

The Parallel Concentric Structure within Exodus

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Rhetorical Structures in the Bible

- There are many rhetorical structures such as Chiasmus, Concentric Structure, Parallelism in the Biblical Texts.
- In some text, some scholars say, that whole text consists of one long rhetorical structure.
- But we cannot have discovered yet obvious systematic theory about those various rhetorical structures.

Hypothesis of Parallel Concentric Structure

- Whole text could be divided in some particular number of parts (“pericope”).
- Those parts consist rhetorical structures numerically regular way.
 - Whole text makes the longest concentric structure.
 - If could be divided by three, each three portion make three concentric structures.
 - If could be divided by four, each four portion make four concentric structures.
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The Longest Concentric Structure within Exodus

1:1–7	Introduction	↔	40:34–38	The Cloud and the Glory
1:8–14	Construction of Cities	↔	40:1–33	Construction of the Tabernacle
1:15–22	Command to Kill Boys	↔	35:4–39:43	Preparation for Construction
2:1–10	Birth and Youth of Moses	↔	34:27–35:3	Sabbath Regulations
2:11–15	Moses flees to Midian	↔	34:10–26	The Covenant Renewed
2:16–22	Marriage of Moses	↔	33:18–34:9	The Glory of God
2:23–25	The LORD's Mercy for Israel	↔	33:12–17	The LORD goes with Israelites
3:1–4:17	Moses at the Burning Bush	↔	33:7–11	The Tent Outside the Camp
4:18–31	Moses Returns to Egypt	↔	32:1–33:6	The Golden Calf
5:1–23	Bricks without Straw	↔	31:12–18	Sabbath Regulations
6:1–12	Israel's Deliverance Assured	↔	25:1–31:12	The Command to Make the Tabernacle
6:13–27	The Genealogy of Moses and Aaron	↔	24:1–18	The Blood of the Covenant
6:28–7:7	Aaron's Miraculous Rod	↔	20:22–24:18	The Book of the Covenant
7:8–10:29	Ten Miracles	↔	20:1–21	The Ten Commandments
11:1–10	Warning of the Final Plague	↔	19:20–25	Moses goes up to Mount Sinai
12:1–28	The First Passover Instituted	↔	19:10–19	The LORD Comes Down upon Mount Sinai
12:29–32	The Tenth Plague	↔	19:1–9	The Israelites Reach Mount Sinai
12:33–41	The Exodus	↔	18:1–27	Jethro's Advice
12:42–51	Directions for the Passover	↔	17:8–16	Amalek Attacks Israel and Is Defeated
13:1–2	The Consecration of the First-born	↔	17:1–7	Water from the Rock
13:3–10	The Festival of Unleavened Bread	↔	16:1–36	Bread from Heaven
13:11–16	The Consecration of the First-born	↔	15:22–27	Bitter Water Made Sweet
13:17–22	The Pillars of Cloud and Fire	↔	15:20–21	The Song of Miriam
14:1–18	Crossing the Red Sea	↔	15:1–19	The Song of Moses
14:19–31	The Pursuers Drowned		14:19–31	The Pursuers Drowned

Correspondences of The longest structure

- See

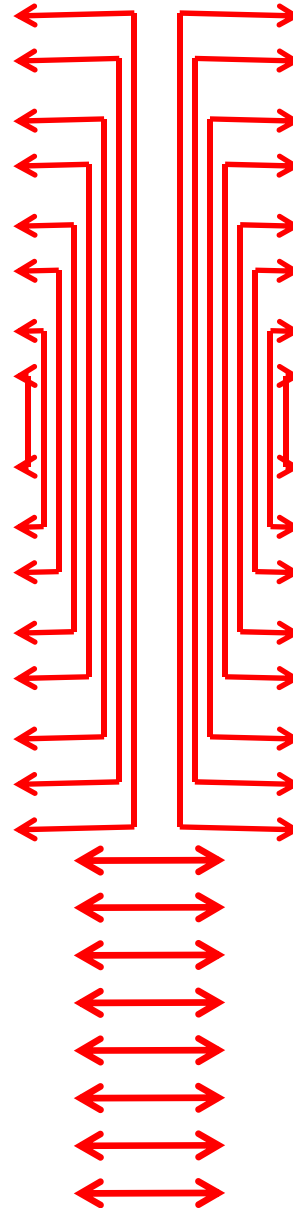
- http://www.valdes.titech.ac.jp/~h_murai/bible/02_Exodus_e_1.html

The Longest Concentric Structure within Exodus



The Divided by 3 Concentric Structure within Exodus

1	Introduction		49	The Cloud and the Glory
2	Construction of Cities		48	Construction of the Tabernacle
3	Command to Kill Boys		47	Preparation for Construction
4	Birth and Youth of Moses		46	Sabbath Regulations
5	Moses flees to Midian		45	The Covenant Renewed
6	Marriage of Moses		44	The Glory of God
7	The LORD's Mercy for Israel		43	The LORD goes with Israelites
8	Moses at the Burning Bush		42	The Tent Outside the Camp
9	Moses Returns to Egypt		41	The Golden Calf
10	Bricks without Straw		40	Sabbath Regulations
11	Israel's Deliverance Assured		39	The Command to Make the Tabernacle
12	The Genealogy of Moses and Aaron		38	The Blood of the Covenant
13	Aaron's Miraculous Rod		37	The Book of the Covenant
14	Ten Miracles		36	The Ten Commandments
15	Warning of the Final Plague		35	Moses goes up to Mount Sinai
16	The First Passover Instituted		34	The LORD Comes Down upon Mount Sinai
17	The Tenth Plague		33	The Israelites Reach Mount Sinai
18	The Exodus		32	Jethro's Advice
19	Directions for the Passover		31	Amalek Attacks Israel and Is Defeated
20	The Consecration of the First-born		30	Water from the Rock
21	The Festival of Unleavened Bread		29	Bread from Heaven
22	The Consecration of the First-born		28	Bitter Water Made Sweet
23	The Pillars of Cloud and Fire		27	The Song of Miriam
24	Crossing the Red Sea		26	The Song of Moses
25	The Pursuers Drowned		25	The Pursuers Drowned



Correspondences of The Divided by 3

- See

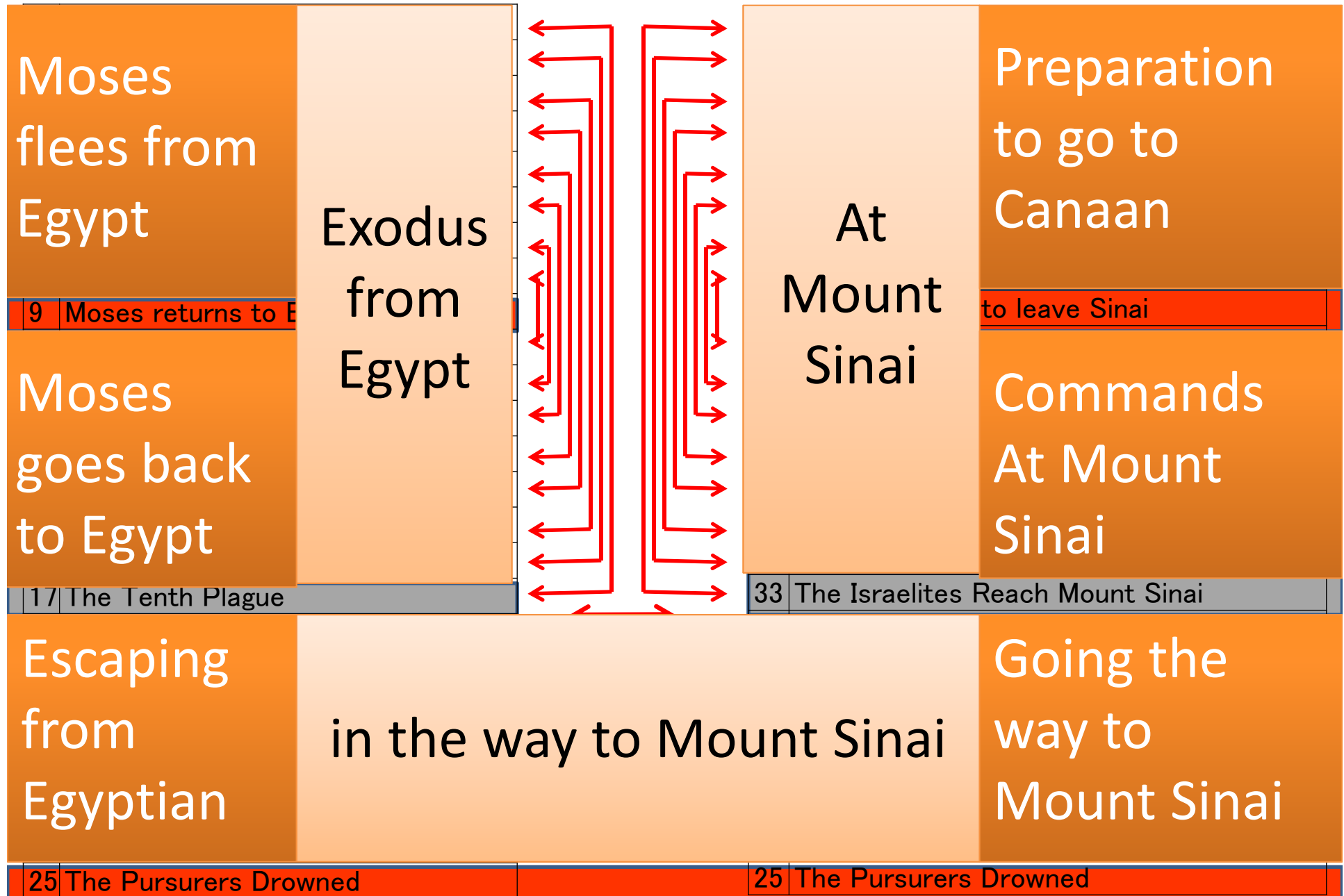
- http://www.valdes.titech.ac.jp/~h_murai/bible/02_Exodus_e_3.html

The Divided by 3 Concentric Structure within Exodus



Divisional and Central pericopes are mainly concerning movement of place

The Divided by 3 Concentric Structure within Exodus



The Divided by 4 Concentric Structure within Exodus

1	Introduction		49	The Cloud and the Glory
2	Construction of Cities		48	Construction of the Tabernacle
3	Command to Kill Boys		47	Preparation for Construction
4	Birth and Youth of Moses		46	Sabbath Regulations
5	Moses flees to Midian		45	The Covenant Renewed
6	Marriage of Moses		44	The Glory of God
7	The LORD's Mercy for Israel		43	The LORD goes with Israelites
8	Moses at the Burning Bush		42	The Tent Outside the Camp
9	Moses Returns to Egypt		41	The Golden Calf
10	Bricks without Straw		40	Sabbath Regulations
11	Israel's Deliverance Assured		39	The Command to Make the Tabernacle
12	The Genealogy of Moses and Aaron		38	The Blood of the Covenant
13	Aaron's Miraculous Rod		37	The Book of the Covenant
14	Ten Miracles		36	The Ten Commandments
15	Warning of the Final Plague		35	Moses goes up to Mount Sinai
16	The First Passover Instituted		34	The LORD Comes Down upon Mount Sinai
17	The Tenth Plague		33	The Israelites Reach Mount Sinai
18	The Exodus		32	Jethro's Advice
19	Directions for the Passover		31	Amalek Attacks Israel and Is Defeated
20	The Consecration of the First-born		30	Water from the Rock
21	The Festival of Unleavened Bread		29	Bread from Heaven
22	The Consecration of the First-born		28	Bitter Water Made Sweet
23	The Pillars of Cloud and Fire		27	The Song of Miriam
24	Crossing the Red Sea		26	The Song of Moses
25	The Pursuers Drowned		25	The Pursuers Drowned

The diagram illustrates a concentric structure within the Book of Exodus. Red arrows connect corresponding chapters from the center outwards, forming two main paths: one on the left and one on the right. The central point is Chapter 13, 'Aaron's Miraculous Rod'. The left path connects chapters 13 to 7, 12, 18, 24, and 25. The right path connects chapters 13 to 37, 38, 44, 49, and 48. The outermost chapters are 7 and 49 on the left, and 37 and 48 on the right. The innermost chapters are 12 and 44 on the left, and 38 and 49 on the right. The central chapter 13 is highlighted in blue, and the outermost chapters 7, 49, 37, and 48 are highlighted in red.

Correspondences of The Divided by 4

- See

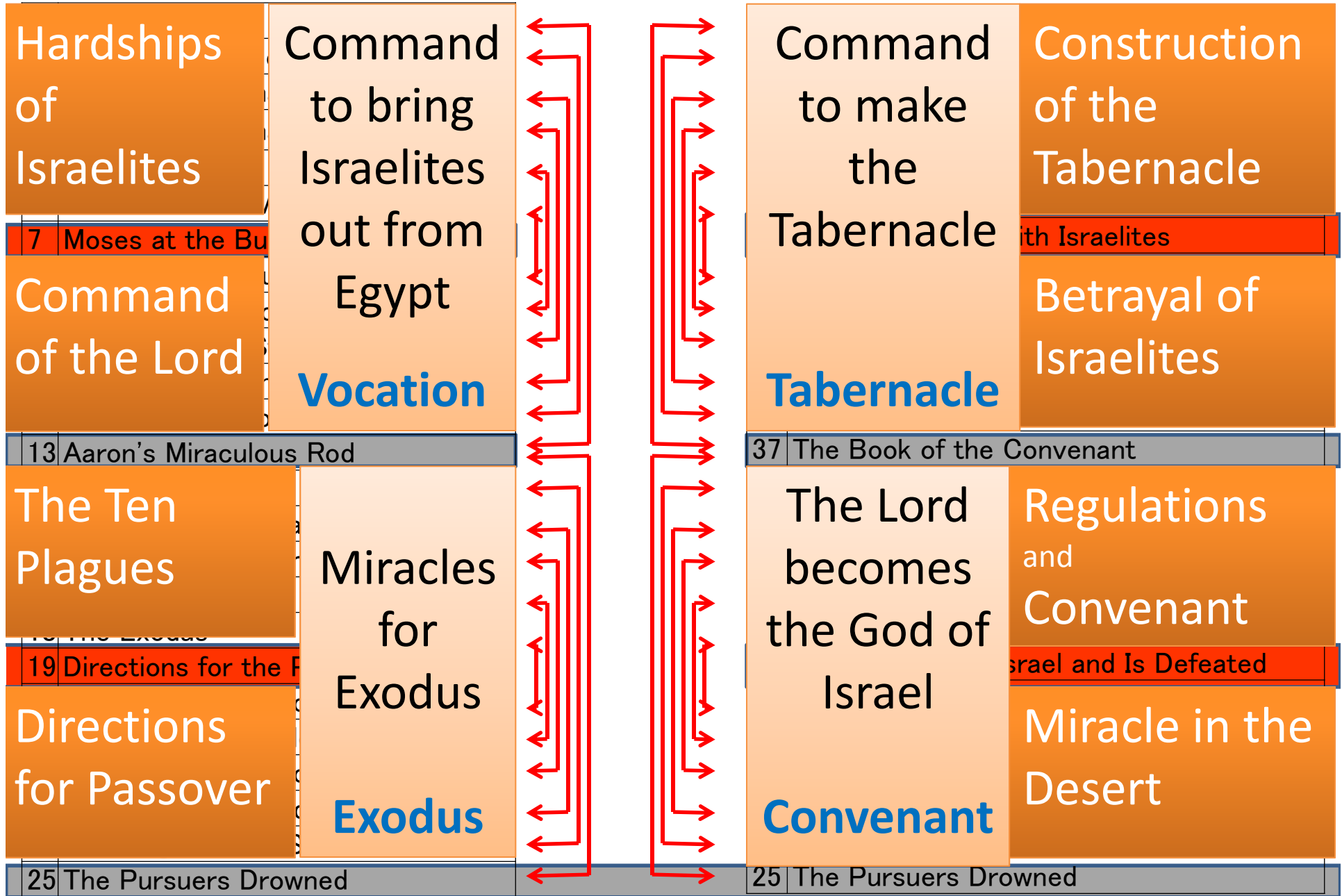
- http://www.valdes.titech.ac.jp/~h_murai/bible/02_Exodus_e_4.html

The Divided by 4 Concentric Structure within Exodus



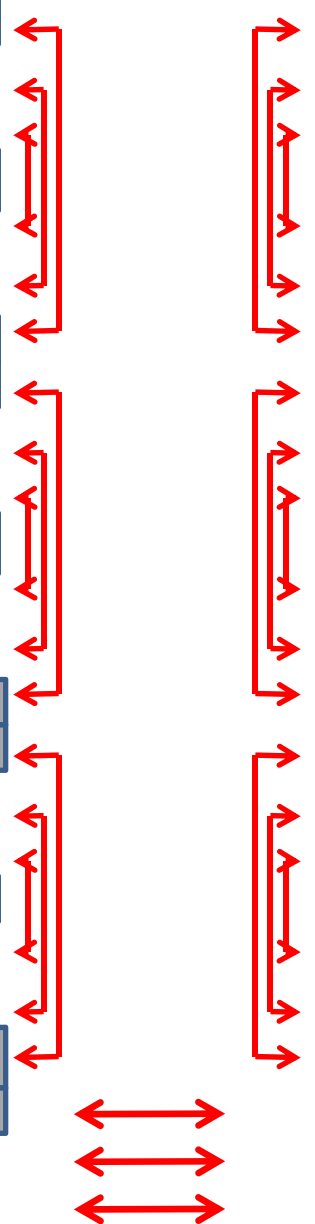
Structures are mainly concerning the stages of becoming the Lord's people

The Divided by 4 Concentric Structure within Exodus



The Divided by 7 Concentric Structure within Exodus

1	Introduction		49	The Cloud and the Glory
2	Construction of Cities		48	Construction of the Tabernacle
3	Command to Kill Boys		47	Preparation for Construction
4	Birth and Youth of Moses		46	Sabbath Regulations
5	Moses flees to Midian		45	The Covenant Renewed
6	Marriage of Moses		44	The Glory of God
7	The LORD's Mercy for Israel		43	The LORD goes with Israelites
8	Moses at the Burning Bush		42	The Tent Outside the Camp
9	Moses Returns to Egypt		41	The Golden Calf
10	Bricks without Straw		40	Sabbath Regulations
11	Israel's Deliverance Assured		39	The Command to Make the Tabernacle
12	The Genealogy of Moses and Aaron		38	The Blood of the Covenant
13	Aaron's Miraculous Rod		37	The Book of the Covenant
14	Ten Miracles		36	The Ten Commandments
15	Warning of the Final Plague		35	Moses goes up to Mount Sinai
16	The First Passover Instituted		34	The LORD Comes Down upon Mount Sinai
17	The Tenth Plague		33	The Israelites Reach Mount Sinai
18	The Exodus		32	Jethro's Advice
19	Directions for the Passover		31	Amalek Attacks Israel and Is Defeated
20	The Consecration of the First-born		30	Water from the Rock
21	The Festival of Unleavened Bread		29	Bread from Heaven
22	The Consecration of the First-born		28	Bitter Water Made Sweet
23	The Pillars of Cloud and Fire		27	The Song of Miriam
24	Crossing the Red Sea		26	The Song of Moses
25	The Pursuers Drowned		25	The Pursuers Drowned



Summary about PCS within Exodus

- **The longest structure**
 - Central pericope is “pursuers drowned”(14:19-31)
 - **Slavery in Egypt** changes to **rituals for the Lord**
- **3 divided structure**
 - Each structure signifies **travels of Israelites**
Egypt -> Desert -> Mount Sinai
- **4 divided structure**
 - Each structure signifies **stages of the Salvation**
Vocation-> Exodus -> Covenant -> Tabernacle
- **7 divided structure**
 - Each structures signifies minute relationships between the Lord and people
The Lord goes with, People’s unbelief, Miracles for salvation, Liberation from slavery

PCS in Other Biblical texts

• Genesis	81
• Exodus	49
• Leviticus	25
• Numbers	49
• Deuteronomy	49
• Joshua	31
• Judges	31
• Samuel 1, 2	81
• Kings 1,2	81
• Chronicles 1,2	49
• Ezra, Nehemiah	25
• Isaiah	81
• Jeremiah	81
• Ezekiel	49
• Zechariah	25
• Proverbs	31
• Psalms	121
• Job	25
• Ecclesiastes	25

• Matthew	145
• Mark	85
• Luke	145
• John	49
• Acts	49
• Romans	31
• 1 Corinthians	25
• Revelations	81

Number of pericopes and dividable Concentric Structures

- **145**: Matthew, Luke
 - $3 \times 48 + 1$, $4 \times 36 + 1$, 5×29 , $9 \times 16 + 1$, $12 \times 12 + 1$
- **121**: Psalms
 - $3 \times 40 + 1$, $4 \times 30 + 1$, $5 \times 24 + 1$, $6 \times 20 + 1$, $8 \times 15 + 1$, 11×11
- **81**: Genesis, Samuel 1 2, Kings 1 2, Isaiah, Jeremiah, Mark, Revelation
 - 3×27 , $4 \times 20 + 1$, $5 \times 16 + 1$, 9×9
- **49**: Exodus, Numbers, Deuteronomy, Chronicles 1 2, Ezekiel, John, Acts
 - $3 \times 16 + 1$, $4 \times 12 + 1$, 7×7
- **31**: Joshua, Judges, Proverbs, Romans
 - $3 \times 10 + 1$, $5 \times 6 + 1$
- **25**: Leviticus, Ezra Nehemiah, Zechariah, Ecclesiastes, 1 Corinthians
 - $3 \times 8 + 1$, $4 \times 6 + 1$, 5×5

Numbers of pericopes seem to relate to **squares of integers**

Conclusion and Discussions

- Parallel Concentric Structures are founded in many Biblical texts
- Those structures may signify some theological meanings
- Future works
 - How many texts have such structure?
 - Are those structures **accidental** or **intentional**?
 - Validation of the pericopes' division should be done
 - Nearly all pericopes have literary structures within those.
 - Quantitative Evaluation of correspondence of relationships should be done also.
 - Evaluation have been done by analyzing statistical significance of rare words and phrases of correspondent pairs
 - See, Hajime Murai, "Exegetical Science for the Interpretation of the Bible: Algorithms and Software for Quantitative Analysis of Christian Documents", Springer International Publishing, Software Engineering, Artificial Intelligence, Networking and Parallel/Distributed Computing Studies in Computational Intelligence, Volume 492, pp 67-86, 2013.