

Human Development As Described in the Qur'an and Sunnah

Correlation with Modern Embryology

*Abdul - Majeed A. Zindani
E. Marshall Johnson
Gerald C. Goeringer
Joe Leigh Simpson
Keith L. Moore
Mustafa A. Ahmed
T . V . N . Persaud*

Second Edition 2000.AD 1421 AH

***Printed at Muslim World League Printing Press
Makka AL - Mukkarramah
Saudi Arabia***

(C) Commission on scientific signs in the Quran & the Sunah,2000
King Fahd National Libray Cataloging - in - Publication Data

Human development as described in the Quran and Sunah / G.C.
Goeringer... (et al.). - Riyadh
...p.; ..cm.
ISBN 9960-9290-0-0

1. Human evolution - Religious aspects 2. Human beings - Origin -
Religious aspects II. Title

229.4574 1405/21

Legal Deposit no. 1405/21

ISBN 9960-9290-0-0

Muslim World League
Commissiionon Scientific Signs in the
Qur'n & Sunnah
Makkah A- Mukarramah
P.O.Box : 5736
Tel.Fax. 02 - 5601332

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

«وَيَرَى الَّذِينَ أُتُوا الْعِلْمَ الَّذِي أُنْزِلَ إِلَيْكَ مِنْ رَبِّكَ
هُوَ الْحَقُّ وَيَهْدِي إِلَى صِرَاطِ الْعَزِيزِ الْحَمِيدِ»
(سورة سباء 34 - آية 6)

"And those who have been given knowledge
realize that what has been sent down to you
from your Lord is the Truth and that it
guides to the path of the Exalted in Might,
Worthy of all praise." (Surah Saba', 34:6)

Table of Contents

	Page
Introduction	1
Transliteration System	11
Essential Definitions	13
CHAPTER 1	
Some Aspects of the Historical Progress of Embryology	
Through the Ages	
<i>G.C. Goeringer, Abdul-Majeed A. Zindani and Mustafa A. Ahmed</i>	15
I. Introduction	15
II. Historical phases	16
A. Phase of descriptions	16
B. Experimental embryology	25
C. Technology and instrumentation	25
III. Embryological information in the Qur'ān and Ḥadīth	26
IV. Ethical considerations	28
V. Conclusion	30
CHAPTER 2	
Description of Human Development: The Nutfah Stage	
<i>E. Marshall Johnson, Abdul-Majeed A. Zindani and Mustafa A. Ahmed</i>	33
I. Introduction	33
II. Definition of the term	34
III. Phases of the nutfah	34
A. Al-mā' ad-dāfiq (the gushing fluid; a drop emitted)....	34
B. Sulālah	35
C. Nutfah amshāj	39
1. Al-khalq (creation)	41
2. Taqdīr (genetic programming).....	41
3. Sex determination	43

D. Ḥarth (implantation)	43
IV. The descriptions of the uterus: al-qarār al-makīn	48
V. Summary	50
Comments: O man, how could you disbelieve?	51

CHAPTER 3

Genetic Programming in the Nūṭfah Stage: Complexity due to Multiple Mechanisms

<i>Joe Leigh Simpson, Abdul-Majeed A. Zindani and Mustafa A. Ahmed</i>	56
I. Introduction	56
II. Earlier scientific beliefs	56
III. Genetic control beginning at conception	57
IV. Different Mendelian mechanisms	58
V. Polygenic inheritance	61
VI. Polygenic/Multifactorial inheritance as an explanation for birth defects	64
VII. Implications concerning inheritance in the two hadiths	65
VIII. Conclusion	65

CHAPTER 4

Description of Human Development: 'Alaqah and Mudghah Stages

<i>Keith L. Moore, Abdul-Majeed A. Zindani and Mustafa A. Ahmed</i>	67
I. Introduction	67
II. The 'alaqah stage	68
III. The mudghah stage	74
IV. Summary	77

CHAPTER 5

Description of Human Development: 'Izām and Lahm Stages

<i>G.C. Goeringer, Abdul-Majeed A. Zindani and Mustafa A. Ahmed</i>	80
I. Introduction	80
II. Osteogenesis	81
III. 'Izām stage	86
IV. Myogenesis	88
V. The lahm stage - Al-kisā' bil-laḥm (clothing the bones with flesh)	91
VI. Summary	92

CHAPTER 6

Description of Human Development: Nash'ah Stage - The Fetal Period

<i>T.V.N. Persaud, Abdul-Majeed A. Zindani and Mustafa A. Ahmed</i>	94
I. Introduction	94
II. Definition of nash'ah	94
III. Characteristics of the nash'ah stage	96
A. Development of organs and systems.....	96
B. Breathing the spirit into the fetus	96
C. Modifications of body proportions and acquisition of personal image	99
D. Sexual characteristics	101
IV. Phases of the nash'ah period	107
A. An-nash'ah khalqan ākhar	107
1. Rapid growth and development.....	107
2. Change in the nature of the fetus and development of its organs	107
3. Period of viability	109
B. Uterine incubation (al-ḥadānah ar-rahīmiyyah)	109
V. Parturition, or labor	110
VI. Conclusion	111

CHAPTER 7

Embryogenesis and Human Development in the First Forty Days

<i>Abdul-Majeed A. Zindani, Mustafa A. Ahmed, and Joe Leigh Simpson</i>	114
I. Introduction	114
II. The first 40 days	115
A. The collection of components (jam' al-khalq).....	116
B. Stages of the embryo in the first 40 days	118
1. Nutfah Stage	118
2. 'Alaqah Stage	119
3. Mudghah Stage	119
C. Timetable	119
III. Controversial understanding of the preceding ḥadīth	121
A. Linguistic resolution of conflict.....	121
IV. Scientific aspects of the first forty days	124
A. The collection of the components	124

B. "...And in that it is an 'alaqah like that"	124
C. "...Then in that it is a mudghah like that"	125
D. Sensitivity of timing and staging	126

CHAPTER 8

Human Development After the Forty-Second Day

<i>T.V.N. Persaud, Abdul-Majeed A. Zindani and Mustafa A. Ahmed</i>	127
I. Introduction	127
II. Developments during and after the 7th week	127
III. Human development after the 42nd day according to the Prophet's ḥadīth	130

CHAPTER 9

New Terms for Classifying Human Development

<i>Keith L. Moore, Abdul-Majeed A. Zindani and Mustafa A. Ahmed</i>	141
I. Introduction	141
II. Rules of scientific terminology	146
III. The Qur'anic terms	148
A. The main stages	148
1. Nuṭfah stage	148
2. Takhlij stage	148
3. Nash'ah stage	148
B. Events in each stage	148
1. The nuṭfah	148
a. Al-mā' ad-dāfiq (the gushing fluid; a drop emitted)	149
b. Sulālah	149
c. Nuṭfah amshāj	150
i. Khalq	150
ii. Taqdir	151
d. Ḥarth	151
2. The takhlij (differentiation)	152
a. The 'alaqah	153
b. The mudghah	154
c. The 'izām	156
d. Al-kisā' bil-laḥm (clothing the bones with muscles)	157

3. Nash'ah	160
a. An-nash'ah khalqan ākhar (attaining the definitive human form)	161
i. Rapid growth and development	161
ii. Change in the nature of the fetus and development of his organs	162
iii. Period of viability	162
b. Uterine incubation (al-ḥaḍānah ar-rahīmiyyah)	163
c. Parturition or labor (taysīr as-sabil)	165
IV. Conclusion	165
 CHAPTER 10	
The Scientific Significance of the Qur'anic Terms	
<i>Abdul-Majeed A. Zindani, Mustafa A. Ahmed and E. Marshall Johnson</i>	167
I. The correlation between the Qur'anic passages regarding human development	167
A. The Qur'anic statements	167
B. The three main stages of development	168
C. Use of conjunctions	168
D. Analysis of Table 10-1	170
1. The congruent use of the two conjunctions, thumma and fa	170
2. Nutfah and 'alaqah	170
3. Mudghah	170
4. 'Izām	171
5. Al-Kisā' bil-laḥm (clothing the bones with muscles)	172
6. Nash'ah	172
7. Summary of table analysis of passages	173
II. The significance of the Qur'anic terms	173
 Appendix	177
Glossary of Qur'anic Terminology	179
Index	195

TABLES

Table 3-1. Autosomal Recessive Inheritance	60
Table 3-2. Relationship Between Number of Genes and Number of Genotypic Classes	62
Table 4-1. Main Characteristics of the Embryo as it Progresses from the 'Alaqah Stage to the Mudghah Stage	69
Table 6-1. Developmental Progression During the Nash'ah Stage	97
Table 9-1. Principles for Terminology	146
Table 10-1. Correlations Between Qur'anic Statements Regarding the Major Stages in Human development	169
Table 10-2. The Qur'anic Terms for Human Development with the Age and Size for Each Stage	175

FOCUS OF THIS BOOK

The understanding that the human embryo develops in stages is a fairly recent discovery in modern science. Since the end of the nineteenth century, researchers have attempted to devise reasonably accurate terminology for classifying these stages. Until recently, it was not known to many Western scientists that the Qur'an and Sunnah, which are the sources of Islamic belief, provide detailed descriptions of significant events in human embryological development, and this terminology is characterized by descriptiveness, accuracy, ease of comprehension, and integration between description of appearance and main internal processes.

This publication is a compilation of conference proceedings presented by renowned scientists and scholars in embryology, anatomy and Islamic studies who investigated and compared the direct linguistic meanings of the Islamic terminology with the latest scientific findings. They concluded that the appearance of these terms fourteen hundred years ago is astonishing, since it was impossible for this knowledge to have been attained through any human means, given the limitations of human scientific advancement and technology at the time. Furthermore, these terms, as explained in this book, can serve as valuable additions to the field of embryology.

The relationship between science and religion in the West has often been characterized by antagonism, opposition, and hostility. In contrast, this relationship in Islamic society has been one of cooperation, harmony, and mutual benefit. The information presented in this book illustrates the clear support and encouragement provided through Islamic teachings for objective scientific research and is a solid evidence for this type of harmonious relationship.

ISBN 9960-9290-0-0