

Preliminary analysis of Egyptian Hieroglyph quadrat types

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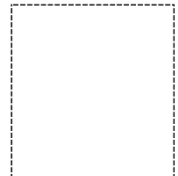

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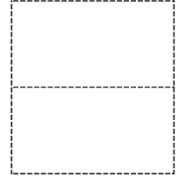

The following typology has been collected with a view to assisting with the determination of the control characters required for Egyptian Hieroglyph quadrat formation. The notation used here is a strawman for the purpose of discussion. The principle advantage of this notation is that the number of unique controls is kept to a minimum.

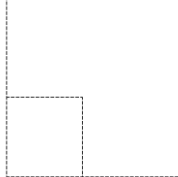

The following notation is used, given in the order of precedence:

- = Vertical group joiner
- > Horizontal group joiner
- : Vertical joiner
- * Horizontal joiner

Based on the suggestion by Bob Richmond, Lion, Cobra, Bird and other characters have specialized grouping behavior that can be integrated with the above control characters. Details can be inferred from the examples below. This is a working draft. Analysis of cluster types is on-going. More types may be added and examples already included may be disputed and removed.

	1. X		
	Sample	Encoding	Value
		MdC	A1
		Linear	𓂏
	Unicode	U+13000	

	2. X:X		
	Sample	Encoding	Value
		MdC	A1:O1
		Linear	𓂏 : □
	Unicode	U+13000 U+13432 U+13250	

	3. X:X (Cobra)		
	Sample	Encoding	Value
		MdC	I10:A1
		Linear	𓂏 : 𓂏
	Unicode	U+13193 U+13432 U+13000	

	4. X*X		
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	Sample	Encoding	Value
		MdC	W24*Z7
		Linear	o * e
		Unicode	U+133CC U+13431 U+133F2

	5. X*X (Bird X*B)		
	Sample	Encoding	Value
		MdC	
		Linear	
Unicode			

	6. X⊗X:X		
	Sample	Encoding	Value
		MdC	
		Linear	
Unicode			

	7. X⊗X⊗X		
	Sample	Encoding	Value
		MdC	
		Linear	
Unicode			

	8. X:X:X		
	Sample	Encoding	Value
		MdC	D2:D21:N1
		Linear	⊗ : ⊗ : ⊗
Unicode		U+13077 U+13432 U+1308B U+13432 U+131EF	

	9. X:X:X (Cobra)		
	Sample	Encoding	Value
		MdC	D36:I10:D46
		Linear	⊗ : ⊗ : ⊗
Unicode		U+1309D U+13432 U+13193 U+13432 U+130A7	

	10. X:X:X (<i>wḏt</i> -eye marking)		
	Sample	Encoding	Value

		MdC	X1:D17: N37
		Linear	ⲛ : ⲛ : ⲛ
		Unicode	U+133CF U+13432 U+13087 U+13432 U+13219

	11. X:X*X		
	Sample	Encoding	Value
		MdC	A15:N23*Z1
		Linear	ⲛ : ⲛ * ⲛ
Unicode		U+13012 U+13432 U+13207 U+13431 U+133E4	

	12. X:X*X (Bird X:X*B)		
	Sample	Encoding	Value
		MdC	X1: D21*G36
		Linear	ⲛ : ⲛ * ⲛ
Unicode		U+133CF U+13432 U+1308B U+13431 U+13168	

	13. X:X*X (Bird X:B*X)		
	Sample	Encoding	Value
		MdC	
		Linear	
Unicode			

	14. X*X:X		
	Sample	Encoding	Value
		MdC	A1*B1:Z2
		Linear	ⲛ * ⲛ : ⲛ
Unicode		U+13000 U+13431 U+13050 U+13432 U+133E5	

	15. X*X*X		
	Sample	Encoding	Value
		MdC	V1*V1*V1
		Linear	ⲛ * ⲛ * ⲛ
Unicode		U+13362 U+13431 U+13362 U+13431 U+13362	

16. X⊗X⊗X:X			
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	Sample	Encoding	Value
		MdC	O34V28M2:Z7
		Linear	— 0100 0101 0102
		Unicode	U+13283 U+13434 U+1339B U+13433 U+131B0 U+13432 U+133F2

	17. X:X:X		
	Sample	Encoding	Value
		MdC	
		Linear	
Unicode			

	18. X:X:X (Cobra)		
	Sample	Encoding	Value
		MdC	N35I10:X1:Z1
		Linear	— 0100 0101 0102
Unicode		U+13216 U+13432 U+13193 U+13432 U+133CF U+13432 U+133E4	

	19. X:X:X		
	Sample	Encoding	Value
		MdC	V28D36:Z4aJ15
		Linear	100 101 102 103
Unicode			

	20. X:X:X		
	Sample	Encoding	Value
		MdC	M17X1:N35:N5
		Linear	100 101 102 103
Unicode			

	21. X:X:X (Cobra)		
	Sample	Encoding	Value
		MdC	S34I10:X1:J12
		Linear	100 101 102 103
Unicode			

	22. X:X:X (Cobra)		
	Sample	Encoding	Value
		MdC	I9:N35:F20:A1

		Linear	ⲛ : ⲛ : ⲛ : ⲛ : ⲛ
		Unicode	U+13191 U+13432 U+13216 U+13432 U+13113 U+13432 U+13000

	23. X:X:X X		
	Sample	Encoding	Value
		MdC	
		Linear	
Unicode			

	24. X:X:X:X		
	Sample	Encoding	Value
		MdC	N28:D36:D36:Y1
		Linear	ⲛ : ⲛ : ⲛ : ⲛ
Unicode		U+1320D U+13432 U+1309D U+13432 U+1309D U+13432 U+133DB	

	25. X:X:X:X (Lion)		
	Sample	Encoding	Value
		MdC	X1:F4:W24:Z2A
		Linear	ⲛ : ⲛ : ⲛ : ⲛ
Unicode		U+133CF U+13432 U+13102 U+13432 U+133CC U+13432 U+133E6	

	26. X:X:X*X		
	Sample	Encoding	Value
		MdC	D21:D21:Z7*Z4
		Linear	ⲛ : ⲛ : ⲛ : ⲛ
Unicode		U+1308B U+13432 U+1308B U+13432 U+133F2 U+13431 U+133ED	

	27. X:X:X*X (Bird X:X:X*B)		
	Sample	Encoding	Value
		MdC	N27:N27:S34*G9
		Linear	ⲛ : ⲛ : ⲛ : ⲛ
Unicode		U+1320C U+13432 U+1320C U+13432 U+132F9 U+13431 U+1314A	

	28. X:X*X:X (Lion)		
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	Sample	Encoding	Value
		MdC	F4:X1*X1:D36
		Linear	𐎎 : 𐎎 * 𐎎 : 𐎎
		Unicode	U+13102 U+13432 U+133CF U+13431 U+133CF U+13432 U+1309D

	29. X:X*X*X		
	Sample	Encoding	Value
		MdC	D21:M17*X1*M17
		Linear	𐎎 : 𐎎 * 𐎎 * 𐎎
Unicode		U+1308B U+13432 U+131CB U+13431 U+133CF U+13431 U+131CB	

	30. X*X:X:X		
	Sample	Encoding	Value
		MdC	AA1*X1:Y1:Z2
		Linear	𐎎 * 𐎎 : 𐎎 : 𐎎
Unicode		U+1340D U+13431 U+133CF U+13432 U+133DB U+13432 U+133E5	

	31. X*X:X*X (Equivalent to X:X>X:X)		
	Sample	Encoding	Value
		MdC	D36*U1:X1*F51
		Linear	𐎎 * 𐎎 : 𐎎 * 𐎎
Unicode		U+1309D U+13431 U+13333 U+13432 U+133CF U+13431 U+13139	

	32. X*X*X:X		
	Sample	Encoding	Value
		MdC	D2*Z1*G7:N35
		Linear	𐎎 * 𐎎 * 𐎎 : 𐎎
Unicode		U+13077 U+13431 U+133E4 U+13431 U+13146 U+13432 U+13216	

	33. X⊗X:X*X:X		
	Sample	Encoding	Value
		MdC	D21⊗F4:X1*Z1:I9
		Linear	𐎎 ⊗ 𐎎 : 𐎎 * 𐎎 : 𐎎
Unicode		U+1308B U+13434 U+13102 U+13432 U+133CF U+13431 U+133E4 U+13432 U+13191	

	34. X:X:X:X		
	Sample	Encoding	Value
		MdC	M17:X1:N35:N5:S34
		Linear	⋮ : _ : _ : _ : _ : _
Unicode			

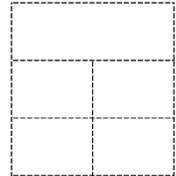

	35. X:X:X:X		
	Sample	Encoding	Value
		MdC	
		Linear	
Unicode			

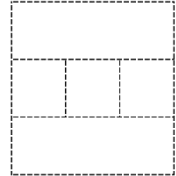

	36. X:X:X:X		
	Sample	Encoding	Value
		MdC	Z1:Z1:Z1:Z1:Z1
		Linear	⋮ : ⋮ : ⋮ : ⋮
Unicode		U+133E4 U+13432 U+133E4 U+13432 U+133E4 U+13432 U+133E4 U+13432 U+133E4	

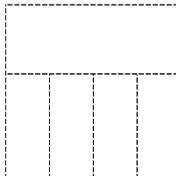

	37. X:X:X:X		
	Sample	Encoding	Value
		MdC	V30:N17:N17:N23*N23
		Linear	⋮ : _ : _ : _ : * _
Unicode		U+1339F U+13432 U+131FF U+13432 U+131FF U+13432 U+13207 U+13431 U+13207	

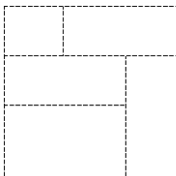

	38. X:X*X:X:X		
	Sample	Encoding	Value
		MdC	N37:R7*R7:Z9:D40
		Linear	⋮ : * _ : _ : _ : _
Unicode		U+13219 U+13432 U+132B8 U+13431 U+132B8 U+13432 U+133F4 U+13432 U+130A1	

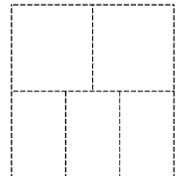

	39. X:X*X:X*X		
	Sample	Encoding	Value
		MdC	T10:X1*Z15B:Z15B*Z15B
Linear		⋮ : _ * : *	

		Unicode	U+13314 U+13432 U+133CF U+13431 U+xxxxx U+13432 U+xxxxx U+13431 U+xxxxx (Z15B not yet encoded)
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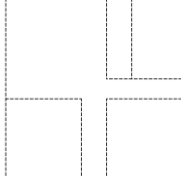

	40. X:X*X*X:X		
	Sample	Encoding	Value
		MdC	D21:X1*Q3*X1:D36
		Linear	⌋ : ◦ * ◻ * ◦ : ⌋
Unicode	U+1308B U+13432 U+133CF U+13431 U+132AA U+13431 U+133CF U+13432 U+1309D		

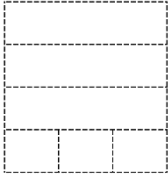
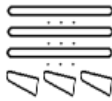
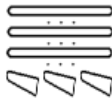
	41. X:X*X*X*X		
	Sample	Encoding	Value
		MdC	D7:N33*N33*N33*N33
		Linear	⌋ : ◦ * ◦ * ◦ * ◦
Unicode	U+1307C U+13432 U+13212 U+13431 U+13212 U+13431 U+13212 U+13431 U+13212		

	42. X*X⊗X:X⊗X		
	Sample	Encoding	Value
		MdC	
		Linear	
Unicode			

	43. X*X:X*X*X		
	Sample	Encoding	Value
		MdC	D36*Z4:Z7*D21*Z1
		Linear	⌋ * ∩ : ◦ * ◦ *
Unicode	U+1309D U+13431 U+133ED U+13432 U+133F2 U+13431 U+1308B U+13431 U+133E4		

	44. X*X:X*X*X		
	Sample	Encoding	Value
		MdC	X1 * Z1 : X1 * G39 * X1
	Linear	⌋ * ∩ : ◦ * ⌋ * ◦	

		<p>Unicode</p>	<p>U+133CF U+13431 U+133E4 U+13432 U+133CF U+13431 U+1316D U+13431 U+133CF</p>
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	<p>45. X:X:X:X*X*X</p>		
	<p>Sample</p>	<p>Encoding</p>	<p>Value</p>
		<p>MdC</p>	<p>N16:N16:N16:N21*N21*N21</p>
		<p>Linear</p>	<p>— : — : — : * * *</p>
	<p>Unicode</p>	<p>U+131FE U+13432 U+131FE U+13432 U+131FE U+13432 U+13205 U+13431 U+13205 U+13431 U+13205</p>	