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An anthropological investigation into the facial preservation of ceremonial tsantsa and commercial shrunken heads

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Appendix 17

Condition of preserved skin structures (shrunken head collection)

Recordings for each head are available for, the degree of papillary and reticular separation identified in MDCT scans (Table A17-1, *appendix p.1*), patterns in epidermal degeneration (Table A17-2, *appendix pp.2-4*), and evident skin polish and facial down preservation (Table A17-3, *appendix pp.5-7*).

Table A17-1: Observations taken from skin cross-sections using MDCT analysis.

Head ID	Origin	Papillary and reticular separation (double hiding)	Region of separation
E165119B0	Ceremonial	Present.	Curve across scalp, brow, cheeks and chin.
E403395-0	Ceremonial	Present.	Curve across scalp, brow, cheeks, nose and chin.
CONTROL 400206	Commercial	None.	
E358642-0	Commercial	Minor.	Curve of chin and scalp.
E378203-0	Commercial	None.	
E387845-0	Commercial	Minor.	Curve of nose and chin.
P387660-0	Commercial	Minor.	Curve of posterior scalp.
P387661-0	Commercial	Minor.	Curve of brow, nose, lips and chin.
Elgin1	Ambiguous	Present.	Curve of nose, chin and posterior scalp.
E039500	Ambiguous	Present.	Curve of posterior scalp, brow, nose and chin.
E315111-0	Ambiguous	Minor.	Curve of brow and left cheek.

Table A17-2: Observations using standard visual analysis and IRR to identify patterns in epidermal degeneration.

Head ID	Processor origin	Epidermal degeneration	Location of degeneration	Predictive Cause
A95789	Ceremonial	Alternating.	Facial prominences.	Local intensive heat application.
A121104	Ceremonial	Alternating.	Facial prominences.	Local intensive heat application.
A642550	Ceremonial	Alternating.	Facial prominences.	Local intensive heat application.
A642560	Ceremonial	Alternating.	Facial prominences.	Local intensive heat application.
E165119B0	Ceremonial	Alternating.	Facial prominences.	Local intensive heat application.
E403395-0	Ceremonial	Alternating.	Facial prominences, creases/folds.	Limited heat application and fungal activity.
A38099	Commercial	Strong.	Across face. Weak evidence of epidermis at lateral and inferior face.	Full heat application and fungal activity.
A61492	Commercial	Weak.	Creases/folds. Patchy across remaining skin (facial down present).	Fungal activity.
A63428	Commercial	Alternating.	Facial prominences.	Local intensive heat application.
A63429	Commercial	Alternating.	Facial prominences.	Local intensive heat application.
A68229	Commercial	Weak.	Creases/folds. Patchy across remaining skin (facial down present).	Fungal activity.
A68231	Commercial	Weak.	Creases/folds. Patchy across remaining skin (facial down present).	Fungal activity.
A97275	Commercial	Alternating.	Facial prominences, with exception to the nose, inferior R cheek.	Limited heat application and fungal activity.
A102935	Commercial	Weak.	Creases/folds. Patchy across remaining skin (facial down present).	Fungal activity.
A109084	Commercial	Weak.	Creases/folds. Patchy across remaining skin (facial down present).	Fungal activity.
A119820	Commercial	Alternating.	Facial prominences. Moderate epidermal presence.	Local intensive heat application.
A130409	Commercial	Weak.	Creases/folds. Patchy across remaining skin (facial down present).	Fungal activity.
A190320	Commercial	Weak.	Prominences of nose, mouth and chin. Patchy across remaining skin.	Limited heat application and fungal activity.
A221683	Commercial	Weak.	Creases/folds. Patchy across remaining skin (facial down present).	Fungal activity.
A230414	Commercial	Strong.	Across face. Evidence of epidermis at neck, L&R eyelids, weak at nose, lips.	General intensive heat application.
A642477	Commercial	Weak.	Creases/folds. Patchy across remaining skin (facial down present).	Fungal activity.
A642549	Commercial	Alternating.	Worn at facial prominences, creases/folds, surrounding nose, lips and scalp.	Fungal activity.

Head ID	Processor origin	Epidermal degeneration	Location of degeneration	Predictive Cause
A642556	Commercial	Weak.	Creases/folds. Patchy across remaining skin (facial down present).	Fungal activity.
A642557	Commercial	Weak.	Creases/folds. Patchy across remaining skin (facial down present).	Fungal activity.
A642564	Commercial	Weak.	Creases/folds. Patchy across remaining skin (facial down present).	Fungal activity. Taint (salt prick).
A642565	Commercial	Weak.	Creases/folds. Patchy across remaining skin (facial down present).	Fungal activity.
378202	Commercial	Weak.	Creases/folds. Patchy across remaining skin (facial down present).	Fungal activity.
CONTROL 400206	Commercial	Weak.	Creases/folds. Patchy across remaining skin (facial down present).	Fungal activity.
E326930-0	Commercial	Strong.	Across face. Weak evidence of epidermis at lateral cheeks, forehead and nose. Epidermis remains at neck.	General intensive heat application.
E358641-0	Commercial	Strong.	Across face. Weak evidence of epidermis remains across eyelids, alae folds, surrounding mouth and neck.	General intensive heat application.
E358642-0	Commercial	Strong.	Across face. Evidence of epidermis at neck.	General intensive heat application.
E378203-0	Commercial	Weak.	Creases/folds.	Fungal activity.
E378892	Commercial	Weak.	Creases/folds. Patchy across remaining skin (facial down present).	Fungal activity.
E382592-0	Commercial	Weak.	Creases/folds. Patchy across remaining skin (facial down present).	Fungal activity.
E387845-0	Commercial	Weak.	Creases/folds. Patchy across remaining skin (facial down present).	Fungal activity.
E397131-0	Commercial	Alternating.	Weak evidence of epidermis across face.	Local intensive heat application.
E411333-0	Commercial	Alternating.	Weak evidence of epidermis across face.	Limited heat application and fungal activity.
N387872-0	Commercial	Alternating.	Weak evidence of epidermis across face.	Local intensive heat application.
P387657-0	Commercial	Weak.	Creases/folds. Patchy across remaining skin (facial down present).	Fungal activity.
P387659-0	Commercial	Weak.	Creases/folds. Patchy across remaining skin (facial down present).	Fungal activity.
P387660-0	Commercial	Weak.	Creases/folds. Patchy across remaining skin (facial down present).	Fungal activity.
P387661-0	Commercial	Weak.	Creases/folds. Patchy across remaining skin (facial down present).	Fungal activity.
A36675	Ambiguous	Alternating.	Facial prominences.	Local intensive heat application.
A41122	Ambiguous	Alternating.	Facial prominences.	Local intensive heat application.
A44058	Ambiguous	Alternating.	Facial prominences.	Local intensive heat application.
A95788	Ambiguous	Alternating.	Facial prominences. Moderate epidermal presence.	Limited heat application and fungal activity.

Head ID	Processor origin	Epidermal degeneration	Location of degeneration	Predictive Cause
A121091	Ambiguous	Alternating.	Facial prominences.	Local intensive heat application.
A155039	Ambiguous	Alternating.	Facial prominences.	Local intensive heat application.
A161722	Ambiguous	Alternating.	Facial prominences.	Local intensive heat application.
A191643	Ambiguous	Alternating.	Facial prominences, creases/folds.	Limited heat application and fungal activity.
A233681	Ambiguous	Alternating.	Facial prominences.	Local intensive heat application.
A642548	Ambiguous	Alternating.	Facial prominences, creases/folds. Patchy across skin.	Limited heat application and fungal activity.
A642551	Ambiguous	Alternating.	Facial prominences and scalp.	Limited heat application and fungal activity.
A642552	Ambiguous	Alternating.	Facial prominences. Moderate epidermal presence.	Local intensive heat application.
A642553	Ambiguous	Alternating.	Facial prominences.	Local intensive heat application.
A642554	Ambiguous	Alternating.	Facial prominences, ala creases.	Limited heat application and fungal activity.
A642555	Ambiguous	Strong.	Across face. Weak evidence of epidermis at creases and neck.	General intensive heat application.
A642558	Ambiguous	Alternating.	Facial prominences.	Local intensive heat application.
A642559	Ambiguous	Alternating.	Facial prominences.	Local intensive heat application.
A642561	Ambiguous	Alternating.	Facial prominences.	Local intensive heat application.
A642562	Ambiguous	Alternating.	Facial prominences. Moderate epidermal presence.	Local intensive heat application.
A642563	Ambiguous	Alternating.	Facial prominences.	Local intensive heat application.
E039500	Ambiguous	Alternating.	Facial prominences.	Local intensive heat application.
E315111-0	Ambiguous	Alternating.	Facial prominences.	Local intensive heat application.
Elgin1	Ambiguous	Alternating.	Facial prominences. Blistering under chin.	Local intensive heat application.

Table A17-3: Records from the visual assessment performed of the overall skin polish and presence of facial down.

Head ID	Processor origin	Polish	Skin texture	Facial down	Downy colour	Location of downy hair (if present)	Density, length
A95789	Ceremonial	High.	Smooth.	Minimal.	Peach-white.	Distinct facial folds.	Seldom, short.
A121104	Ceremonial	High.	Smooth.	Minimal.	Peach-white.	Distinct facial folds.	Seldom, short.
A642550	Ceremonial	High.	Smooth.	Minimal.	Peach-white.	Distinct facial folds.	Seldom, short.
A642560	Ceremonial	High.	Smooth.	Minimal.	Peach-white.	Distinct facial folds.	Seldom, short.
E165119B0	Ceremonial	High.	Smooth.	Minimal.	Peach-white.	Distinct facial folds.	Seldom, short.
E403395-0	Ceremonial	High.	Smooth.	None.	Peach-white.	Folded eyelids region.	Seldom, short.
A38099	Commercial	High.	Smooth.	None.			
A61492	Commercial	Low.	Rough.	Moderate.	Peach-white.	Across face, concentrated at creases.	Moderate, short.
A63428	Commercial	High.	Alternating.	Moderate.	Peach-white.	(1) Distinct facial folds, jaw line and chin. (2) Thicker along forehead and corners of the upper lip.	Moderate, (1) short, (2) moderate.
A63429	Commercial	High.	Alternating.	Moderate.	Peach-white.	(1) Across face (with exception to cheeks). (2) Thicker along forehead and corners of the upper lip.	Moderate, (1) short, (2) moderate.
A68229	Commercial	Low.	Rough.	Moderate.	Peach-white.	(1) Distinct facial folds, and surrounding eyes, nose and mouth. (2) Thicker along upper lip.	Moderate, (1) short, (2) moderate-long.
A68231	Commercial	Low.	Rough.	Moderate.	Peach-white.	(1) Across face. (2) Moustache and soul patch made from down.	(1) Seldom, short. (2) Moderate, moderate.
A97275	Commercial	Low.	Rough.	Moderate.	Peach-white.	Across face, concentrated at creases.	Moderate, short.
A102935	Commercial	Low.	Rough.	Moderate.	Peach-white.	Across face, concentrated at creases.	Moderate, short.
A109084	Commercial	Low.	Rough.	Moderate.	Peach-white.	(1) Across face, concentrated at creases. (2) Thicker along and side burns.	Moderate, (1) short, (2) moderate.
A119820	Commercial	High.	Smooth.	Minimal.	Peach-white.	Distinct facial folds.	Seldom - short.
A130409	Commercial	Low.	Rough.	Moderate.	Peach-white.	Across face, concentrated at creases.	Moderate, short.
A190320	Commercial	Low.	Rough.	None.			
A221683	Commercial	Low.	Rough.	Moderate.	Peach-white.	Across face. Worn at nasal, tip, alae and skin bordering lower lip.	Moderate, short.
A230414	Commercial	High.	Smooth.	None.			

Head ID	Processor origin	Polish	Skin texture	Facial down	Downy colour	Location of downy hair (if present)	Density, length
A642477	Commercial	Low.	Rough.	Moderate.	Peach-white.	Across face. Worn at nose and anterior cheeks. Thicker along upper lip and sideburns.	Moderate, short.
A642549	Commercial	Low.	Rough.	None.			
A642556	Commercial	Low.	Rough.	Moderate.	Peach-white.	(1) Across face. (2) Thicker along upper lip.	Moderate, (1) short. (2) moderate.
A642557	Commercial	Low.	Rough.	Present.	Peach-white.	Across face.	Moderate, short.
A642564	Commercial	Low.	Rough.	Moderate.	Peach-white.	(1) Across face. (2) Thicker along upper lip.	Moderate, (1) short, (2) moderate.
A642565	Commercial	Low.	Rough.	None.			
378202	Commercial	Low.	Rough.	Present.	Peach-white.	Across face. Weak at eyelids. Thicker at R superior cheek.	Dense, long.
CONTROL 400206	Commercial	Low.	Rough.	Moderate.	Peach-white.	Across face, concentrated at creases.	Moderate, short.
E326930-0	Commercial	High.	Smooth.	Minimal.	Peach-white.	(1) Distinct facial folds and weak patches at forehead, eyelids, nose and cheeks. (2) Soul patch.	Seldom, (1) short, (2) medium.
E358641-0	Commercial	High.	Smooth.	Minimal.	Peach-white.	Eyelids and alae creases.	Seldom, short.
E358642-0	Commercial	High.	Smooth.	Minimal.	Peach-white.	Distinct facial folds.	Seldom, short.
E378203-0	Commercial	Low.	Rough.	Present.	Peach-white.	Across face. Thicker along upper lip.	Dense, moderate.
E378892	Commercial	Low.	Rough.	Present.	Peach-white.	Across face.	Dense, moderate.
E382592-0	Commercial	Low.	Rough.	Present.	Peach-white.	Across face.	Dense, moderate.
E387845-0	Commercial	Low.	Rough.	Present.	Peach-white.	Across face. Weak at medial cheeks. Thicker along jaw line and upper lip.	Dense, moderate.
E397131-0	Commercial	High.	Alternating.	Moderate.	Peach-white.	Across face, concentrated at creases.	Seldom, short.
E411333-0	Commercial	High.	Alternating.	Moderate.	Peach-white.	Seldom across face. Distinct at facial folds.	Seldom, short.
N387872-0	Commercial	High.	Smooth.	Minimal.	Peach-white.	Distinct facial folds.	Seldom, short.
P387657-0	Commercial	Low.	Rough.	Moderate.	Peach-white.	Distinct facial folds. Thicker at corners of the upper lip.	Seldom, moderate.
P387659-0	Commercial	Low.	Rough.	Moderate.	Peach-white.	Across face.	Dense, short.
P387660-0	Commercial	Low.	Rough.	None.			

Head ID	Processor origin	Polish	Skin texture	Facial down	Downy colour	Location of downy hair (if present)	Density, length
P387661-0	Commercial	Low.	Rough.	Moderate.	Peach-white.	Across face. Thicker along upper lip, L&R lateral cheeks and side burns.	Dense, short.
A36675	Ambiguous	High.	Smooth.	Minimal.	Peach-white.	Distinct facial folds.	Seldom, short.
A41122	Ambiguous	High.	Smooth.	Minimal.	Peach-white.	Distinct facial folds.	Seldom, short.
A44058	Ambiguous	High.	Smooth.	Minimal.	Peach-white.	Distinct facial folds.	Seldom, short.
A95788	Ambiguous	High.	Smooth.	Minimal.	Peach-white.	Distinct facial folds and soul patch region.	Seldom, short.
A121091	Ambiguous	High.	Smooth.	Minimal.	Peach-white.	Distinct facial folds.	Seldom, short.
A155039	Ambiguous	High.	Smooth.	None.			
A161722	Ambiguous	High.	Smooth.	Minimal.	Peach-white.	Tightly drawn region of eyelids.	Seldom, short.
A191643	Ambiguous	High.	Smooth.	None.			
A233681	Ambiguous	High.	Smooth.	Minimal.	Peach-white.	Tightly drawn region of eyelids.	Seldom, short.
A642548	Ambiguous	Low.	Smooth.	None.			
A642551	Ambiguous	High.	Smooth.	None.			
A642552	Ambiguous	High.	Smooth.	Minimal.	Peach-white.	Distinct facial folds.	Seldom, short.
A642553	Ambiguous	High.	Smooth.	Minimal.	Peach-white.	Distinct facial folds.	Seldom, short.
A642554	Ambiguous	High.	Smooth.	None.			
A642555	Ambiguous	High.	Smooth.	Minimal.	Peach-white.	Distinct facial folds.	Seldom, short.
A642558	Ambiguous	High.	Smooth.	None.			
A642559	Ambiguous	High.	Smooth.	None.			
A642561	Ambiguous	High.	Smooth.	Minimal.	Peach-white.	Distinct facial folds.	Seldom, short.
A642562	Ambiguous	High.	Smooth.	None.			
A642563	Ambiguous	High.	Smooth.	Minimal.	Peach-white.	Distinct facial folds.	Seldom, short.
E039500	Ambiguous	High.	Smooth.	None.			
E315111-0	Ambiguous	High.	Smooth.	Minimal.	Peach-white.	Distinct facial folds.	Seldom, short.
Elgin1	Ambiguous	High.	Smooth.	Minimal.	Peach-white.	Distinct facial folds.	Seldom, short.