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ASSOCIATED EVIDENCE AS A MEANS OF IDENTIFICATION IN MASS DISASTERS

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In all courses of action essential to the solution of problems arising from disasters the extent to which normal routine procedures can be applied is a significant factor in reducing confusion and determining the degree of success. Identification is routinely a police function. This fact should not be ignored in times of disaster. To assign this responsibility to others can lead only to confusion and, perhaps, irreparable errors.

Usually, identifications are based on fingerprints and recognition of body characteristics. However, the process which leads to identification requires evaluation of associated evidence and its correlation with body characteristics. Neither body characteristics nor associated evidence can be relied upon independently as absolute proof of identification. Each furnishes supportive evidence for the other. When fingerprints and recognizable body characteristics are destroyed, there must be a new approach to the problem of identification, and then associated evidence assumes primary importance.

ASSOCIATED EVIDENCE DEFINED

For sake of definition, associated evidence may be anything tangible or intangible which may accompany, be related to, implicated, or concomitant with the subject under investigation. As related to the applications under discussion in this paper, namely the use of associated evidence in identifications in mass disasters, associated evidence may be divided into three categories: (1) Evidence found on the body; (2) evidence from the vicinity of recovery of the body; and (3) information or evidence which furnishes clues as to habits, abode, acquaintances, and movements of the victim prior to death or injury.

Examples of evidence found on the body would include clothing, jewelry, spectacles, and other personal effects. Marks found on the body itself such as scars, tattoos, deformities, color, texture and characteristics of hair, and other features usually referred to in the conventional de-

scriptions of a body are more properly classified as recognizable external characteristics. However, certain aspects, such as the manner of hair dress and so forth, might be considered as associated evidence.

Evidence found within the body is classified as anatomical characteristics and medical findings. However, these findings, such as evidence of surgical operations, dental characteristics, contents of the gastrointestinal tract, and so forth, have certain connotations of associated evidence which require close scrutiny of the body from the viewpoint of identification and necessitates co-operation and understanding between the autopsy surgeon and the police investigators. The significance of information which can be gleaned from such a study of the body may be comprehended more fully by the police than by physicians inexperienced in medicolegal practices. This phase of associated evidence is a subject for several papers.

Evidence found in the vicinity of the body which might be utilized in identifications in mass disasters include the location of the body as related to other bodies and the rubble. For instance, in the East Ohio Gas Disaster,¹ the company furnished at our request a plan of the office and various shops indicating the names of individuals and the site at which they worked. This was correlated with the bodies found in these places and the associated evidence accompanying the remains. As recommended in all searching of scenes, diagrams and written records must be made.

The last category, that of information or evidence which furnishes clues as to habits, abode, acquaintances, and movements of the victim prior to injury or death, will be elicited by questioning those who might have such knowledge.

INTEGRATION INTO DISASTER PLANS

When we recognize that it is a daily practice in police work to evaluate associated evidence in furnishing clues or supportive evidence to identity, it seems strange that so little thought has been given to integrating into disaster plans the general concept of the problems of identification of the dead and injured by this means. In some disasters, when faced with the need of employing this means of identification, the authorities, overwhelmed by the apparent magnitude of the task, have deemed it impos-

1. East Ohio Gas Disaster: Liquefied natural gas escaping from low pressure storage tanks resulted in fires and explosions causing 131 deaths in October, 1944. The bodies of many victims were reduced to bone fragments. To our knowledge the use of radiographic technics were utilized for the first time in a major disaster for the purpose of disclosing anatomic or associated evidence which could be utilized for establishing identifications.

sible. This attitude has led to two types of fallacious planning for procedures which would be put into operation following destruction by atomic bombing. Some feel that it would be impossible to attempt any identifications. Others propose that only the most cursory examinations could be made.

After any catastrophe, life eventually returns to some degree of normalcy and adjustment when legal decisions must be rendered. At the present time in Europe bodies are being exhumed almost daily for identification studies.

In case of atomic bombing resulting in death of many thousands, it is conceded that the medical examinations may not be completed within the comparatively short time before it will be necessary to bury the bodies. Therefore, some communities have tried to devise identification procedures which would provide for cursory examinations of a body to be made in four or five minutes. In some cases, perhaps many, such procedures might lead to true identifications. Such emphasis on haste, however, will predispose an inclination to prejudiced judgment and an unconscious tendency to make the observed facts fit a preconceived opinion. Such procedures violate the cardinal principles of medicolegal examinations: AVOID UNDUE HASTE, and, NEVER BE BLINDED BY THE OBVIOUS.

Erroneous identifications would confuse and complicate the entire situation. If such examinations are made, they should not be considered final, and no reports should be given out. It is better to withhold an opinion rather than to express an erroneous or doubtful one. It is hoped that some method can be developed whereby bodies can be buried under conditions which would permit thorough identification studies to be made at a later date.

Conceding that the contention is justified that it is mandatory that an attempt must be made to establish positive identifications, we proceed to the topic of how this must be done. The most rational approach to the problem lies in well formulated plans.

In our present civilization disasters with attendant identification problems may occur in any community. Even the most rural sections may be subjected to floods, forest fires, earthquakes, airplane disasters, and other hazards which may cause destruction of many lives at one time. In transportation accidents involving common carriers, identifications are complicated by the fact that the victims are strangers to the community in which the accidents occur. In some instances, their where-

abouts is unknown to relatives and friends. It is obvious that associated evidence is extremely important in these cases.

The proposal to evaluate associated evidence as a means of identification demands two prerequisites: (1) There must be a general concept of what information may be valuable and how it may be utilized. (2) There must be prescribed methods for eliciting and recording such information.

GENERAL CONCEPT OF POTENTIAL VALUE OF TRIVIA

In regard to the first prerequisite, it should be stated that there is nothing so insignificant that it can be disregarded. It may be a newspaper clipping; it may be a brand of lipstick or cigarettes. In one incident at the time of the East Ohio Gas Disaster in Cleveland, it was a scrap of material found on a charred body. After careful washing it was discovered that it was a piece of printed percale with a bias tape binding which suggested that it might be a fragment of an apron. By one of those strange coincidences which occur so often in this work, the son brought in a color snapshot of his mother who was missing. This snapshot showed her wearing an apron of the identical printed material. We had not suspected that this was the body of his mother since it was recovered from a neighboring house. However, this clue led us to re-examine the body in the light of the description and other information which he furnished, and the identification was established. The well known axiom of police investigation must be observed: RECORD AND PRESERVE EVERYTHING FOUND ON THE BODY.

The preservation of evidence is an important feature in these identification procedures. The time scheduled for this presentation does not permit any detailed discussion of this phase of application of associated evidence. However, there are one or two precepts which should be mentioned. It is probably unnecessary to detail that clothing and personal effects should be left on a body until that body is examined. Then the clothing for each individual should be kept separated from others in a box or paper bag properly marked to identify it with the body from which it was taken. Jewelry found on the clothing such as recognition pins, and costume jewelry may be placed in a separate envelope properly marked to identify it with the body or placed back on the clothing after it has been examined for initials or other information. All jewelry found on the body itself, such as ear-rings should remain on the body after inspection until identification is confirmed and accepted or final disposition of the body is made.

PREDISASTER PLANNING

The second prerequisite, that of a well formulated plan of eliciting and recording information requires a familiarity with how such information can be segregated and correlated most efficiently.

The proportion of the types of casualties will differ with each disaster, and therefore the emphasis in identification procedures must be varied accordingly. For example, in disasters where there is no fire involved and no crushing injuries with destruction of face and hands, probably most of the victims would be identified by fingerprints and/or recognition of the body characteristics coupled with associated evidence such as clothing and personal effects. In such instances, anatomical and dental examinations might be important only as supportive evidence. On the other hand, in catastrophies where the commonly recognized body characteristics were destroyed, those examinations correlated with associated evidence might provide the decisive information. It is impossible to predict beforehand which circumstances will prevail. Therefore, any plan for recording information must take into consideration all possible features of identifications: (1) Recognizable external characteristics including fingerprints, (2) anatomical characteristics and medical findings, and (3) associated evidence.

RECORD FORM

On the basis of our experiences in various types of disaster,² the Cuyahoga County Coroner's Office has devised a record form which may be used to record information elicited concerning the missing person or to record information ascertained from examination of the body, clothing, personal property, and other associated evidence (Figures 1 and 2). In order to expedite segregation and correlation of the information on these forms it is recommended that these forms be printed on paper of two different colors. The form printed on paper of one color would be used for recording information concerning the missing person. That printed on another color would be used for recording information concerning the body and its associated evidence. Except for the color of the paper these forms would be identical. By this means, similar information

	Date	Lives Lost	Bodies Recovered	Identi- fications
2. Passenger Airplane Accident.....	May 24, 1938..	11	11	11
Oil barge and tug.....	Dec. 7, 1942....	32	20	16
Paint factory fire.....	Nov. 12, 1943..	5	5	5
East Ohio Gas Disaster.....	Oct. 20, 1944...	131	131	78
Home for Aged.....	Feb. 2, 1946....	14	14	14
Noronic (unofficial assistance).....	Sept. 17, 1949..	119	119	116

PERSONAL PROPERTY AND CLOTHING

(2) HAT OR HEAD COVERING _____ TITLE _____

(3) OUTER COAT _____ TITLE _____

(4) SUIT OR DRESS _____ TITLE _____

(5) OVERSHIRT _____ TITLE _____

(6) SHOE _____ TITLE _____

(7) HOSIERY _____ TITLE _____

(8) GLOVES _____ TITLE _____

(9) ACCESSORIES _____ TITLE _____

(10) EYEGLASSES _____ TITLE _____

(11) JEWELRY _____ TITLE _____

(12) MISCELLANEOUS APPAREL _____ TITLE _____

(13) UNDERCLOTHING _____ TITLE _____

(14) CONTENTS OF PANTS AND/OR POCKETS _____ TITLE _____

(1) MISSING PERSON _____ AGE _____ SEX _____ RACE _____

(2) ADDRESS _____ (3) NATIVITY _____ (4) RELIGION _____

(5) LAST KNOWN EMPLOYMENT _____

(6) WHEREABOUTS _____

(7) DATE OF RECOVERY _____

(8) OCCUPATION _____

(9) RELATIONSHIP TO MISSING PERSON _____

(10) ADDRESS OF HOME _____

(11) MISSING PERSON/FINGERPRINTS _____ WHERE? _____ WHEN? _____

FOR WHAT PURPOSE? _____

(12) SURGICAL OPERATIONS AND MEDICAL DIAGNOSES _____

(13) OTHER SCARS, TATTOOS, AMPUTATIONS OR OTHER IDENTIFYING PECuliarITIES _____

GENERAL DESCRIPTION OF BODY

(14) HT. _____ INCHES WT. _____ LBS. COLOR _____ HAIR _____ AGE _____

(15) HAIR _____ COLOR _____

(16) EYES _____ (17) TEETH _____ (18) BARS _____

(19) TEETH _____ (20) OTHER IDENTIFYING PARTICULARS _____

(21) FACE _____ (22) SHOULDERS AND CHEST _____

(23) SHOULDERS AND CHEST _____

(24) SHOULDERS AND CHEST _____

(25) SHOULDERS _____

(26) RIGHT ARM _____ (27) RIGHT LEG _____

(28) LEFT ARM _____ (29) LEFT LEG _____

(30) HAND AND FINGERS _____ (31) HAND AND FINGERS _____

(32) FOOT AND TOE _____

BACK OF BODY _____

(33) HEAD AND NECK _____

(34) THUMB _____

(35) PHOTOGRAPHS TO BE ATTACHED HERE _____

(36) FINGERPRINT IMPRESSIONS TO BE ATTACHED HERE _____

Figure 2

identity. We have chosen white paper for the missing person report form, designating the people who would furnish this information as the

"inquirers." Those who would elicit the information we have named as "interviewers." The second form to be filled in by the examiners of the body, clothing, and other associated evidence we have printed on yellow paper.

We do not propose this as the perfect and only method of recording information. However, we believe that it is more flexible than some others. One Civil Defense group has compiled a very detailed check list. It is very impressive. But when we examined it, we found that many possibilities were omitted and believe that in the final analysis it would lead to confusion because the categories are of necessity ambiguous and equivocal. No such list could include every possibility.

FINAL ANALYSIS AIDS

There are many devices which facilitate the final analysis of the recorded information. At the time of the East Ohio Gas Disaster we used two sets of punched cards, one for missing person information and the other set for descriptions of the bodies and associated evidence. A method of final analysis which was used successfully in the Noronic Disaster in Toronto was the construction of "Cross-word puzzle" charts.³

A cross index file of the missing persons reports would serve many purposes. An alphabetical file of surnames would reveal duplication of reports on the same individual providing, of course, that addresses and other information on the card was identical. This would tend to furnish a more nearly accurate tally of the total number of missing persons. The record form could be filed then according to outstanding features which might lead readily to identifications, e.g., Tattoos, Surgical Scars, Jewelry, Identification Tags, et cetera. If time and personnel permitted, another index file referring to geographical location of residence or employment would be helpful.

There are countless ways of recording and utilizing information. The choice of method and the refinements and details thereof is dependent upon such factors as the type and magnitude of the disaster, personnel, and facilities available. However, a rational selection is contingent upon a clear perspective of the ultimate ideal and a conception of the relative value of details.

TRAINING

The success in utilizing any record form is dependent upon the individual eliciting and recording the information. He must be conscientious,

3. Medical Identification in the Noronic Disaster, T. C. Brown, M.D., Proceedings of the 35th Annual Convention of the International Association for Identification, 1950 session.

patient with details, familiar with the questionnaire and know how, literally, to draw out information. In cases of large disasters where it is necessary to utilize volunteer personnel as interviewers, consideration should be given to their experience in dealing with the public and in filling in record forms. The examiners should be physicians who will take an active interest in the problems of identification. They should be assisted by police or others who have had experience in identification procedures and who could direct the physician's attention to non-medical interpretations of anatomical findings. The examination of clothing and personal effects should be conducted by personnel trained in investigative procedures and who understand the need for thoroughness and keen observation.

The training of these workers is an important factor in insuring success through comprehension of the general problems to be met and establishing uniformity in descriptive terminology. Predisaster planning should include regular training courses for all who would use the record forms or whatever records are to be used. The purpose of such training would be to familiarize the workers with the records, to firmly impress on them the importance of minute details, and to augment their vocabularies to insure uniform descriptions. The group should be addressed by specialists in various fields to acquaint them with the variations which could be expected and the terminology commonly used. These specialists should include physicians in general practice and various specialties, dentists, opticians, cosmetologists, barbers, police detectives, and those experienced in buying and selling men's and women's apparel and fabrics and also instructors in the art of interviewing. There should be periodic practice periods in filling out these forms.

SUMMARY

The purpose of this presentation has been to stimulate consideration of the use of associated evidence as a means of identification in disasters and direct attention to the materials and personnel necessary to effectuate the application rather than to proffer any concrete instruction in perception of associated evidence.