List of Figures

Figure 2.1	Diagrammatic representation of the nature of analogical reasoning in archaeology. From Gifford-Gonzalez (1991p222 Fig 1)
Figure 3.1	The structure of mammalian bone at different scales and levels of organisation. From Lyman (1994 p75 Fig 4.2)
Figure 3.2	Examples of the calculation procedure for the completeness index. From Marean (1991 p686 Fig 1)
Figure 4.1	A typical stress/strain curve forthe bones of a healthy adult. After Currey (1990 p11 Fig 1)
Figure 4.2	Showing how Young's modulus increases with age. After Currey (1981 p19 Fig 4)
Figure 5.1	The results of research by Trotter and Hixon into bone density changes with age in humans. After Trotter and Hixon (1974 p12 Fig 2)
Figure 6.1	The scan-sites chosen by Lyman. From Lyman (1984 pp274 – 275 Fig 2)
Figure 6.2	Diagramatic representation of the contribution of bone thickness to radiodensity. From Kreutzer (1992 p282 Fig 3)
Figure 6.3	Two of the crude cross sections used by Kreutzer. From (Kreutzer (1992 p284 Fig 4)
Figure 7.1	The location of each of the scan-sites to be used in this project. The Illustration is based on that presented by Lyman (1984 pp274 – 275 Fig 2)
Figure 7.2	Two views of a femur mounted on a right-angled bracket 136
Figure 7.3	A calibration curve, as produced by this project
Figure 7.4	Two radiographs of a metacarpal in the "T" and "D" orientations 141
Figure 7.5	A scatter-plot of radiographically derived density over base-line density
Figure 7.6	The "Bland and Altman" plot for measurement sets A and B 149
Figure 7.7	The "Bland and Altman" plot for measurement sets A and C 149
Figure 7.8	The "Bland and Altman" plot for measurement sets A and D 150

Figure 7.11 The "Bland and Altman" plot for measurement sets C and D	Figure 7.9	The "Bland and Altman" plot for measurement sets B and C 150	0
Figure 7.12 Line graph showing the changes in bone density of three scan-sites on a pig's femur after different periods of boiling	Figure 7.10	The "Bland and Altman" plot for measurement sets B and D 15	1
scan-sites on a pig's femur after different periods of boiling	Figure 7.11	The "Bland and Altman" plot for measurement sets C and D 15	1
Figure 7.14 Diagram showing how the position of an object on the film can alter its radiographically derived density	Figure 7.12	Line graph showing the changes in bone density of three scan-sites on a pig's femur after different periods of boiling 15:	5
on the film can alter its radiographically derived density	Figure 7.13	Diagram showing how a linear object will appear as a magnified radiographic image	6
Figure 8.1 Scatter plot showing the relationship between the age at death and bone density for the shaft of the radius for male, female and castrated individuals	Figure 7.14	Diagram showing how the position of an object on the film can alter its radiographically derived density	8
death and bone density for the shaft of the radius for male, female and castrated individuals	Figure 7.15	Bar graph showing how density values will vary according to their position on the radiographic film	0
from all of the animals that were examined by this project	Figure 8.1		5
animals of different ages. Selected scan-sites only are displayed 1 Figure 8.4 Bar graph showing the bone densities of two hypothetical animals, enabling the presentation of the results to be explained 1 Figure 8.5 Scatter-plot of the trabecular bone density and cortical thickness of animal number 58 and 46	Figure 8.2	Line graph showing the density of all of the scan-sites from all of the animals that were examined by this project	7
animals, enabling the presentation of the results to be explained 1 Figure 8.5 Scatter-plot of the trabecular bone density and cortical thickness of animal number 58 and 46	Figure 8.3	Line graph showing the variation of bone density between 25 animals of different ages. Selected scan-sites only are displayed 16	8
thickness of animal number 58 and 46	Figure 8.4	Bar graph showing the bone densities of two hypothetical animals, enabling the presentation of the results to be explained 173	3
thickness of animal number 34 and 54	Figure 8.5	Scatter-plot of the trabecular bone density and cortical thickness of animal number 58 and 46	7
Figure 8.8 Line graph showing the relative cortical bone densities for castrated Shetland sheep of different ages	Figure 8.6	Scatter-plot of the trabecular bone density and cortical thickness of animal number 34 and 54	7
castrated Shetland sheep of different ages	Figure 8.7	Line graph showing the relative trabecular bone densities for castrated Shetland sheep of different ages	7
castrated Shetland sheep of different ages	Figure 8.8	Line graph showing the relative cortical bone densities for castrated Shetland sheep of different ages	7
castrated Shetland sheep of different ages	Figure 8.9	Line graph showing the relative trabecular bone densities for castrated Shetland sheep of different ages	8
Female Soay sheep of different ages	Figure 8.10	Line graph showing the relative cortical bone densities for castrated Shetland sheep of different ages	8
	Figure 8.11	Line graph showing the relative trabecular bone densities for Female Soay sheep of different ages	9
	Figure 8.12	Line graph showing the relative cortical bone densities for female Soay sheep of different ages	9
Figure 9.1 Box and whisker plot showing the density range for the unfused material	Figure 9.1	Box and whisker plot showing the density range for the unfused material	6

Figure 9.2	Box and whisker plot showing the density range for the fusing material
Figure 9.3	Box and whisker plot showing the density range for the fused material
Figure 9.4	Box and whisker plot showing the density range for the bone shafts
Figure 9.5	Showing that slight inconsistencies in the internal structure of externally similar radii can lead to different density values being returned
Figure 9.6	Box and whisker plot showing the density range for the neonatal material
Figure 9.7	Box and whisker plot comparing the density ranges for the unfused and the fused material
Figure 9.8	Line graph contrasting the development of bone density of small and large articulations
Figure 9.9	A hypothetical example of the different development of the bone density of a large and a small articulation
Figure 9.10	A simplified version of figure 9.7
Figure 9.11	Line graph showing the bone densities of the fusion planes before, during and after fusion
Figure 9.12	Map showing the location of the site of Çatalhöyük in Turkey 242
Figure 9.13	Contour map showing the eastern mound of Çatalhöyük 243
Figure 9.14	Graph comparing the numbers of each scan-site recovered from the internal contexts with the density of the scan-sites
Figure 9.15	Graph comparing the numbers of each scan-site recovered from the external contexts with the density of the scan-sites
Figure 9.16	Bar chart showing the percentage of bone fragments at each weathering stage for the internal and external assemblages
Figure 9.17	Bar chart showing the percentage of bones exhibiting different types of gnawing for both the internal and external assemblages 260
Figure 9.18	Bar chart showing the percentage of bones exhibiting different types of burning for both the internal and external assemblages 263
Figure 9.19	Bar chart showing the percentage of different lengths of bone fragments for both the internal and external assemblages 264
Figure 9.20	The age profile of the material recovered from the internal contexts
Figure 9.21	The age profile of the material recovered from the external contexts