

شبكة المعلومات الجامعية التوثيق الإلكتروني والميكروفيلو

بسم الله الرحمن الرحيم





MONA MAGHRABY



شبكة المعلومات الجامعية التوثيق الإلكتروني والميكروفيلو



شبكة المعلومات الجامعية التوثيق الالكتروني والميكروفيلم



MONA MAGHRABY



شبكة المعلومات الجامعية التوثيق الإلكترونى والميكروفيلم

جامعة عين شمس التوثيق الإلكتروني والميكروفيلم قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات



يجب أن

تحفظ هذه الأقراص المدمجة بعيدا عن الغبار



MONA MAGHRABY





A DESIGN APPROACH USING BIOGEOMETRY AND AUTISM DESIGN PRINCIPLES IN AUTISM SCHOOLS SPECIALLY (CLASSROOMS) TO IMPROVE THEIR BEHAVIOR AND EDUCATIONAL PERFORMANCE

By

Basant Ahmed Mohamed Ahmed Ismail

A Thesis Submitted to the
Faculty of Engineering at Cairo University
In Partial Fulfillment of the
Requirements for the Degree of
MASTER OF SCIENCE
In
Architectural Engineering

FACULTY OF ENGINEERING, CAIRO UNIVERSITY GIZA, EGYPT 2020

A DESIGN APPROACH USING BIOGEOMETRY AND AUTISM DESIGN PRINCIPLES IN AUTISM SCHOOLS SPECIALLY (CLASSROOMS) TO IMPROVE THEIR BEHAVIOR AND EDUCATIONAL PERFORMANCE

By

Basant Ahmed Mohamed Ahmed Ismail

A Thesis Submitted to the
Faculty of Engineering at Cairo University
In Partial Fulfillment of the
Requirements for the Degree of
MASTER OF SCIENCE
In
Architectural Engineering

Under the Supervision of

Prof. Dr. Ahmed Reda Abdin

Professor Emeritus of architecture Engineering

Faculty of Engineering, Cairo University

FACULTY OF ENGINEERING, CAIRO UNIVERSITY GIZA, EGYPT 2020

A DESIGN APPROACH USING BIOGEOMETRY AND AUTISM DESIGN PRINCIPLES IN AUTISM SCHOOLS SPECIALLY (CLASSROOMS) TO IMPROVE THEIR BEHAVIOR AND EDUCATIONAL PERFORMANCE

By Basant Ahmed Mohamed Ahmed

A Thesis Submitted to the
Faculty of Engineering at Cairo University
in Partial Fulfillment of the
Requirements for the Degree of
MASTER OF SCIENCE
In

Architectural Engineering

Approved by the	
Examining Committee	
Prof. Dr. Ahmed Reda Abdin Th	esis Main Advisor
Prof. Dr. Ayman Hassan Ahmed	Internal Examiner
Prof. Ast. Dr. Mohamed Samir el Sawy (Architectural Department, Misr International University)	External Examiner

FACULTY OF ENGINEERING, CAIRO UNIVERSITY GIZA, EGYPT 2020 **Engineer:** Basant Ahmed Mohamed Ahmed

Date of Birth: 14 / 09 / 1992

Nationality: Egyptian

E-mail: basantx92@yahoo.com

Phone.: 01005498923

Address: 6T Hadayek El Ahram

Registration Date: 1/3/2016**Awarding Date:** //2020

Degree: Master of Science

Department: Architecture Engineering

Supervisors: Prof. Dr. Ahmed Reda Abdin

Examiners: Prof. Dr. Ahmed Reda Abdin (Thesis Main Advisor)

Prof. Dr. Ayman Hassan Ahmed (Internal examiner)

Prof. Ast.Dr. Mohamed Samir El Sawy

(Architectural Department, Misr International University)

(External examiner)

TITLE OF THESIS:

A DESIGN APPROACH USING BIOGEOMETRY AND AUTISM DESIGN PRINCIPLES IN AUTISM SCHOOLS SPECIALLY (CLASSROOMS) TO IMPROVE THEIR BEHAVIOR AND EDUCATIONAL PERFORMANCE

Key Words: Subtle energy; Biogeometry; Autism; Autism schools; Checklist

Summary:

Due to the increasing in psychological diseases of children, especially autism, which causes uncomfortable feeling in their spaces, then it effects on their behavior negatively. Architects neglects their needs, we recognize the problems of unbalanced energy in interior spaces by recognizing the role of the Biogeometry. This research studies the design considerations and needs for autism spaces, with the design principles of Biogeometry, through applying the proposed checklist to autism schools to improve autism behavior and get final assessment for each school.



Disclaimer

I hereby declare that this thesis is my own original work and that no part of it has been submitted for a degree qualification at any other university or institute.

I further declare that I have appropriately acknowledged all sources used and have cited them in the references section.

Name: Basant Ahmed Mohamed Ismail	Date://
Signature:	

Acknowledgments

First and foremost, I thank **ALLAH**, the most gracious, the ever merciful for helping me finishing this work.

I want to thank all those, who helped me by their knowledge and experience in Biogeometry science. I will always appreciate their efforts. I would like to offer my sincere thanks to my supervisor **Prof.Dr.Ahmed Reda Abdin.** I owe him for valuable supervision, and his continuous encouragement. And I would like to offer my sincere thanks to Prof. **Ast.Dr. Mohamed Samir el Sawy** for his useful suggestions, and active help during this work through his experience in Bieogeometry field.

My sincere appreciation and gratitude to my greatest family for their help and patience during the preparation of this work. Especially my sweetest little daughter Lilia for her patience on my absence and busyness.

Table of Contents

DISCLA	IMER	I
ACKNO	WLEDGEMENT	II
TABLE	OF CONTENTS	III
LIST OF	F FIGURES.	VIII
LIST OF	TABLES	XIII
LIST OF	SYMBOLS	XIV
	.CT	
	1: Introduction	
1.1	STATEMENT OF THE PROBLEM	
1.2.	RESEARCH QUESTION	
1.3.	MAIN OBJECTIVES OF RESEARCH	
1.4.	METHODOLOGY	
1.5. 1.6.	RESEARCH HYPOTHESISRESEARCH STRUCTURE	
_	2	
	ogeometry in balancing energy and clear energy bry forms, materials and other ways	
2.1.	Introduction	
2.2.	ENERGY	
2.2.1.	Big bang	6
2.2.2.	Energy types	7
2.2.3.	Means of energy transfer	8
2.3.	SUBTLE ENERGY DEFINITION AND ITS HISTORY	8
2.3.1.	Energy in different civilization	9
2.3.1.1.	Energy in Ancient Egyptian	9
2.3.1.2.	Energy in Chinese civilization	11
2.3.1.3.	Energy in Indian Civilization	14
2.3.1.4.	Energy in Eslam	16
2.4.	SCIENCES AFFECTING ON THE BIOGEOMETRY	17
2.4.1.	Geobiology	17
2.4.1.1.	Types of the earth energy grids	17
2.4.1.1.1.	Shuman waves:	18
2.4.1.1.2.	Curry lines	19
2.4.1.1.3.	Hartman grid	20
2.4.1.2.	The hartmann and curry net detector(finder)	20
2.4.1.3.	How to remove and change geopathic stress	22

2.4.2.	Baubiology	24
2.4.3.	Harmony science	27
2.5.	BIOGEOMETRY	28
2.5.1.	Introduction	28
2.5.2.	Biogeometry science definitions	28
2.5.3.	How biogeometry work?	29
2.5.4.	The three qualities of biogeometry	29
2.5.4.1.	Negative green:	30
2.5.4.1.1.	Cause of negative green	30
2.5.4.2.	Higher harmonic of ultra-violet (HHV):	31
2.5.4.3.	Higher harmonic of gold (HHG):	31
2.5.5.	Design principles according to biogeometry	31
2.5.5.1.	Biogeometry earth energy design	31
2.5.5.2.	Biogeometry sky-linked design	32
2.5.5.3.	Biogeometry qualitative harmonics	33
2.5.5.4.	Biogeometry design principles	34
2.5.5.4.1.	Orientation	34
2.5.5.4.2.	Rotation	34
2.5.5.4.3.	Interfacing:	35
2.5.5.4.4.	Transparency:	36
2.5.5.4.5.	Shifting:	37
2.5.5.4.6.	Color compatibility	37
2.5.5.4.7.	Rythem	38
2.5.6.	Biogeometry motion in design	38
2.5.6.1.	Balance	38
2.5.6.2.	Biogeometry material energy balancing	39
2.5.7. balance in de	How biogeometry clear energy blockages and energin	
2.5.7.1.	Biogeometrical shapes	40
2.5.7.2.	Angels: (45-right angel)	41
2.5.7.3.	Gava spiral	43
2.5.7.4. recent furnitu	Some islamic interior architecture elements ,furnitures which are arranging energy emitters	
2.5.7.5.	Openings (doors and windows)	45
2.5.7.6.	Placement of openings:	46
2.5.7.7.	Designing ceilings .floors, and walls:	47

2.5.7.8. furnishing a part	Using the energy of the shape in example for designing and of a villa in costal environment:
2.5.8.	Biosignatures for health47
2.5.9.	Analysis of the architectural biogeometric approach48
2.5.9.1.	Geopathic stress
2.5.9.2.	Electro smog issue:
2.5.9.3.	Indoor air pollution:
2.5.10.	Color energy50
2.5.10.1.	The perception of color in architecture50
2.5.10.2.	Color psychology50
2.5.9.3.	Color architecture51
2.5.9.3.1.	Examples52
	e rosee sa
~ .	ondergarten
2.6.1.	Biogeometry solutions:56
Chanter 3 · C	hild psychology disorders specially autism and architecture
space elements of	design needs that effect on child mental performance and his
3.1.1	Sensation. 59
3.1.2	Perception: 60
3.1.3.	How is 'sensation and perception' involved in behavior60
	CHILD PSYCHOLOGY STUDIES THE INTERACTION OF A FEW MAIN
5.2.	AREASOFDEVELOPMENT61
3.2.1.	Physical development61
3.2.2.	Cognitive development61
3.2.3.	Emotional (social) development61
	PROSPECTIVE PROBLEMS62
3.4. I	PSYCHOLOGY CHILDREN DISORDERS62
3.5.	Autism (ASD)63
3.5.1.	History of autism63
3.5.2	Autism definition64
3.5.3.	Sensory perception issues in autism66
3.5.4.	Causes of autism66
3.5.4.1.	Biological causes
3.5.4.2.	Environmental causes:67
3.5.4.3.	Social causes

3.5.5.	Autism characteristics	69
3.6.	Theories of design	72
3.6.1.	Humphreys	72
3.6.2.	Christopher beaver	72
3.6.3.	Khare & mullick	74
3.6.4. mustafa"	Autism aspects for schools designing according	•
3.6.4.1.	Acoustics:	76
3.6.4.2.	Spatial sequencing	78
3.6.4.3.	Escape space	79
3.6.4.4.	Compartmentalization	81
3.6.4.5.	Transition zones	81
3.6.4.6.	Sensory zooning	83
3.6.4.7.	Safety	83
3.7.	Case studies examples for autistic children	85
3.7.1	sensory garden as an example	85
3.7.2.	Kodorat project	89
3.8.	Conclusion	90
_	4: Analytical studies through implementing & a checklist on autism school	_
_		93 93 ELD94
supposed 4.1. 4.2.	Checklist on autism school	93 93 ELD94 98
4.1. 4.2. 4.3.	Checklist on autism school. INTRODUCTION THE MOST IMPORTANT EXPERIMENTS IN BIOGEOMETRY FI MAIN EXPERIMENTS IN AUTISM	93 93 ELD94 98
4.1. 4.2. 4.3. 4.3.1.	Checklist on autism school. INTRODUCTION THE MOST IMPORTANT EXPERIMENTS IN BIOGEOMETRY FI MAIN EXPERIMENTS IN AUTISM Light	9393 ELD949898
4.1. 4.2. 4.3. 4.3.1. 4.3.1.1.	Checklist on autism school. INTRODUCTION THE MOST IMPORTANT EXPERIMENTS IN BIOGEOMETRY FI MAIN EXPERIMENTS IN AUTISM Light Fluorescent and autism children.	
4.1. 4.2. 4.3. 4.3.1. 4.3.1.1. 4.3.2.	Checklist on autism school. INTRODUCTION THE MOST IMPORTANT EXPERIMENTS IN BIOGEOMETRY FI MAIN EXPERIMENTS IN AUTISM Light Fluorescent and autism children Noise	
4.1. 4.2. 4.3. 4.3.1. 4.3.1.1. 4.3.2. 4.3.3.	Checklist on autism school. INTRODUCTION THE MOST IMPORTANT EXPERIMENTS IN BIOGEOMETRY FIND MAIN EXPERIMENTS IN AUTISM Light Fluorescent and autism children Noise Color	
4.1. 4.2. 4.3. 4.3.1. 4.3.1.1. 4.3.2. 4.3.3. 4.3.3.1.	Checklist on autism school INTRODUCTION. THE MOST IMPORTANT EXPERIMENTS IN BIOGEOMETRY FI MAIN EXPERIMENTS IN AUTISM. Light. Fluorescent and autism children. Noise. Color. According to (dijkstra, 2009),	
4.1. 4.2. 4.3. 4.3.1. 4.3.2. 4.3.3. 4.3.3.1. 4.3.3.2.	Checklist on autism school INTRODUCTION. THE MOST IMPORTANT EXPERIMENTS IN BIOGEOMETRY FI MAIN EXPERIMENTS IN AUTISM. Light. Fluorescent and autism children. Noise. Color. According to (dijkstra, 2009), According to jeannie davide-rivera)	
4.1. 4.2. 4.3. 4.3.1. 4.3.1.1. 4.3.2. 4.3.3. 4.3.3.1. 4.3.3.2. 4.4.	Checklist on autism school. INTRODUCTION. THE MOST IMPORTANT EXPERIMENTS IN BIOGEOMETRY FI MAIN EXPERIMENTS IN AUTISM. Light. Fluorescent and autism children. Noise. Color. According to (dijkstra, 2009), According to jeannie davide-rivera) Supposed cheklist for designing autism schools.	
supposed 4.1. 4.2. 4.3. 4.3.1. 4.3.1.1. 4.3.2. 4.3.3. 4.3.3.1. 4.3.3.2. 4.4.1	Checklist on autism school. INTRODUCTION. THE MOST IMPORTANT EXPERIMENTS IN BIOGEOMETRY FI MAIN EXPERIMENTS IN AUTISM. Light. Fluorescent and autism children. Noise. Color. According to (dijkstra, 2009), According to jeannie davide-rivera) Supposed cheklist for designing autism schools. The reasons of choosing examples:	
supposed 4.1. 4.2. 4.3. 4.3.1. 4.3.1.1. 4.3.2. 4.3.3. 4.3.3.1. 4.3.3.2. 4.4.1 4.4.2.	Checklist on autism school. INTRODUCTION. THE MOST IMPORTANT EXPERIMENTS IN BIOGEOMETRY FI MAIN EXPERIMENTS IN AUTISM. Light Fluorescent and autism children. Noise. Color. According to (dijkstra, 2009), According to jeannie davide-rivera) Supposed cheklist for designing autism schools. The reasons of choosing examples: Analytical examples for autism treatment centers.	
supposed 4.1. 4.2. 4.3. 4.3.1. 4.3.1.1. 4.3.2. 4.3.3. 4.3.3.1. 4.3.3.2. 4.4. 4.4.1 4.4.2. 4.4.2.1.	Checklist on autism school. INTRODUCTION. THE MOST IMPORTANT EXPERIMENTS IN BIOGEOMETRY FIND MAIN EXPERIMENTS IN AUTISM. Light Fluorescent and autism children. Noise. Color. According to (dijkstra, 2009), According to jeannie davide-rivera) Supposed cheklist for designing autism schools. The reasons of choosing examples: Analytical examples for autism treatment centers. New struan center for autism.	

4.5.	Applying supposed cheklist on each example	129
4.6.	Conclusion.	136
4.7. Reco	ommendations for designing autism schools and classro	oms138
Chapter 5:	Conclusion and Recommendations	139
5.1.	Conclusion and Recommendation	139
5.1.1.	Planning the site	139
5.1.2.	Zooning	140
5.1.3.	Design forming	141
5.1.4.	Interior design	141
5.2.	Future work and Recommendations	142
Refrences		143

Table of Figures

Fig 1.1	Methodology of the research
Fig. 1.2.	Hypothesis of research
Fig. 1.3.	Structure of research
Fig. 2.1.	The birth of the universe (big bang theory)
Fig. 2.2.	Subtle energy forming levels from center
Fig. 2.3.	Their designs Adopted on <u>orientation</u> , during the orientation to some of the stars in the sky wanting to transfer the energy and strength of this state to the buildings associated with it, such as Giza pyramids.
Fig. 2.4.	It shows the direction of the pyramids and the straight line passing through the middle of the pyramids and matching the three-star line.
Fig. 2.5.	The location of the pyramids on the crossing of ley lines resulting a very strong energy power spots
Fig. 2.6.	The 16 and 28 columns in the courtyard of temples, that number presents a gold number which enters a subtle energy into the forms.
Fig. 2.7	Plan of Temple of Horus in Edfu shown on the Axes of symmetrical equilibrium throughout the temple.
Fig. 2.8	Acupuncture points and meridians
Fig. 2.9	The five elements of the feng shui theory to design your building with different shapes, materials and colors.
Fig. 2.10	7 chakras location in human body.
Fig. 2.11	Chakras theory of color healing
Fig. 2.12	Lataa'if points in human body in Sufism
Fig. 2.13	Power components of the earth
Fig. 2.14	Scumann waves through Earth's atmosphere
Fig. 2.15	Schumann waves are similar to the frequency of brain waves (7.83 hz).
Fig. 2.16	Curry Net dimensions in 2D
Fig. 2.17	Hartman Grid's dimensions in 2d and 3d
Fig. 2.18	Hartman scanner
Fig. 2.19	The relationship between Geopathic stress networks of ground voltage and groundwater
Fig. 2.20	The 3d grids of curry and Hartman grids
Fig. 2.21	Causes of geopathic stress
Fig. 2.22	Gravels and quartz obstruct geopathic stress
Fig. 2.23	These crossing-over points then become a danger to human health if you sleep or spend too much time over them, thus leading to physical and or mental health problems
Fig. 2.24	The Energy-Shape-Function principle in Biogeometry
Fig. 2.25	Fire (energy) takes the shape of the lens to perform the desired function
Fig. 2.26	Subtle energy forming levels from center
Fig. 2.27.	Secondary waves resulting from a moving boat