

## ADDENDUM C

**REPORT OF G. M. McDONNEL, M.D., CONCERNING THE OBSERVATIONS, ANALYSIS, AND CONCLUSIONS IN CONNECTION WITH THE RADIOGRAPHIC IMAGES AND ENHANCED IMAGES OF X-RAYS ATTRIBUTED TO PRESIDENT JOHN F. KENNEDY, DATED AUGUST 4, 1978**

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TO: Michael Goldsmith  
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DATE: August 4, 1978

SUBJECT: Report of G.M. McDonnel, M.D. concerning observation, analysis, and conclusions in connection with radiographic images and enhanced images attributed to President John F. Kennedy.

This report replaces my report of March 8, 1978 and supplements my presentation of July 21, 1978 in the Rayburn Building, Washington, D.C.

I was exposed to radiographic images identified by the number 21296 at Aerospace Corporation, El Segundo, California on March 7, 1978. At my suggestion portions of these radiographs were digitized and enhanced by Aerospace Corporation for further observation and analysis.

I participated in discussions during the photographic evidence panel on 6 and 7 April 1978 during which time I dialogued with Dr. James Weston concerning my interpretation of these radiographs and the enhanced images.

On 2 June 1978 I again viewed and analyzed the radiographic images at the National Archives Building in Washington, D.C. As requested I also interpreted and analyzed skull and sinus radiographs obtained during the lifetime of the subject for the specific purpose of authenticating the radiographs obtained before and after the autopsy.

The original radiographs seen on 7 March were:

- a. An attempted anteroposterior projection of a skull identified as:  
 21296 (numbers upside down)  
 US Naval Hospital  
 NNMC Bethesda Maryland  
 11 22 63
- b. Right lateral projection of a skull with the same identification symbols.
- c. Left lateral projection of a skull with the same identification symbols.

- d. Three radiographs of three fragments of bone unidentified by symbols.
- e. An anteroposterior projection of a chest with the same identification symbols as a, b, c above. This radiograph was obtained with the thoracic cage intact, i.e., before autopsy.
- f. An anteroposterior projection of a chest with the same identification as e above. This radiograph was obtained after the thorax had been opened and the lungs and mediastinal contents had been removed.

The findings and interpretation of the skull films are:

1. Nearly complete loss of right parietal bone, the upper portion of the right temporal bone, and a portion of the posterior aspect of the right frontal bone.
2. Subdural air over the left parietal hemisphere.
3. Multiple skull fractures and disruption of continuity of the bony tables.
4. A metallic fragment on the outer table of the right occipital bone 9.6 cm. above the mid portion of the external occipital protuberance (EOP). 1 cm. above the metallic fragment is a depressed fracture from which stellate type fractures "radiate" into both occipital bones, the right parietal bone and the right temporal bone. These are vividly and convincingly displayed in the enhanced images, specifically the "anteroposterior" (AP) projection of the skull. The metallic fragment in this projection is nearly spherical in contour.
5. There is a fracture line extending through the floor of the sella turcica with bony fragments in the sphenoid sinus. This is vividly depicted in the enhanced images.
6. There are fracture lines through the anterior and posterior aspects of the right frontal sinus with air in this sinus. There is a metallic fragment above the sinus appearing to be between the bony tables of the frontal bone.
7. There is elevation of the galea medial and lateral, as well as anteriorly, to the depressed fracture in the right occipital bone. A small metallic fragment lies medial to the fracture site between the galea and the outer table of the skull.

The mechanism of damage to the skull is concluded to be:

1. A low mass, high velocity, metallic projectile penetrated the right occipital bone at the area of the depressed fracture, leaving behind the spherical shaped contoured metallic fragment in 4 above.
2. The reflected shock wave from the outer table propelled a metallic fragment medially as in 7 above.
3. The stellate type "radiating" fractures as in 4 above resulted from the entering metallic projectile.
4. (also 8 in findings).

A linear alignment of tiny metallic fragments is associated with the entry, path of travel, and exit in the posterior aspect of the right frontal bone.

#### CHEST

The pre-autopsy radiograph of the chest shows air in the soft tissues of the right supraclavicular area soft tissues.

There is an undisplaced fracture of the proximal portion of the right transverse process of T1 (or the region of the costovertebral junction).

There is no evidence of fracture of the cervical spine or its associated appendages.

In the post autopsy film of the thoracic region there is debris in the radiographic image superimposed over the area to the right of the C7 vertebral body.

In the enhanced post autopsy image of the same area, there appears to be fractures of the posterior aspects of the 2nd, 3rd, and 4th ribs. These are artifacts.

#### Authentication of Radiographs.

The following radiographs were provided at the National Archives, Washington, D.C. on June 2, 1978.

- a. A left lateral skull radiograph dated 8/17/60 performed by Groover, Christie and Merritt, with number 336042 and blue ink writing of "Kennedy".
- b. A paranasal sinus series performed by (or for) Stephen White, M.D., 521 Park Ave. NYC, dated 8/14/60, and identified by number 202617.

The following anatomical and bony structures are common and identical to all three sets of radiographs.

1. The thickness and contour of the frontal bones.
2. Deviation of the mid portion of the nasal septum from right to left.
3. The contour of the frontal sinuses.
4. The contour and shape of the sella turcica.
5. The contour of the posterior clinoids.
6. The contour and calcification of the posterior clinoid ligaments.
7. There is thickening of the medial and superior aspects of the mucoperiosteal margin of the left frontal sinus. This is less severe in the radiographs of 8/14/60 and 8/17/60 than in the radiographs of 11/22/63. The general margin of this tissue swelling is similar in all three studies.

In my opinion the three sets of radiographs are positively and without controversy, of the same individual. It is impossible to simulate the referenced anatomical landmarks, the nasal septum deviation, and the documentation of the progressive disease process in the left frontal sinus.

Enhancement of the Radiographic Images.

The digitized and enhanced images produced by Aerospace Corporation permitted definitive observation and analysis of the original radiographs. Further, enhancement permitted analysis or elimination of artifacts on the images. The most vivid result is the clear definition of the multiple fractures radiating from the area of the entrance of the penetrating missile in the right occipital bone.

"Doctoring" of the Radiographic Images"

In my opinion the images which I have seen have not been "doctored" or "treated" in any fashion, except for:

- a. Two small areas of thermal damage resulting from a light source held too close to the "anteroposterior" image. These were reported to be present on an observation report dated November 1, 1966 and validated by signature November 10, 1966. This report is in the National Archives. Interestingly, the enhanced images downgrade the prominence of the "burns" while enhancing the true radiographic image.
- b. Minor "staining" or discoloration of the images due to incomplete processing of the film in the developing process. This discoloration has, and will continue to be, more prominent with the passage of time.

The linear opacities associated with the images have been said to be the result of manipulation. These opacities or normal grid lines from the grid used to eliminate "scatter fogging" of the images at the time of exposure of the films and therefore represent normal images without evidence of manipulation.

Final Summary:

1. The observations of the findings are as stated and validated by the enhanced images.
2. The described mechanisms of damage are the writer's professional opinion.
3. The radiographs observed are incontrovertibly of the same individual during life and the early post mortem period.
4. The observed radiographic images have not been altered in an effort to provide a false image.

  
G.M. McDonnell, M.D.

GMM:st

8 March 1978

ENCLOSURE NO. 1

Statement by Dr. G. M. McDonnell

On 7 March 1978, at The Aerospace Corporation, I was asked to interpret six radiographs which are identified by the Number 21296, dated 11/22/63, and Bethesda NMC. The views were

- a. an attempted anterior-posterior projection of a skull
- b. two lateral projections of a skull--one marked "L", the other marked "R"
- c. three radiographs of three fragments of skull

These radiographs were unenhanced. My preliminary interpretation follows:

1. A nearly complete loss of structure of the right frontal and parietal bone.
2. A metallic fragment on the outer table of the right occipital bone approximately 10 cm above the external occipital protuberance. In the same area is a depressed fracture. In the anterior-posterior projection, there appears to be fracture lines to the occipital, parietal, and temporal bone, radiating from the area of the fracture and metallic fragments. The metallic fragment is nearly spherical in this projection.
3. There is elevation of the galea medial and lateral to the area of the fracture and metallic fragment in the occipital region. A small metallic fragment is located medial to the location of the spherical metallic fragment and fracture lying between the galea and the outer cranial table.
4. There is a fracture line through the floor of the sella turcica with bony fragments in the sphenoid sinus.
5. There are fracture lines through the anterior and posterior aspects of the anterior ethmoid cells with air in the right side anterior ethmoid.

My preliminary chronological conclusions are:

1. A low mass, high velocity projectile entered the right occipital region.
2. A shock wave is reflected off the outer table of the occipital bone in the region of entry with elevation of the galea and medial movement of the metallic fragment as in Paragraph 3 above.
3. Fractures into the sphenoid sinus and the anterior ethmoid area.
4. There is tremendous intracranial pressure resulting in disruption of the cranial tables as in Paragraph 1 above with loss of brain substance and the projectile.

It is respectfully requested that this interpretation may be modified after analysis and study of enhanced images of the referenced radiographs.