

III. Table of Contents

I. Acknowledgements.....	i
II. Abstract.....	iv
III. Table of contents	vi
IV. List of illustrations	ix
Prologue	
1. Introduction	
1.1. What is Tensegrity?.....	
1.2. Why a dissertation about tensegrity structures?.....	
1.3. What are the objectives of this work?	
2. Background and History	
2.1. The origins	
2.2. The controversy.....	
2.3. The evolution	
2.4. Divergences.....	
3. Precedents and Key Studies	
3.1. Introduction	
3.2. Materials and tension	
3.3. Some precedents.....	
3.3.1. The Skylon	
3.3.2. Suspended roofs and tensile structures	
3.3.3. Cable-Domes	
3.4. Tensegrity as a universal principle.....	
3.4.1. Tensegrity in Macrocosm and Microcosm	
3.4.2 Tensegrity in Biology	
3.4.3 Tensegrity in Inorganic Chemistry	
3.4.4 Tensegrity in Anatomy	
4. Definitions and Basic Principles	
4.1. Introduction	
4.2. Definitions.....	
4.3. General Characteristics	
4.4. Basic Principles	
4.4.1. Main Concepts	
4.4.2. Some analogies	
4.4.3. The Creation of the Simplest Configurations	

4.4.4. Equilibrium Analysis	
4.5. Features	
4.5.1. Properties	
4.5.2. Advantages	
4.5.3. Disadvantages	
5. Typologies and classification. Assemblies of simple structures	
5.1. Nomenclature	
5.2. Classification.....	
5.2.1. Spherical systems	
5.2.1.1. Rhombic configuration	
5.2.1.2. “Circuit” configuration	
5.2.1.3. “Zigzag” configuration or “Type Z”	
5.2.2. Star systems	
5.2.3. Cylindrical systems	
5.2.4. Irregular systems	
5.3. Assemblies	
5.3.1. Vertical Masts (horizontal beams)	
5.3.2. Grids	
5.3.3. Conglomerations	
5.4. Deployable structures.....	
6. Applications	
6.1. Introduction	
6.2. Actual examples	
6.2.1. Domes	
6.2.1.1. Different proposals for domes	
6.2.1.2. Calculation of the load response	
6.2.1.3. Advantages and applications for domes	
6.2.2. Towers	
6.2.2.1. Different proposals for towers	
6.2.2.2. Tower of Rostock	
6.2.2.3. Some other applications for tensegrity towers	
6.2.3. Roof structures	
6.2.4. Arches	
6.2.5. Tents-like structures	
6.2.6. Outer space structures	
6.2.7. Different applications besides Architecture	
6.2.7.1. Sculptures	
6.2.7.2. Toys	
6.2.7.3. Furniture (tables, chairs, lamps, etc)	
6.2.7.4. Submarines (skin fabric)	
7. Proposals by the author	
7.1. Tensegrity dome from the Truncated Icosahedron	
7.2. Lightning rod from the Helix Tower	
7.3. Roofing for Stadiums by assembly of modules	
7.4. Tensegrity pyramidal roof from Truncated	

7.5. Footbridge by assembly of modules

7.6. Other suggestions to develop

8. Discussion and conclusions

8.1. Discussion and conclusions.....

8.2. Further research.....

V. Appendices

A. Motro's correspondence from Snelson

B. Original tensegrity patents

C. Other tensegrity patents.....

D. Personal correspondence

E. Deflection of the expanded octahedron.....

G. Tensegrity Models.....

H. Plans and renders.....

I. Extended Bibliography.....

VI. Bibliography