over an area.

The investigating officer is likely to be faced with one of two situations: either the remains are clustered, perhaps still largely **ARTICULATED** or even buried, or the evidence is scattered and usually much more sparse. In either case the recovery area must be mapped. This is most easily accomplished in such field situations by laying out a rectangular area based on multiples of the familiar 3-4-5 triangle of high school geometry. This method starts with producing a straight base line, usually along a compass direction, of measured length exceeding the limit of the recovery area in either direction (line A-B in Fig. 5). Corner post D is found by utilizing two measuring tapes -- one each anchored at A and B. Assuming a base line of '4' units in length, point D marks the intersection of '3' units on the "perpendicular' tape and '5' units on the "diagonal" tape (or any proportional multiple of these, for example, 4, 3, 5 increased to 20, 15, 25). Point C is found in a similar fashion. Check opposite sides for equality of length. We shall now turn to mapping the two alternatives of scattered versus clustered remains.

(1) Mapping scattered remains

The major preposition here is that when scattered skeletal remains are encountered, there has also usually occurred a significant loss of skeletal elements. The sparsely represented and scattered skeleton can be mapped using a simple and rapid technique.[1]

Equipment required is as follows: two 50 meter tapes, a compass, four corner posts, four nails and a recording form. After laying out the basic rectangle (see above) label the corner posts A to D as shown in Fig. 5. Drive a nail partially into the centre of each post. Each tape is anchored by the pull ring to the protruding nail on each post of a side of the rectangle. The distance of an object to each of the two corner posts (Fig. 6) is read directly from each tape and recorded as follows:

OBJECT	POSTS USED	DIRECTION	DISTANCE TO POST A	DISTANCE TO POST B
skull	A and B	east of line	3.75 m	2.25 m

If the terrain is markedly rough or sloping it may be necessary to hold the tapes horizontal and with the aid of a plumb bob record the location of the object in both vertical and horizontal directions.

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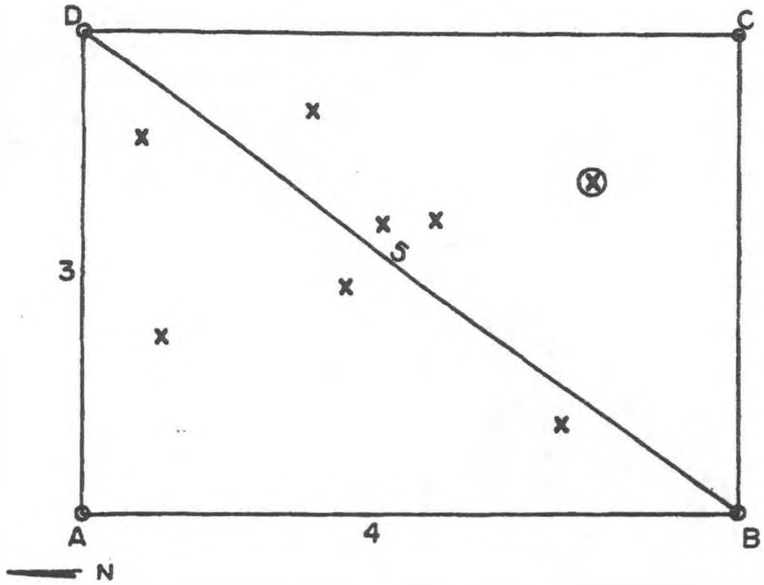
1. Technique suggested by M. Wright, Department of Archaeology, Simon Fraser University.



MULTIPLES OF BASIC
3-4-5 TRIANGLE

3	4	5
6	8	10
9	12	15
12	16	20
15	20	25
18	24	30
21	28	35
24	32	40
27	36	45

Figure 5. Laying out spatial controls for the recovery area (based on '3-4-5' triangle).

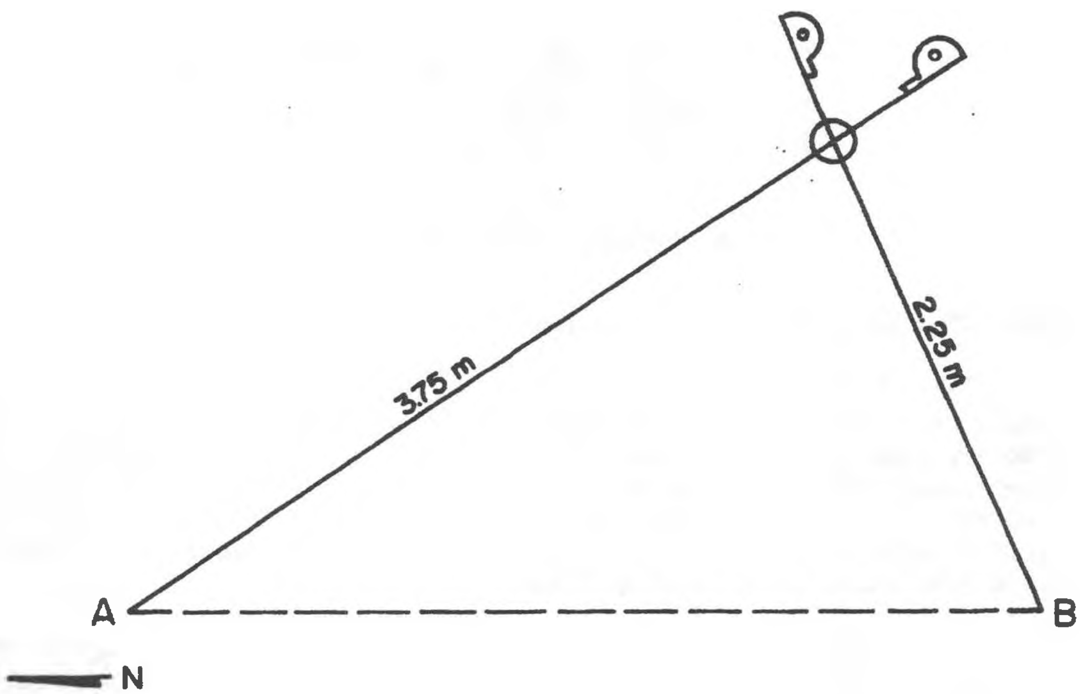
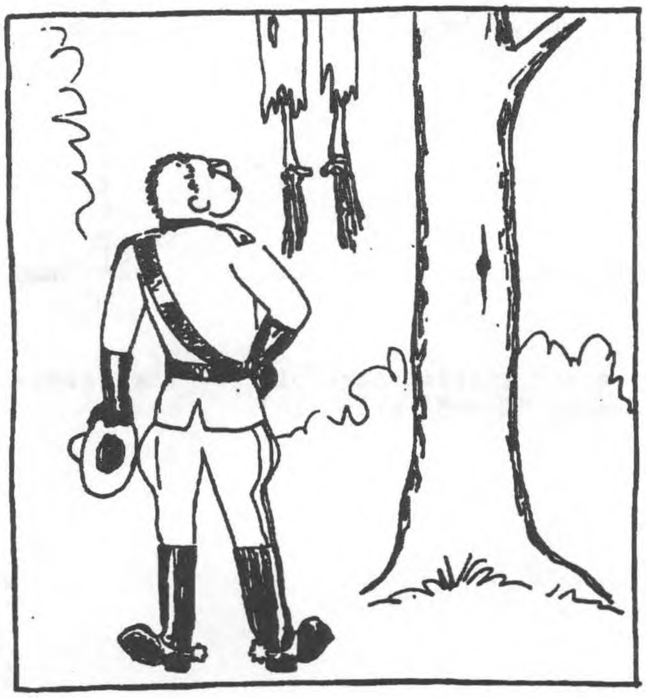


Figure 6. Recording location of objects by triangulation.

The advantage of this method is its field simplicity. The disadvantage is the necessity, back in the office, of converting the recorded dimensions into scaled equivalents for reproduction. Each pair of scaled radial distances is then drawn on a map (using a pair of compasses). The intersection of the two arcs marks the location of an object relative to the base line and to other objects.



"I'm supposed to map this?!"

(2) Clustered or buried remains

The object here is to create a mapping area surrounding the evidence. The area is gridded out into still smaller areas. This can be done either in actuality, by means of nylon string placed along each axis at regular intervals or, in effect, by laying out the relevant grid square. An object can be precisely related to the grid square by measuring it in or, roughly, by noting its presence in a particular grid square (Fig. 7).

The first question that will arise is how large an area should be mapped, particularly if the remains are not on the surface but are buried, with the orientation of the body unknown. A little thought about the general size of an adult skeleton and the chances

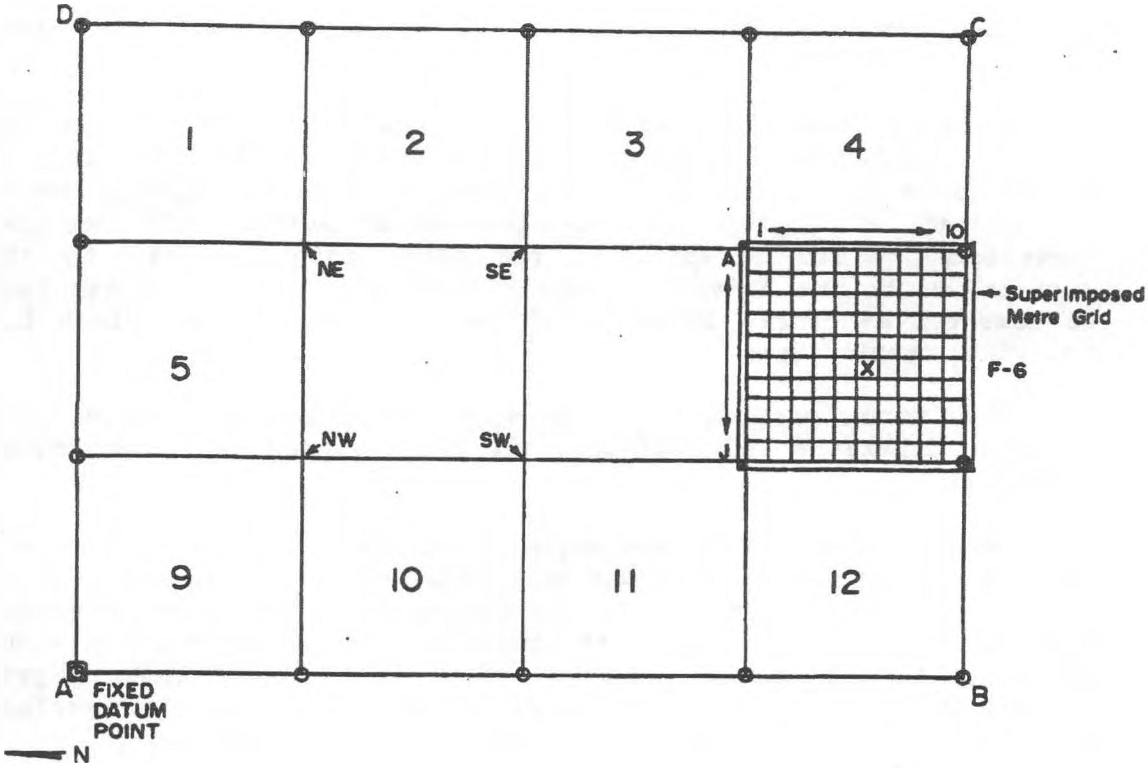


Figure 7. Grid for horizontal spatial control. The location of objects can be specified by: Major grid square (G.S.) number (e.g., G.S. 1); Triangulation to corners of a grid square (e.g., G.S. 6), and/or Reference to a particular sub-square indicated by the meter grid (e.g., F6 in G.S. 8).

of the initial discovery evidence (for example, disturbed soil or a protruding bone) being located at the extreme end of the body will indicate that a 3 x 4 meter rectangle should in most cases be sufficient. This may seem excessive but it should be noted that the whole area need not be excavated, while marking off such a generous area may serve to keep uninvolved personnel out of the way.

If, after laying out the gridded rectangular area, more evidence is noticed lying outside the grid boundaries, this can still be mapped with reference to the established grid, in the same manner as those items enclosed within it. It is not necessary to expand the gridded area. Rather it should simply be noted that **TRIANGULATION** distances to a particular object outside the gridded area have been recorded to one side (for example, west) of a grid boundary defined by a pair of posts.

Assuming that the basic rectangle has been laid out in the manner described at the beginning of this section, the first step is to designate the top of one of the corner posts (the highest one if the ground is sloping) as the **FIXED DATUM** point. All vertical dimensions -- for example, to the other corner posts, to the surface, or to the objects excavated below the surface -- can then be measured as "**DEPTH BELOW DATUM**" using a line level, plumb bob and small metric tape.

This corner post will also serve as the fixed datum point from which to demarcate and designate all grid squares in a horizontal direction.

In the basic mapping rectangle, demarcation of each grid square is at one meter intervals along each axis, which in the 3 x 4 meter case will yield 12 squares. It is recommended that non-stretchable nylon string be used, tying each length to long spikes sunk into the ground at the one meter points as shown in Fig. 7. (Note: grid strings should be placed sufficiently above the ground that surface features are not contacted and the grid remains undistorted.)

With the recovery area now marked off in one meter squares it becomes possible to record the location of surface or previously buried features precisely within a square. Two options are available depending in part on the size of the feature to be recorded and on the likely significance of its location relative to other objects. For example, with a defleshed but otherwise undisturbed skeleton composed of fairly large elements in approximate articulation it will be sufficient to measure in precisely, by triangulation within designated squares, certain key points of the skeleton (for example, head, feet and hands) and sketch in the rest of the skeleton on graph paper ruled off in the same manner as the gridded area. In this system the precise location of an object in Grid Square 6 of Fig. 7 would be recorded as follows: 6NW-35, 6NE-85 where

6 = grid square

NW = northwest corner

NE = northeast corner

35 = distance in centimeters of object from NW corner

85 = distance in centimeters of object from NE corner

Alternatively you may be faced with the need to map a highly fragmented and disturbed skeleton or a dense concentration of evidence. In such a case it is not practical to measure everything in. Rather it is easier to subdivide the relevant meter squares into smaller sub-squares -- say 10 to 20 centimeters on a side -- noting the location of each fragment within a designated sub-square. This latter procedure is most easily accomplished by utilizing a previously prepared **METER GRID** (Fig. 8) divided into 100 sub-squares by strings on a frame. The sub-squares on a meter grid are designated by letters (A-J) on one axis and numbers (1-10) on the other. In this system the approximate location of an object in grid square 8 of Fig. 7 is recorded as 8F6 where

8 = grid square number

F6 = 10 centimeter sub-square within the meter grid designated by these coordinates.

Using the latter system of rough location, should the precise spot at which a particularly significant object (for example, a bullet) is lying need to be recorded, this can of course still be done through triangulation.

The entire gridded area should be sketched and all material which has been recovered from the surface should be mapped and photographed *in situ*, including in the photograph an object which will serve as a scale (for example, a metric rule) and some indicator of which portion of the recovery area is being photographed. Fig. 9 shows a child's slate doubling as a site board.

It may be necessary, especially where long limb bones are concerned, to take more than the minimal two measurements to show the bone's location. This would entail recording each end of the bone in reference to the grid. In such cases it is important to specify which measurement belongs to which end of the bone; that is, either that end closest (**PROXIMAL**) or furthest (**DISTAL**) from the trunk of the body when in normal articulated anatomical position. Such measurements should be accompanied by a sketch showing the location of the items relative to the grid system (Fig. 10).

It is very important, in regards to scattered surface evidence, to record by photographs and notes which way up an object is oriented. This will enable the specialist examining the remains to interpret correctly the significance of soil or plant discoloration, **EXPOSURE CRACKING**, animal disturbance subsequent to death, etc. With such factors understood it may be possible to reconstruct the original position of the body.

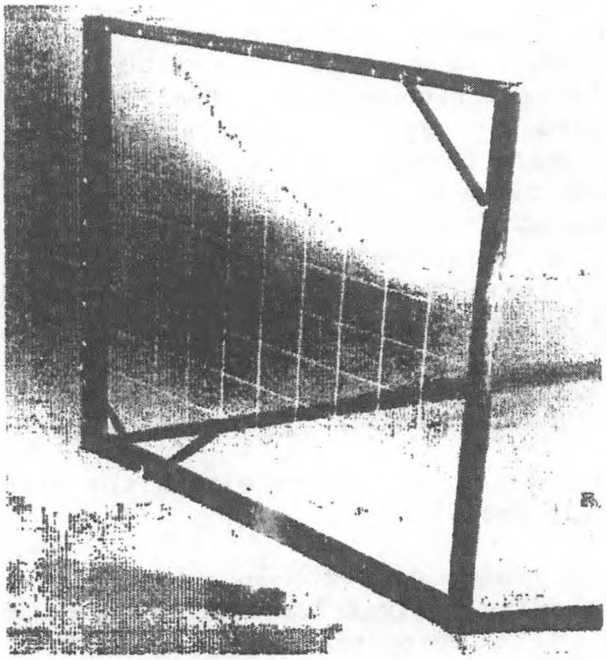


Figure 8. Meter grid. This version can be dismantled for ease of transport.

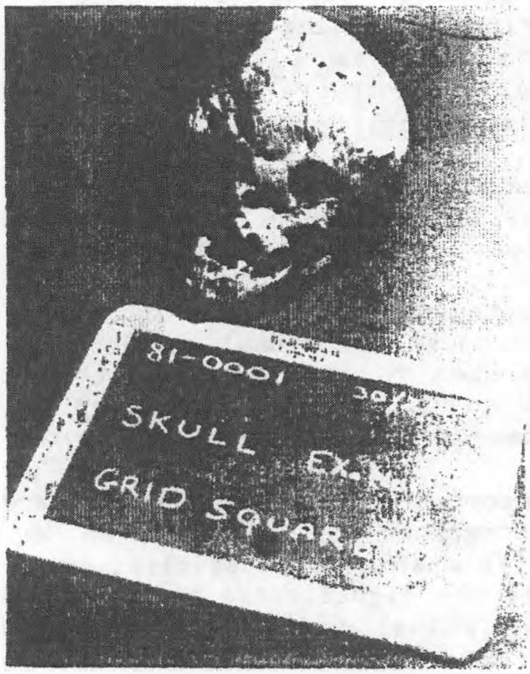


Figure 9. A simple site board (child's slate).

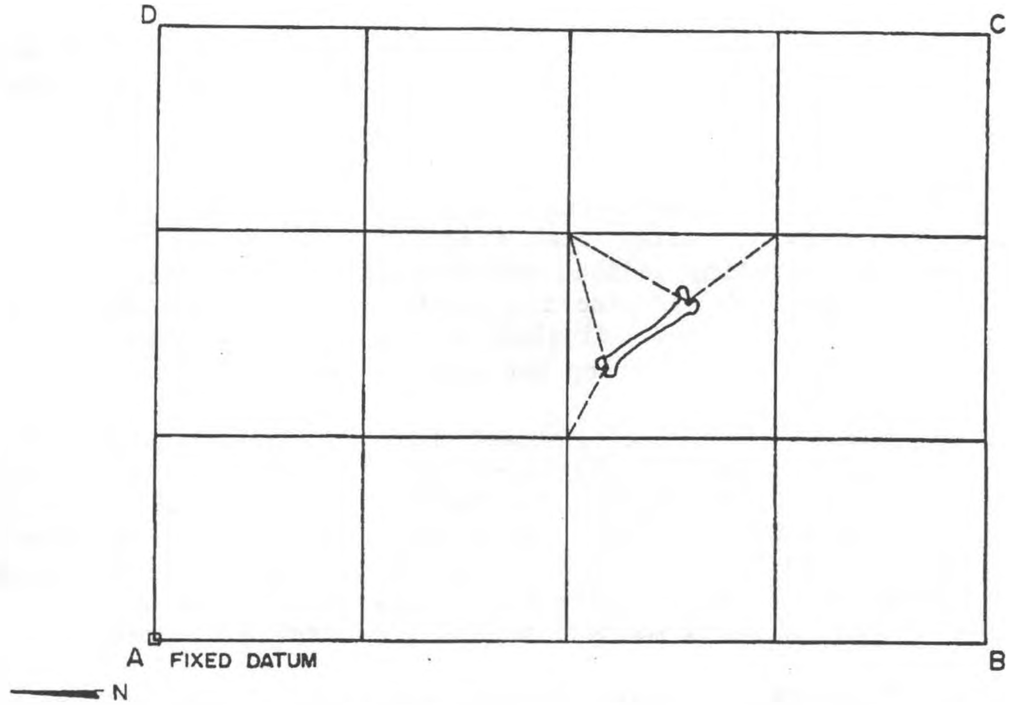


Figure 10. Recording the orientation of an elongated item.

II. B. 4. *Excavating to expose the remains*

This and the following section are primarily concerned with the excavation of buried skeletal remains. Separate descriptions of the collection and treatment of plant and insect samples may be found in Chapter V and should be consulted prior to examining the surface litter and proceeding with excavation.

Once the horizontal limits of the grave have been determined (by reference to soil colour changes, signs of disturbance, retarded/advanced or different vegetation cover, etc.) excavation can proceed. The grid system established earlier should be left intact until the end of the recovery operation.

The following points should be kept in mind while excavating:

1) All surface plant growth should be systematically removed, examined thoroughly, or screened, and samples retained in labelled containers. Any insects encountered should be saved in a like manner. This sort of evidence may be crucial for determining elapsed time since death.

2) Remove dirt systematically, one grid unit at a time, one level (for example, 10 centimeters) at a time. Avoid the temptation to dig all the way to the bottom of what seems to be the most promising area.

3) Use small implements, such as a mason's trowel, whisk broom, and/or small paint brush (Fig. 4). Do not use shovels and the like in excavating undisturbed burials as these could duplicate, and thereby preclude distinction from, implement features left at the time of the initial digging of the grave. Also, much more control can be exercised using the smaller tools.

4) All matrix (dirt) removed (except soil samples and that kept for examination for plant and insect remains) must be sieved through a fine mesh screen (preferably nylon). Each sample of matrix put through the screen should be referable to a specific grid location and depth, which will allow any physical evidence found in the screen (for example, bullets, buttons, coins, metal sherds from edges of shovels) to be mapped in with some degree of precision.

5) Excavate the grave margin carefully, as this is a likely area in which to find implement impressions should such exist. Also delimiting the size of the grave may help to indicate whether the grave digger was rushed or not.

6) The human remains may or may not be in a container (for example, plastic garbage bag). In either case, the excavator should expose the entire horizontal extent of the remains and/or container, map, photograph, sketch and make notes. (See Chapter V.C.3. on taking soil samples for pollen analysis.) At this time do not remove matrix from around the bones, nor the bones themselves.

7) If items are encountered *in situ* while excavating down to the remains, these must be mapped in three dimensions. This involves triangulation as described earlier, as well as recording the depth below datum by suspending a plumb bob, to the item in question, from a level line attached to a notched, specified, corner stake. Measure this distance.

8) Once the skeleton or container has been exposed to its full horizontal extent (while still firmly embedded in the grave fill), and the appropriate samples have been taken, a forensic anthropologist should be allowed to conduct a preliminary examination if possible. From this examination the necessity for *in situ* preservation of the bone should be determined, as well as an understanding to what to expect, and look for, when removing the bones from their matrix. Preferably, the actual removal of the

skeleton should be performed by a forensic anthropologist who would be able to distinguish any unusual aspect of the remains.

In certain situations the **SOFT TISSUES** of the body may, instead of decomposing, change into a fatty white substance (**ADIPOCERE**) (Snyder 1977) which is somewhat resistant to further decay and may act to preserve deeper tissues, such as the uterus, and wound characteristics. This process, called **SAPONIFICATION**, can be anticipated to have occurred and still be evident in the case of well-nourished bodies buried in moist soils not longer than two to three years. Such remains should be recovered intact and considered for autopsy by a pathologist.

As noted previously, certain kinds of potential evidence are not retrievable in the same sense as are bone, clothing, jewelry and the like. One type has already been mentioned -- the impressions left by digging implements in the walls of the prepared grave. It is possible that similar impressions could be found in the grave fill itself, if subsequent compaction has not been too severe. Similarly footprints may persist as impressions on the grave floor, near or under the body (Morse, Stoutamire and Duncan 1976). Accurate records of these occurrences must be obtained and casts made if possible.

II. B. 5. *Excavating to remove the remains*

The manner in which human remains are removed from grave fill will be determined by a number of factors: soft tissue preservation, body orientation (back-lying, side-lying, face-lying, **FLEXED**, **EXTENDED**), degree of articulation (wholly, partially, or disarticulated), degree of bone fragmentation, the age of the individual (that is, whether separate **CENTRES OF OSSIFICATION** are present). The difficulty of recovery is compounded if more than one individual is represented by the remains. In many such situations, participation by a forensic anthropologist, archaeologist, or doctor will be very helpful to the recovery team. The excavator should in any case be familiar with the basic form of all separate bones (circa 194 in the adult, more in the child) as well as teeth (up to 32 'permanent' teeth in the adult and up to 20 'milk' teeth in the child) so that complete recovery can be assured (see skeletal illustrations at the back of the manual).

The following are recommended points of procedure for the removal of bones of the human skeleton from a burial environment:

1) Record the positions of all bones and bone fragments as

they become exposed during excavation. When further excavation requires removal of these superficial elements put them into labelled containers bearing this information.

2) Do not use tools with sharp edges when working close to the skeleton -- a small brush and blunt plastic knitting needle will usually suffice for removing the adhering matrix and loosening the bone. Wet or damp bone, when first exposed, tends to be very soft. It would be only too easy to add marks to the surfaces of the bone at this time, which only serve to confuse the final interpretation, and may obliterate marks present on the bone as a result of fatal trauma. Do not wash or unnecessarily clean any recovered evidence, including bones. Leave such tasks for the specialist in the laboratory.

3) Do not pull bones from the dirt in which they are embedded, as this can lead to breakage. Remove as much dirt from around the bone as possible, then loosen and lift gently.

4) All matrix found in and around the skeleton must be screened through the fine nylon mesh. This can be done immediately by wet-sieving already damp soil (a light spray on the screen from a hose, if available) or by air-drying samples and then screening. In either case, one must consider the types of evidence (for example, paper, fragile wood) which might be damaged or lost through sieving.

5) Watch for ossification centres and **EPIPHYSES** when dealing with immature remains (Chapter III.B.1).

6) If intact, the skull should be lifted with both hands providing support from underneath. Place masking tape over the ear holes to prevent loss of the tiny ear bones. Watch for loose teeth -- if it appears likely that teeth will fall out during subsequent handling and transport, note their anatomical position (that is, which socket), remove and package in separate labelled containers. Treat dental appliances accordingly. Any matrix observed *inside* the skull should either be left in place (for removal under laboratory conditions) or carefully extracted and sieved through a nylon screen for evidence (for example, bullets).

7) Remove long bones carefully. Try not, at this time, to disturb the bones of the hand and wrist areas, but look for fingernails, rings, and even skin (which, like hair, can preserve remarkably well, possibly retaining the fingerprint pattern). The possiblity of evidence of an assailant (hair, fabric) in this region should not be overlooked.

8) Count and remove the ribs (12 pairs) and **VERTEBRAE** (24,

not including **COCCYX**) individually. Due to their position in the body and their relative fragility, ribs may bear evidence of fatal assault (for example, stab wound to the neck or chest).

9) When removing such items as the skull, pelvis, and shoulder blades be aware of the possible preservation of soft tissues (hair and skin) or clothing between these bones and the underlying earth.

10) All previously disturbed earth beneath the body or skeleton should be screened through the fine nylon mesh to sufficient depth below the disturbed level; remember that, beneath the body, evidence of an unsuspected container may yet be preserved. Recently we have seen an archaeological example of a double burial in which a two year old infant was buried right on top of a fetus.

It must be admitted that in the case of burials, police most often have to recover already badly disturbed remains (for example, heavy equipment has pushed the skeleton into view and dumped the remains in a great pile of earth). In such cases the first effort should be to locate any undisturbed areas, and excavate these properly. The dirt pile also should be examined most carefully, however daunting and tedious this may be. Most contractors will have the interest and equipment to help put together a lean screen (Fig. 11). This is one situation where use of shovels is an acknowledged necessity. A surprising volume of dirt can be screened and the results will often be rewarding. For example, single-rooted front teeth (**INCISORS** and **CANINES**) almost inevitably fall out of a skull that is rolled any distance, and yet these teeth are often indicative of race, particularly in native Canadian burials (usually but not invariably archaeological).

II. B. 6. *Cataloguing, packing and transport*

Identifying marks should not be placed directly on the bone at the time of recovery. Each bone or fragment should be packaged separately and each package identified both inside and outside, with the contained object's precise origin recorded. The size of the container should reflect the dimensions of the item within.

Non-skeletal items are treated using standard procedure for such evidence (for example see Geberth 1983). Samples for plant and insect analysis are handled in special ways described in Chapter V.

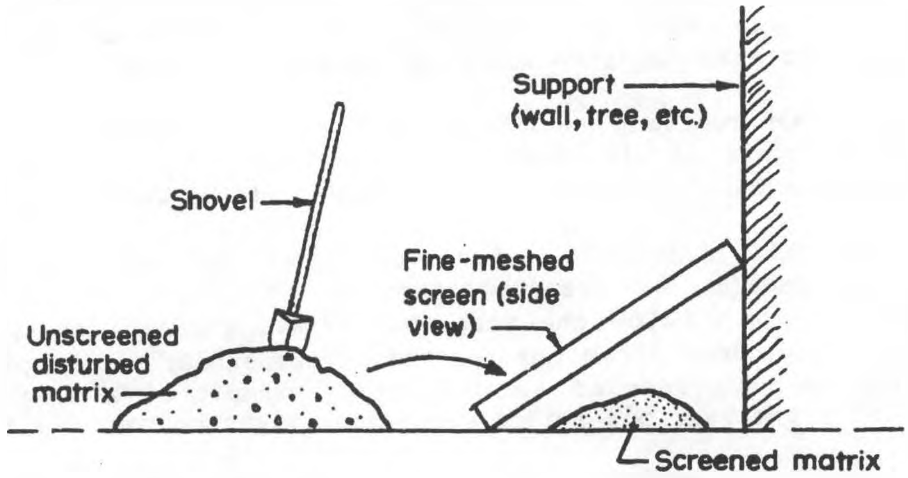


Figure 11. A lean screen, useful for rapid examination of disturbed matrix.

II. C. Timetable

The amount of time required for recovery will of course vary tremendously depending on such factors as site accessibility, weather conditions, availability of personnel and equipment, and skill of the recovery team. Since most human remains have been in the ground long enough for soft tissues to decompose, there is likely no rush.

One day should be allowed to reconnoiter the area and to make preparations. A second day may be necessary for establishing spatial controls, mapping and recovery of all surface materials. Our experience suggests that an additional two days should be allowed to excavate properly and to recover a skeleton in a container or discernible grave.

As a final note on recovery, it must be remembered that all excavators are expected to backfill (that is, fill in the holes they have created) and generally tidy up the disturbed area. Such an effort reflects good public relations.