

CONTENTS

<i>List of figures</i>	<i>page</i> xi
<i>List of tables</i>	xvii
<i>Preface</i>	xxi
1. Tallying and Counting: Fundamentals	1
Paleozoological Concepts	4
Mathematical and Statistical Concepts	8
Scales of Measurement	8
Measured and Target Variables: Reliability and Validity	11
Absolute and Relative Frequencies and Closed Arrays	13
Discussion	16
Background of Some Faunal Samples	17
2. Estimating Taxonomic Abundances: NISP and MNI	21
The Number of Identified Specimens (NISP)	27
Advantages of NISP	28
Problems with NISP	29
Problems, Schmoblems	30
A Problem We <i>Should</i> Worry About	36
The Minimum Number of Individuals (MNI)	38
Strengths(?) of MNI	43
Problems with MNI	45
Aggregation	57
Defining Aggregates	67
Discussion	69
Which Scale of Measurement?	71
Resolution	78
Conclusion	81

3. Estimating Taxonomic Abundances: Other Methods	83
Biomass and Meat Weight	84
Measuring Biomass	85
Problems with Measuring Biomass (based on MNI)	86
Solving Some Problems in Biomass Measurement	88
Measuring Meat Weight	89
The Weight Method (Skeletal Mass Allometry)	93
Bone Weight	102
Bone Size and Animal Size Allometry	108
Ubiquity	114
Matching and Pairing	119
More Pairs Means Fewer Individuals	121
The Lincoln–Petersen Index	123
Identifying Bilateral Pairs	129
Correcting for Various Things	134
Size	137
Discussion	139
4. Sampling, Recovery, and Sample Size	141
Sampling to Redundancy	143
Excavation Amount	144
NISP as a Measure of Sample Redundancy	146
Volume Excavated or NISP	149
The Influences of Recovery Techniques	152
Hand Picking Specimens by Eye	152
Screen Mesh Size	154
To Correct or Not to Correct for Differential Loss	156
Summary	158
The Species–Area Relationship	159
Species–Area Curves Are Not All the Same	164
Nestedness	167
Conclusion	171
5. Measuring the Taxonomic Structure and Composition (“Diversity”)	
of Faunas	172
Basic Variables of Structure and Composition	174
Indices of Structure and Similarity	178
Taxonomic Richness	179
Taxonomic Composition	185

	CONTENTS	ix
Taxonomic Heterogeneity	192	
Taxonomic Evenness	194	
Discussion	198	
Trends in Taxonomic Abundances	203	
Conclusion	209	
6. Skeletal Completeness, Frequencies of Skeletal Parts, and Fragmentation	214	
History of the MNE Quantitative Unit	215	
Determination of MNE Values	218	
MNE Is Ordinal Scale at Best	222	
A Digression on Frequencies of Left and Right Elements	229	
Using MNE Values to Measure Skeletal-Part Frequencies	232	
Modeling and Adjusting Skeletal-Part Frequencies	233	
Measuring Skeletal Completeness	241	
A Suggestion	244	
Measuring Fragmentation	250	
Fragmentation Intensity and Extent	250	
The NISP:MNE Ratio	251	
Discussion	254	
Conclusion	261	
7. Tallying for Taphonomy: Weathering, Burning, Corrosion, and Butchering	264	
Yet Another Quantitative Unit	266	
Weathering	267	
Chemical Corrosion and Mechanical Abrasion	273	
Burning and Charring	274	
A Digression	276	
Gnawing Damage	277	
Butchering Marks	279	
Types of Butchering Damage	280	
Tallying Butchering Evidence: General Comments	281	
Tallying Percussion Damage	283	
Tallying Cut Marks and Cut Marked Specimens	284	
The Surface Area Solution	286	
Discussion	291	
Conclusion	296	

x CONTENTS

8. Final Thoughts	299
Counting as Exploration	302
<i>Glossary</i>	309
<i>References</i>	313
<i>Index</i>	345