



Kees van der Laan

TIA-simpler-WTDI

Typewriter → Mark-up₈₈

Typewriter → **Mark-up**₈₈

LaT_EX

Typewriter → Mark-up₈₈

LaT_EX

- NTG & listserver_{KNU}
- Publiceren met LaT_EX_{CWI}
- LaT_EX Course_{Utrecht}

Typewriter → Mark-up₈₈

LaT_EX

- **NTG & listserver_{KNU}**
- **Publiceren met LaT_EX_{CWIU}**
- **LaT_EX Course_{Utrecht}**

all necessary & serious, but ...

Typewriter → Mark-up₈₈

LaT_EX

- NTG & listserver_{KNU}
- Publiceren met LaT_EX_{CWIU}
- LaT_EX Course_{Utrecht}

all necessary & serious, but ...

for this Conference ...

FUN

Macro-writing

Macro-writing

- One by one the guests arrive¹⁹⁹⁵ . . .



Macro-writing

- One by one the guests arrive¹⁹⁹⁵ ...

but ...

Macro-writing

- One by one the guests arrive₁₉₉₅ ...

but ...

1/2 speaks LuaT_EX

1/2 speaks ConT_EXt

Macro-writing

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1/2 speaks LaT_EX

1/2 speaks T_EX

1/2 speaks BLUe

Macro-writing

- One by one the guests arrive₁₉₉₅ ...

but ...

1/2 speaks LuaT_EX

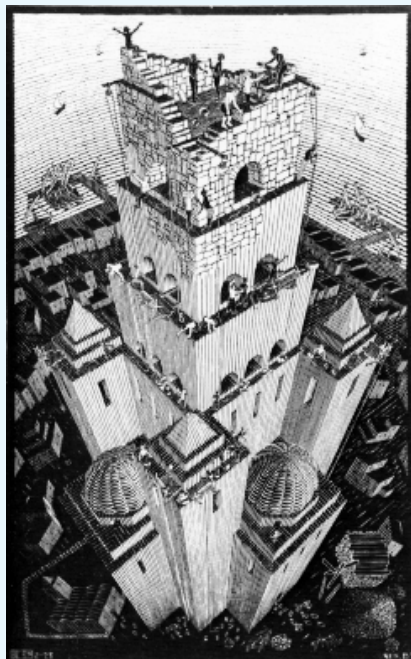
1/2 speaks ConT_EXt

1/2 speaks LaT_EX

1/2 speaks T_EX

1/2 speaks BLUe

Babel-confusion



Macro-writing

- One by one the guests arrive₁₉₉₅ ...

but ...

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1/2 speaks ConT_EXt

1/2 speaks LaT_EX

1/2 speaks T_EX

1/2 speaks BLUe

hence

write macros in common language

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1/2 speaks T_EX

1/2 speaks BLUe

hence

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i.e. plain T_EX

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but ...

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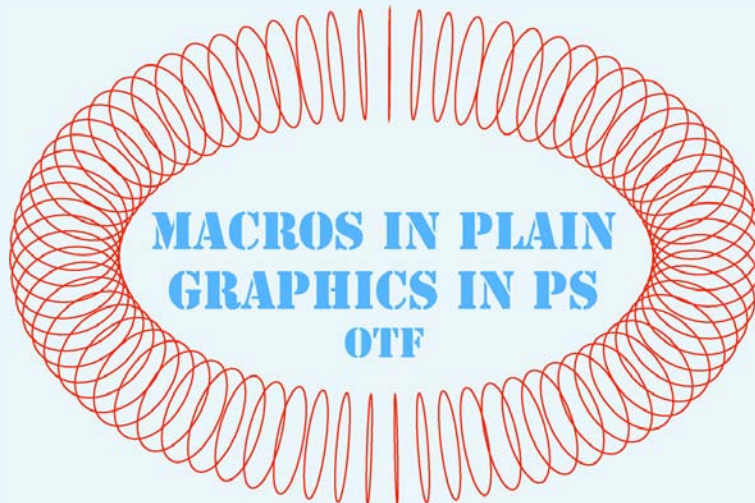
1/2 speaks LaT_EX

1/2 speaks T_EX

1/2 speaks BLUe



write macros in common language
i.e. plain T_EX



Fonts? AT1 or AT3 looks good

Reality

- $\text{LaT}_{\text{E}}\text{X}$ & packages
- $\text{ConT}_{\text{E}}\text{Xt}$
- $\text{LuaT}_{\text{E}}\text{X}$
- $\text{X}_{\text{E}}\text{L}_{\text{A}}\text{T}_{\text{E}}\text{X}$
- LMR are Adobe Type 1 😊

Macro-writing

- One by one the guests arrive₁₉₉₅
- Bridge and (La)T_EX₁₉₉₀
- Crosswords₁₉₉₂
- Pascal triangle₁₉₉₂
- Tic-tac-toe₁₉₉₆ Boter-Kaas&Eieren
- Outlines (FIFO₁₉₉₂)

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*** Font Fun_{DL} & MetaFun_{HH}***

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- Outlines (FIFO₁₉₉₂)

*** Font Fun_{DL} & MetaFun_{HH}***

- Stars around I&II₁₉₉₇
 - Metafont/Post & PostScript₁₉₉₇
 - à la Mondrian₂₀₁₀
 - 8 March₂₀₁₁
 - π -decimals₂₀₁₁
 - Alice tale and the mouse tail₂₀₁₁
 - Pythagoras Trees₂₀₁₂
 - 3D data, emulation₁₉₉₅₋₂₀₀₉
- all fun, but ... serious undertone

If only you'll remember

If only you'll remember

- let T_EX insert mark-up**

If only you'll remember

- let T_EX insert mark-up
 - FIFO paradigm
- systematic coding T_EX
systematic coding PostScript

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- 3D emulation via projection

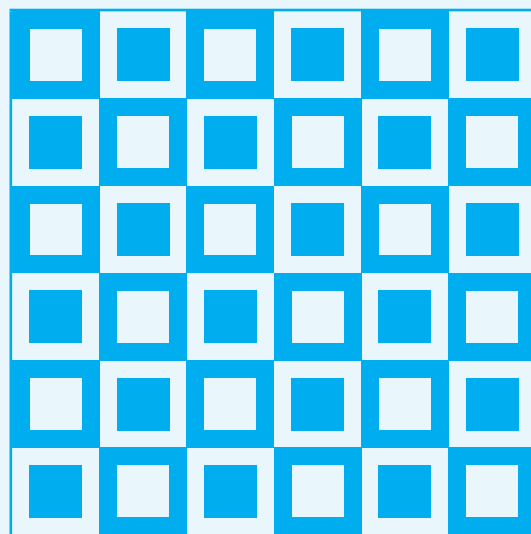
If only you'll remember

- let T_EX insert mark-up
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*** Font for Free_{DL} & MetaFun_{HH}***

If only you'll remember

- let $\text{T}_{\text{E}}\text{X}$ insert mark-up
 - FIFO paradigm
systematic coding $\text{T}_{\text{E}}\text{X}$
systematic coding PostScript
 - use implicit paths in PS
 - trees, flowcharts in PS
 - 3D emulation via projection
- *** Font for Free_{DL} & MetaFun_{HH}***



I'll be happy

Bridge & LaTeX₁₉₉₀

Data

```
\beginbridge%loads bridge nacros  
\def\LFTINF{Puzzle}  
\def\RGTINF{\vtop{\hbox{6NT}  
        \hbox{by East}}}
```

```
\endbridge
```

Data

```
\beginbridge%loads bridge nacros
\def\LFTINF{Puzzle}
\def\RGTINF{\vtop{\hbox{6NT}
\hbox{by East}}}}

\Ns={KQ76}
\Nh={J98}
\Nd={J942}
\Nc={65}

\Ws={AJ3}          \Es={T9}
\Wh={K653}         \Eh={A2}
\Wd={AK3}          \Ed={T5}
\Wc={AQT}          \Ec={KJ9xxxx}

\Ss={8542}
\Sh={QT74}
\Sd={Q876}
\Sc={2}

\endbridge
```

Data

```
\beginbridge%loads bridge nacros
\def\LFTINF{Puzzle}
\def\RGTINF{\vtop{\hbox{6NT}
                \hbox{by East}}}}

\Ns={KQ76}
\Nh={J98}
\Nd={J942}
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\Ws={AJ3}           \Es={T9}
\Wh={K653}          \Eh={A2}
\Wd={AK3}           \Ed={T5}
\Wc={AQT}           \Ec={KJ9xxxx}

\Ss={8542}
\Sh={QT74}
\Sd={Q876}
\Sc={2}

\showgame
\endbridge
```

Result

Puzzle

♠ AJ3
♥ K653
♦ AK3
♣ AQT

♠ KQ76
♥ J98
♦ J942
♣ 65

	N	
W		E
	S	

♠ 8542
♥ QT74
♦ Q876
♣ 2

6NT
by East

♠ T9
♥ A2
♦ T5
♣ KJ9xxxx

Play of cards

Trick					NS	EW
1	♥ 4!	♥ K	♥ 8	♥ 2	—	1
2	♣ A	♣ 5	♣ x	♣ 2	—	2
3	♣ Q	♣ 6	♣ x	♠ 2	—	3
4	♣ T	♥ 9	♣ K	♠ 4	—	4
5	♣ J	♠ 5	♠ 3	♠ 6	—	5
6	♣ 9	♠ 8	♥ 5	♠ 7	—	6
7	♣ x	♦ 6	♠ J	♦ 2	—	7

Intermezzo

Puzzle

♠ KQ
♥ J
♦ J94
♣ —

NS squeezed on
♣ continuation?

♠ A
♥ 63
♦ AK3
♣ —



♠ T9
♥ A
♦ T5
♣ (X)

♠ —
♥ QT7
♦ Q87
♣ —

Continuation

8 ♣ x ♥ 7 ♥ 6 ♥ J — 8
et cetera

Verjaarsdrive



Za 19 dec
13.30

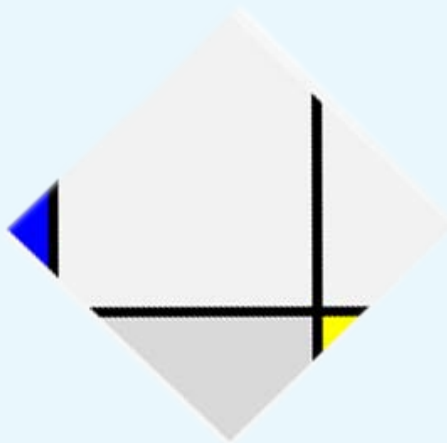
Hunzeweg 57
Garnwerd

Verjaarsdrive



Za 19 dec
13.30

Hunzeweg 57
Garnwerd



Bridge & Computer

How can we use computers to help us understand the behavior of bridges?

How can we use bridges to help us understand the behavior of computers?

How can we use bridges and computers to help us understand the behavior of the world?

How can we use bridges and computers to help us understand the behavior of the future?

How can we use bridges and computers to help us understand the behavior of the past?

How can we use bridges and computers to help us understand the behavior of the present?

How can we use bridges and computers to help us understand the behavior of the future?

How can we use bridges and computers to help us understand the behavior of the past?

How can we use bridges and computers to help us understand the behavior of the present?

Bridge & Computer

- System cards
- Guide slips
- Score sheets → bridgemates
- A4 of all plays of match
- Calculating score_{NBB program}
- Computer bridge_{Jack world champion}

Jack5 play

The screenshot displays the Jack5.02 bridge game interface. The top left shows the menu bar (Bestand, Spel, Acties, Jack, Instellingen, Help). The main area shows a hand layout with cards for North (6♠), South (1♣), and Dummy (Z). The Dummy's hand is shown with a green box and a downward arrow pointing to a circle containing 'Z'. The hand layout includes the following cards:

- North: 6♠, 1♣, 10♥, 9♥, 6♥, 4♥, 3♥, 3♥, 3♥, 4♦, 4♦, 4♦
- South: 9♣, 5♣, 5♣, 9♥, 7♥, 5♥, 2♥, 2♥, 9♣, 8♣, 6♣, 6♣, 10♦, 5♦, 5♦, 5♦, 10♦, 5♦, 5♦, 5♦
- Dummy (Z): 8♣, 4♣, 2♣, 2♣, 8♥, 8♥, 10♣, 7♣, 5♣, 5♣, 9♦, 9♦, 8♦, 7♦, 6♦, 6♦, 9♦, 9♦, 9♦, 9♦
- South (bottom): 9♣, 5♣, 5♣, 9♥, 7♥, 5♥, 2♥, 2♥, 9♣, 8♣, 6♣, 6♣, 10♦, 5♦, 5♦, 5♦, 10♦, 5♦, 5♦, 5♦

The score table on the right shows the following data:

	W	N	O	Z
1	♣H	♣B	♣4	♣A
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
NZ 1 slag		OW 0 slagen		

Data integrity, WYSIWYG input
Portable Bridge Notation standard
HTML export

Jack5 survey

Spel 1

N/-

♠ T9872

♥ ABT2

♦ 5

♣ HT8

♠ AB54

♥ 743

♦ T843

♣ 53

N

W O

Z

♠ H63

♥ 9

♦ AHV976

♣ 642

♠ V

♥ HV865

♦ B2

♣ AVB97

West

Jack

pas

pas

Noord

Jack

pas

4♥

Oost

Jack

1♦

pas

Zuid

Kisa

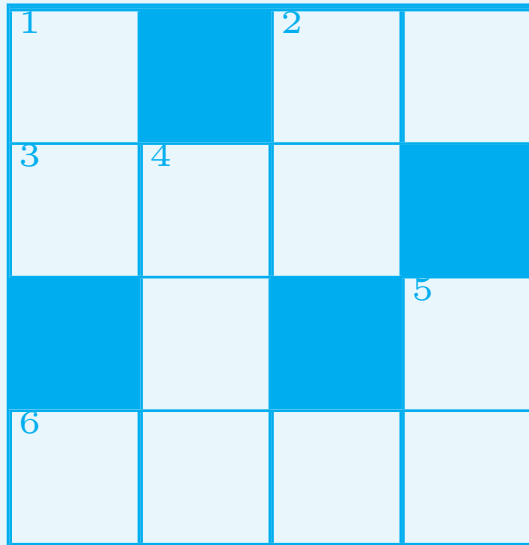
2SA

pas

W	N	O	Z
♦3	♦5	♦A	♦2
♦8	♥2	♦H	♦B
♥4	♥T	♥9	♥5
♥3	♥B	♦9	♥6
♥7	♥A	♦7	♥8
♠5	♠2	♠H	♠V
♣3	♣8	♣4	♣7

Jack plays bridge
typesetting an aside

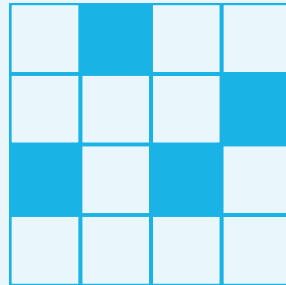
Crossword in T_EX



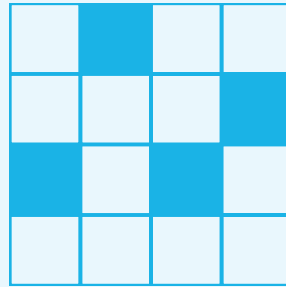
```
\begincrosswords
\pdata
P*On
DEk*
*n*S
Edit
\edata
\crw
<Clues>
\sol
\endcrosswords
```



Crossword in PostScript₂₀₁₂



Crossword in PostScript₂₀₁₂



```
/x{0 0 20 20 rectstroke 20 0 translate} def
/X{0 0 20 20 rectstroke 0 0 20 20 rectfill
  20 0 translate} def
/crl{-80 -20 translate 0 0 moveto} def
x X x x crl
x x x X crl
X x X x crl
x x x x crl
```

X denotes black and x denotes white

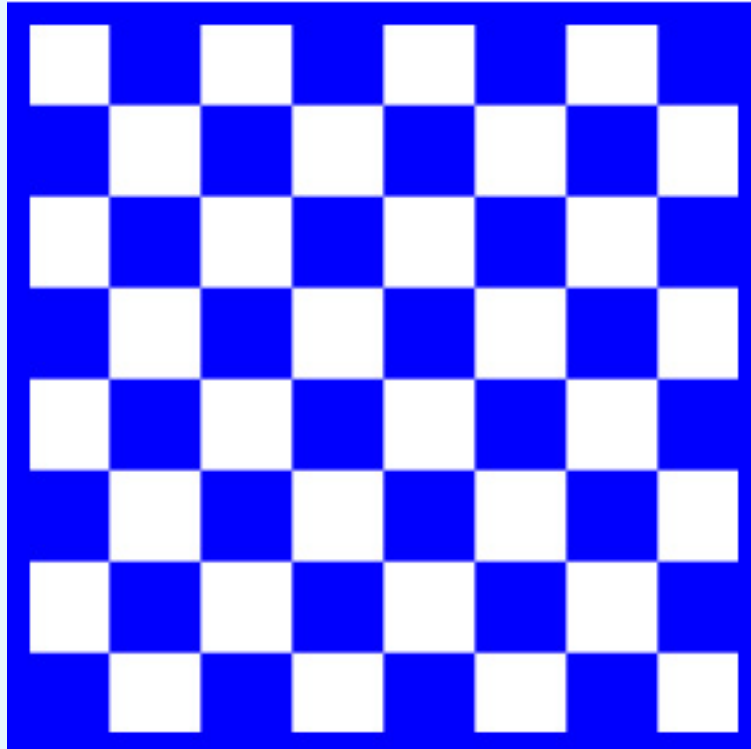
Recreational use_{PWT}

```
\begincrosswords
\obeyspaces\let =\space\csize=3ex
\bdata
8 * * * *
7* * * *
6 * * * *
5* * * *
4 * * * *
3* * * *
2 * * * *
1* * * *
*ABCDEFGH
\edata
\sol
\endcrosswords
```

Recreational use_{PWT}

8								
7								
6								
5								
4								
3								
2								
1								
	A	B	C	D	E	F	G	H

Recreational use_{PS colorimage}



```
%!PS Chessboard by image(mask) cglApril2010
%%BoundingBox: 0 0 620 790
216 216 scale
%8 8 1 [8 0 0 8 0 0] {<aa55>} image %B&W
blue 8 8 1 [8 0 0 8 0 0] {<aa55>} imagemask
%frame
0 0 moveto 1 0 lineto 1 1 lineto 0 1 lineto
closepath
2 72 div setlinewidth blue stroke showpage
```

Recreational Games & T_EX

- T_EX&Chess_{PT} 1990
- T_EX&Go_{HK} 1990
- T_EX&Draughts?
- T_EX&Backgammon?
- T_EX&Sudoku?

Recreational Games & T_EX

- T_EX&Chess_{PT} 1990
- T_EX&Go_{HK} 1990
- T_EX&Draughts?
- T_EX&Backgammon?
- T_EX&Sudoku?

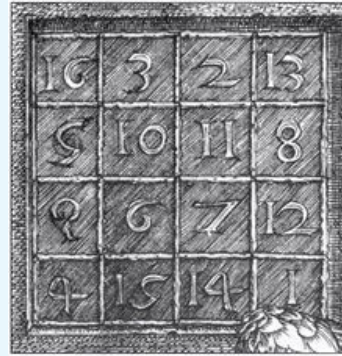
but ...

Professional Playing programs

do typesetting as an aside

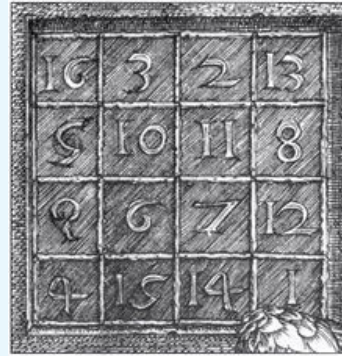
Magic square_{PWT}

16	3	2	13
5	10	11	8
9	6	7	12
4	15	14	1



Magic square_{PWT}

16	3	2	13
5	10	11	8
9	6	7	12
4	15	14	1



```
\def\data{16\cs 3\cs 2\cs 13\rs
          5\cs 10\cs 11\cs 8\rs
          9\cs 6\cs 7\cs 12\rs
          4\cs 15\cs 14\cs 1}
\oldstyle\bttable\data
```


Magic square_{PWT}

16	3	2	13
5	10	11	8
9	6	7	12
4	15	14	1



```
\def\data{16\cs 3\cs 2\cs 13\rs
          5\cs 10\cs 11\cs 8\rs
          9\cs 6\cs 7\cs 12\rs
          4\cs 15\cs 14\cs 1}
```

```
\oldstyle\btable\data
```

or simply

```
\oldstyle\halign{\quad\hfil#\hfil
                  &&\quad\hfil#\hfil\cr
16& 3& 2& 13\cr
5& 10& 11& 8\cr
9& 6& 7& 12\cr
4& 15& 14& 1\cr}
```

Magic square construction_{odd order}

- 1 - - 1 - - 1 -
- - - → - - - → 3 - - →
- - - - - 2 - - 2

Magic square construction_{odd order}

- 1 - - 1 - - 1 -
- - - → - - - → 3 - - →
- - - - - 2 - - 2

- 1 - - 1 - - 1 6
3 - - → 3 5 - → 3 5 - →
4 - 2 4 - - 4 - 2

Magic square construction_{odd order}

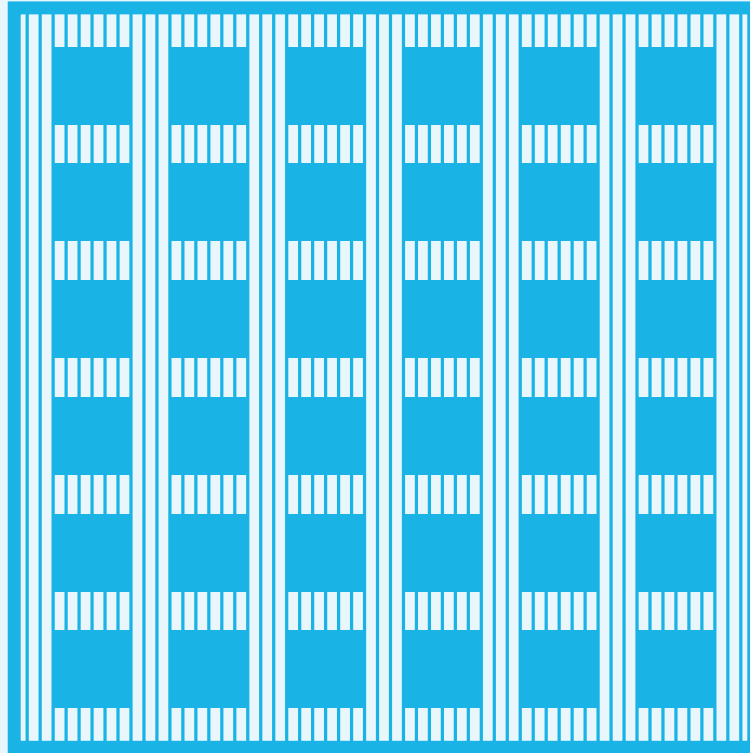
- 1 - - 1 - - 1 -
- - - → - - - → 3 - - →
- - - - - 2 - - 2

- 1 - - 1 - - 1 6
3 - - → 3 5 - → 3 5 - →
4 - 2 4 - - 4 - 2

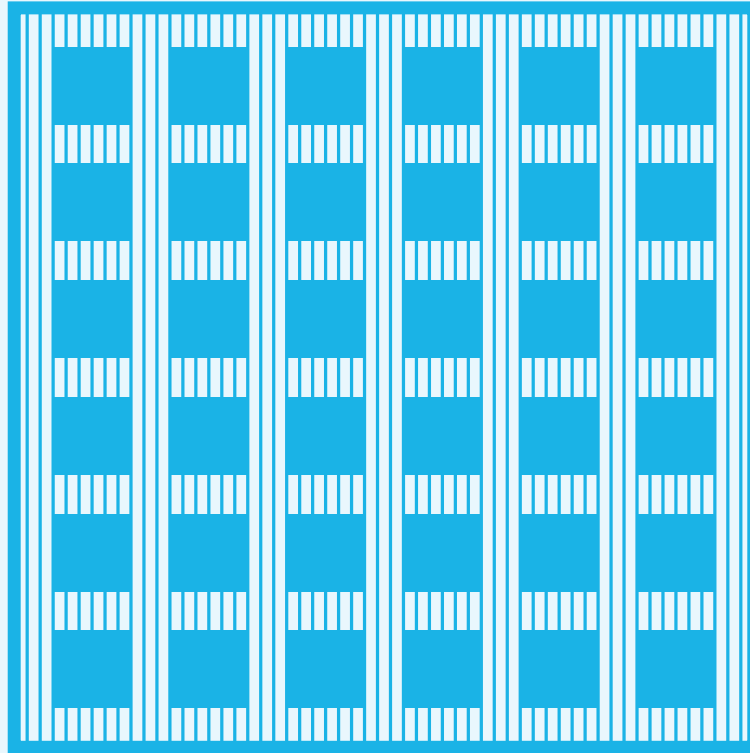
- 1 6 8 1 6 8 1 6
3 5 7 → 3 5 7 → 3 5 7
4 - 2 4 - 2 4 9 2

In PSlib a backtracking code

Soto in MF₁₉₉₅ T_EX₂₀₀₉ PS₂₀₁₂



Soto in PS



```
gsave .25 setlinewidth
57{1 0 translate 0 0 moveto 0 57 lineto}repeat
stroke
grestore
0 0 57 57 rectstroke
3 3 translate
6{gsave
  6{0 0 6 6 rectfill 9 0 translate}repeat
  grestore 0 9 translate}repeat
```

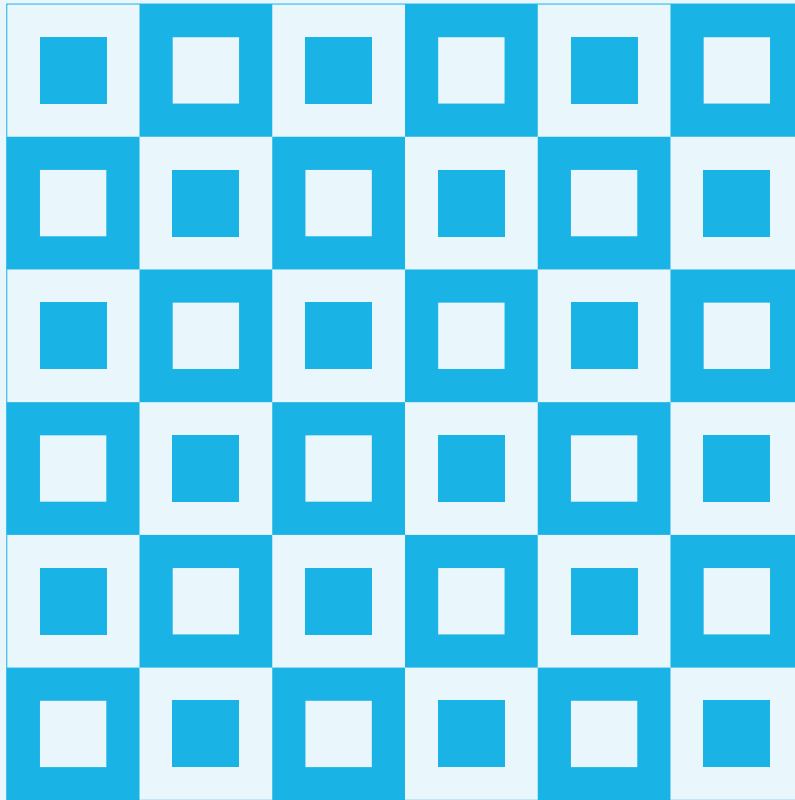
ucache use?

```
/square{ucache  
  0 0 6 6 setbbox  
  0 0 moveto 6 0 lineto 6 6 lineto 0 6 lineto  
  closepath  
}cvlit def
```

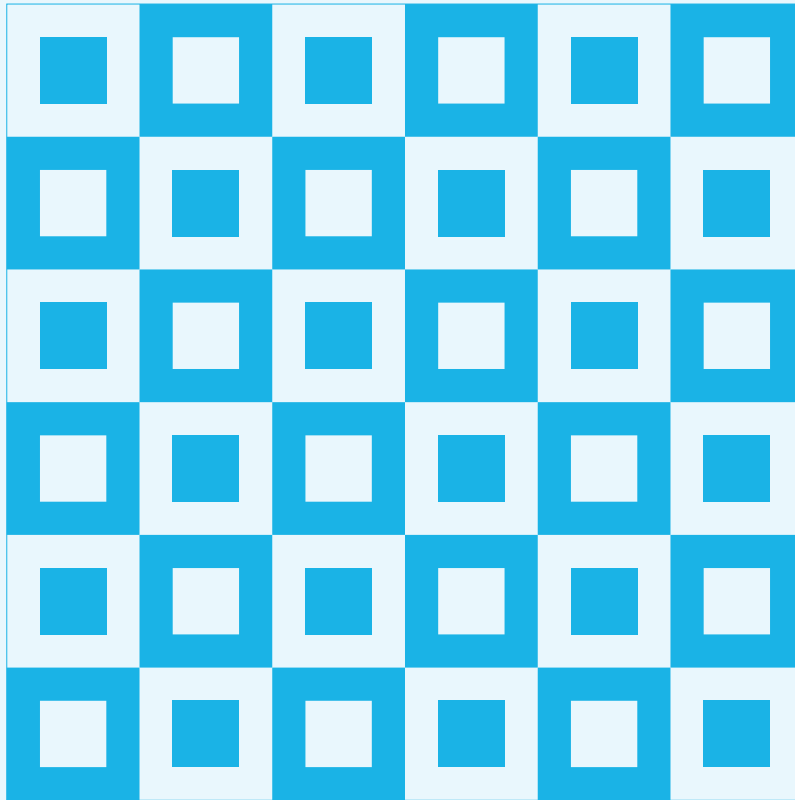
ucache use?

```
/square{ucache
  0 0 6 6 setbbox
  0 0 moveto 6 0 lineto 6 6 lineto 0 6 lineto
  closepath
}cvlit def
...
6{gsave
  6{square ufill 9 0 translate}repeat
  grestore
  0 9 translate}repeat
```


Jiggling squares_{PS2012}



Jiggling squares_{PS2012}



```
3{gsave                                %non-zero winding rule
3{0c Ic fill 20 0 translate
  Ic fill    20 0 translate}repeat
grestore
gsave 0 20 translate
3{Ic fill    20 0 translate
  0c Ic fill 20 0 translate}repeat
grestore 0 40 translate}repeat
```

DEK's most beautiful tables

DEK's most beautiful tables are the tables that are most often used in the most beautiful homes.

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DEK’s most beautiful tables_{PWT}

	'0	'1	'2	'3	'4	'5	'6	'7	
'00x	Γ	Δ	Θ	Λ	Ξ	Π	Σ	Υ	"0x
'01x	Φ	Ψ	Ω	ff	fi	fl	ffi	ffl	
'02x	ı	ı	`	´	˘	˙	˚	˛	"1x
'03x	ˆ	ß	æ	œ	ø	Æ	Œ	Ø	
'04x	-	!	"	#	\$	%	&	'	"2x
'05x	()	*	+	,	-	.	/	
'06x	0	1	2	3	4	5	6	7	"3x
'07x	8	9	:	;	i	=	¿	?	
'10x	@	A	B	C	D	E	F	G	"4x
'11x	H	I	J	K	L	M	N	O	
'12x	P	Q	R	S	T	U	V	W	"5x
'13x	X	Y	Z	[“]	^	·	
'14x	‘	a	b	c	d	e	f	g	"6x
'15x	h	i	j	k	l	m	n	o	
'16x	p	q	r	s	t	u	v	w	"7x
'17x	x	y	z	–	—	”	~	”	
	"8	"9	"A	"B	"C	"D	"E	"F	

DEK's most beautiful tables_{PWT}

	'0	'1	'2	'3	'4	'5	'6	'7	
'00x	Γ	Δ	Θ	Λ	Ξ	Π	Σ	Υ	"0x
'01x	Φ	Ψ	Ω	ff	fi	fl	ffi	ffl	
'02x	ı	ı	`	´	˘	˙	˚	˛	"1x
'03x	ˆ	ß	æ	œ	ø	Æ	Œ	Ø	
'04x	-	!	"	#	\$	%	&	'	"2x
'05x	()	*	+	,	-	.	/	
'06x	0	1	2	3	4	5	6	7	"3x
'07x	8	9	:	;	i	=	¿	?	
'10x	@	A	B	C	D	E	F	G	"4x
'11x	H	I	J	K	L	M	N	O	
'12x	P	Q	R	S	T	U	V	W	"5x
'13x	X	Y	Z	[“]	^	·	
'14x	‘	a	b	c	d	e	f	g	"6x
'15x	h	i	j	k	l	m	n	o	
'16x	p	q	r	s	t	u	v	w	"7x
'17x	x	y	z	—	—	”	~	”	
	"8	"9	"A	"B	"C	"D	"E	"F	

`\input blue.tex`

`\pdfliteral{1 0 0 0 k} \pdfliteral{1 0 0 0 K}`

`\beginchart{\postdisplaypenalty=0\tenrm}`

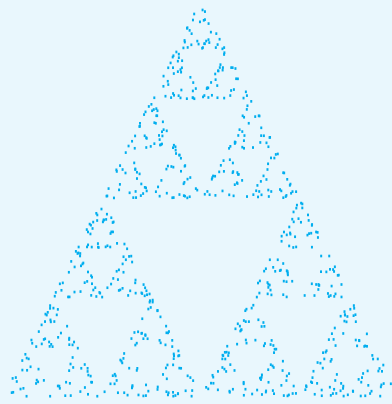
`%or \tenit \tentt ... \tenlmr?`

`\normalchart`

`\endchart`

`\bye`

IFS Hoenig PWT



07 08 34 02
05 05 04 08

28 30 07 36
30 05 08 02

08 08 34 08
08 30 04 04

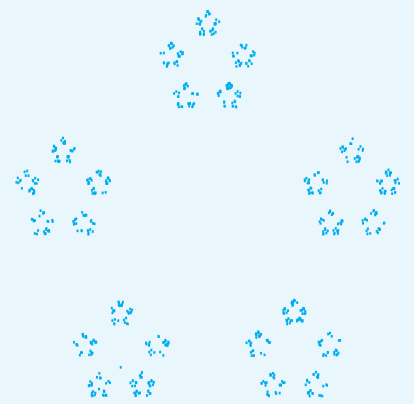
08 08 34 04
04 02 05 08

05 02 09 08
07 08 02 09

02 34 08 08
04 08 08 07

08 08 03 08
09 08 02 08

07 08 08 04
07 08 08 08



Tough Exercise. TBp.65

Tough Exercise. TBp.65



Tough Exercise. TBp.65



FIFO paradigm

```
\def\fifow#1 {  
  \processw{#1}\fifow}
```

```
\leavevmode\fifow Tough Exercise. \wofif{ }
```

Tough Exercise. TBp.65



FIFO paradigm, termination

```
\def\fifow#1 {\ifx\wofif#1\wofif\fi  
  \processw{#1}\fifow}  
\def\wofif#1\fifow{\fi}
```

```
\leavevmode\fifow Tough Exercise. \wofif{ }
```

Tough Exercise. TBp.65



FIFO paradigm, char scan

```
\def\fifow#1 {\ifx\wofif#1\wofif\fi  
  \processw{#1}\fifow}  
\def\wofif#1\fifow{\fi}  
\def\processw#1{\fifo#1\ofif\ }
```

```
\leavevmode\fifow Tough Exercise. \wofif{ }
```

Tough Exercise. TBp.65



FIFO paradigm, char scan

```
\def\fifow#1 {\ifx\wofif#1\wofif\fi  
  \processw{#1}\fifow}  
\def\wofif#1\fifow{\fi}  
\def\processw#1{\fifo#1\ofif\ }  
\def\fifo#1{\ifx\ofif#1\ofif\fi  
  \process#1\fifo}%  
\def\ofif#1\fifo{\fi}%
```

```
\leavevmode\fifow Tough Exercise. \wofif{ }
```

Tough Exercise. TBp.65



FIFO paradigm, char scan

```
\def\fifow#1 {\ifx\wofif#1\wofif\fi  
  \processw{#1}\fifow}  
\def\wofif#1\fifow{\fi}  
\def\processw#1{\fifo#1\ofif\ }  
\def\fifo#1{\ifx\ofif#1\ofif\fi  
  \process#1\fifo}%  
\def\ofif#1\fifo{\fi}%  
\def\process#1{\boxit#1}%
```

```
\leavevmode\fifow Tough Exercise. \wofif{ }
```

Tough Exercise. TBp.65



FIFO paradigm, char scan

```
\def\fifow#1 {\ifx\wofif#1\wofif\fi
  \processw{#1}\fifow}
\def\wofif#1\fifow{\fi}
\def\processw#1{\fifo#1\ofif\ }
\def\fifo#1{\ifx\ofif#1\ofif\fi
  \process#1\fifo}%
\def\ofif#1\fifo{\fi}%
\def\process#1{\boxit#1}%

\def\boxit#1{\setbox0=\hbox{#1}%
  \hbox{\lower\dp0\vbox{\hrule
    \hbox{\vrule\phantom#1\vrule}%
    \hrule}}}
```

\leavevmode\fifow Tough Exercise. \wofif{ }

Tough Exercise.

Courier PS

Tough Exercise.

Courier PS

□□□□ □□□□□□□□.

```
/Courier 40 selectfont /str ( ) def
```

```
(Tough Exercise.)
```

```
{
```

```
}forall
```


Tough Exercise.

Courier PS

□□□□ □□□□□□□□.

```
/Courier 40 selectfont /str ( ) def
```

```
(Tough Exercise.)
```

```
{str exch 0 exch put newpath 0 0 moveto  
%a paradigm
```

```
}forall
```

Tough Exercise.

Courier PS

□□□□ □□□□□□□□.

```
/Courier 40 selectfont /str ( ) def
```

```
(Tough Exercise.)
```

```
{str exch 0 exch put newpath 0 0 moveto  
str false charpath flattenpath
```

```
}forall
```

Tough Exercise. Courier PS

□□□□ □□□□□□□.

```
/Courier 40 selectfont /str ( ) def
```

```
(Tough Exercise.)
```

```
{str exch 0 exch put newpath 0 0 moveto  
str false charpath flattenpath  
pathbbox /ury exch def /urx exch def  
/lly exch def /llx exch def
```

```
}forall
```

Tough Exercise. Courier PS

□□□□ □□□□□□.

```
/Courier 40 selectfont /str ( ) def
```

```
(Tough Exercise.)
```

```
{str exch 0 exch put newpath 0 0 moveto
```

```
str false charpath flattenpath
```

```
pathbbox /ury exch def /urx exch def
```

```
    /lly exch def /llx exch def
```

```
/w urx llx sub def /h ury lly sub def
```

```
}forall
```

Tough Exercise. Courier PS

□□□□ □□□□□□.

```
/Courier 40 selectfont /str ( ) def
```

```
(Tough Exercise.)
```

```
{str exch 0 exch put newpath 0 0 moveto  
  str false charpath flattenpath  
  pathbbox /ury exch def /urx exch def  
    /lly exch def /llx exch def  
  /w urx llx sub def /h ury lly sub def  
  str ( ) ne {llx lly w h rectstroke} if  
}  
forall
```

Tough Exercise. Courier PS

□□□□ □□□□□□.

```
/Courier 40 selectfont /str ( ) def
```

```
(Tough Exercise.)
```

```
{str exch 0 exch put newpath 0 0 moveto  
  str false charpath flattenpath  
  pathbbox /ury exch def /urx exch def  
    /lly exch def /llx exch def  
  /w urx llx sub def /h ury lly sub def  
  str ( ) ne {llx lly w h rectstroke} if  
  str stringwidth translate  
}forall
```

Boxed text MetaFun

As you may know, T_EX's ambassador is a lion, while METAFONT is represented by a lioness. It is still unclear if they have a relationship, but if so, and if a baby is born, may it enjoy **MetaFun**.

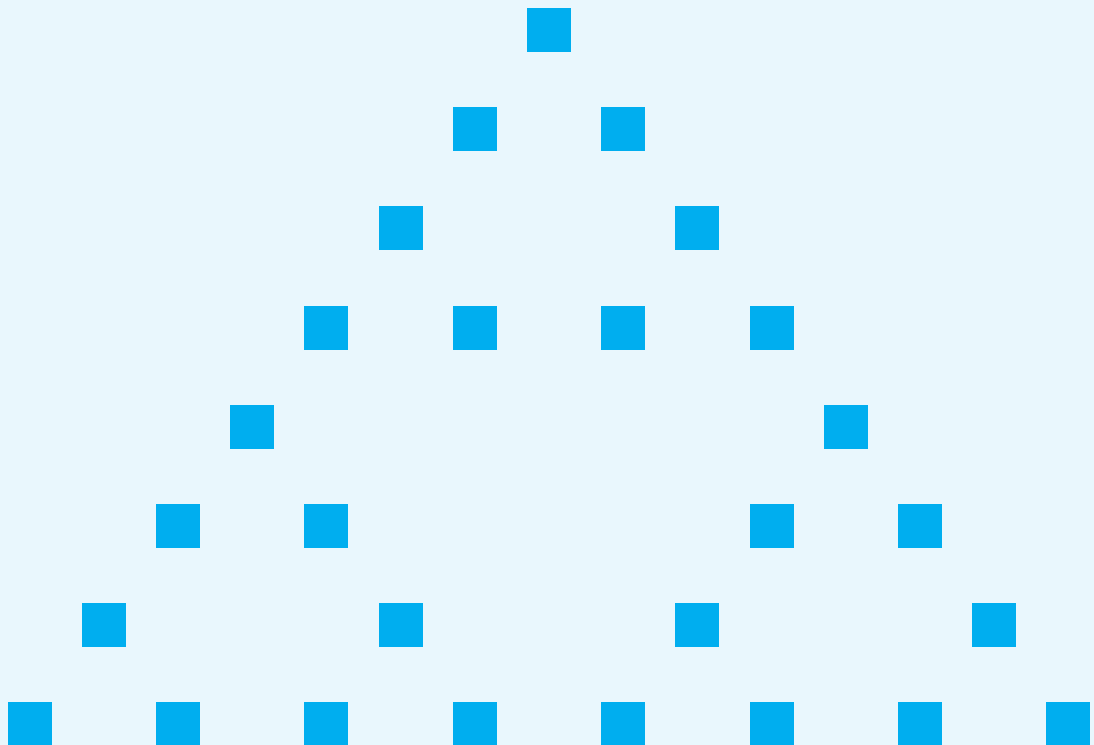
Pascal Triangle PWT₁₉₉₅

Pascal Triangle PWT₁₉₉₅

				1					
			1		1				
		1		2		1			
	1		3		3		1		
	1	4		6		4		1	
	1	5	10		10	5		1	
	1	6	15	20		15	6		1
1	7	21	35	35	21	7		1	

Pascal Triangle PWT₁₉₉₅

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	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	----



Pascal Triangle: entrees know

```
$$\displaylines{1\cr
               1 \quad 1\cr
               \dots\cr
               1 \quad 9 \dots 9 \quad 1\cr}$$
```

A trifle, but ... unknown entrees?

Pascal Triangle: Contest

FIFO paradigm

```
\newcount\n \newcount\rcnt \newcount\ccnt
\newcount\tableentry \newcount\prev
%
\def\pascal#1{\n#1 \def\0{1}
  \ccnt1 \loop\expandafter\xdef\csize\the\ccnt\endcsize{0}
  \ifnum\ccnt<\n \advance\ccnt1
  \repeat \rcnt0 \ccnt0 \displaylines{\rows}}
```

Pascal Triangle: Contest

FIFO paradigm

```
\newcount\n \newcount\rcnt \newcount\ccnt
\newcount\tableentry \newcount\prev
%
\def\pascal#1{\n#1 \def\0{1}
  \ccnt1 \loop\expandafter\xdef\csize\the\ccnt\endcsize{0}
  \ifnum\ccnt<\n \advance\ccnt1
  \repeat \rcnt0 \ccnt0 \displaylines{\rows}}
%
\def\rows{\global\advance\rcnt1
  \ifnum\rcnt>\n \swor\fi \nxtrow\rows}
\def\swor#1\rows{\fi}
%
```

Pascal Triangle: Contest

FIFO paradigm

```
\newcount\n \newcount\rcnt \newcount\ccnt
\newcount\tableentry \newcount\prev
%
\def\pascal#1{\n#1 \def\0{1}
  \ccnt1 \loop\expandafter\xdef\csname\the\ccnt\endcsname{0}
  \ifnum\ccnt<\n \advance\ccnt1
  \repeat \rcnt0 \ccnt0 \displaylines{\rows}}
%
\def\rows{\global\advance\rcnt1
  \ifnum\rcnt>\n \swor\fi \nxtrow\rows}
\def\swor#1\rows{\fi}
%
\def\nxtrow{1 \ccnt1 \prev1
\loop\ifnum\ccnt<\rcnt \tableentry\prev
  \prev\csname\the\ccnt\endcsname \advance\tableentry\prev
  \expandafter\xdef\csname\the\ccnt\endcsname{\the\tableentry}
  \quad\the\tableentry \advance\ccnt1
\repeat\cr}
```

Pascal Triangle: Contest

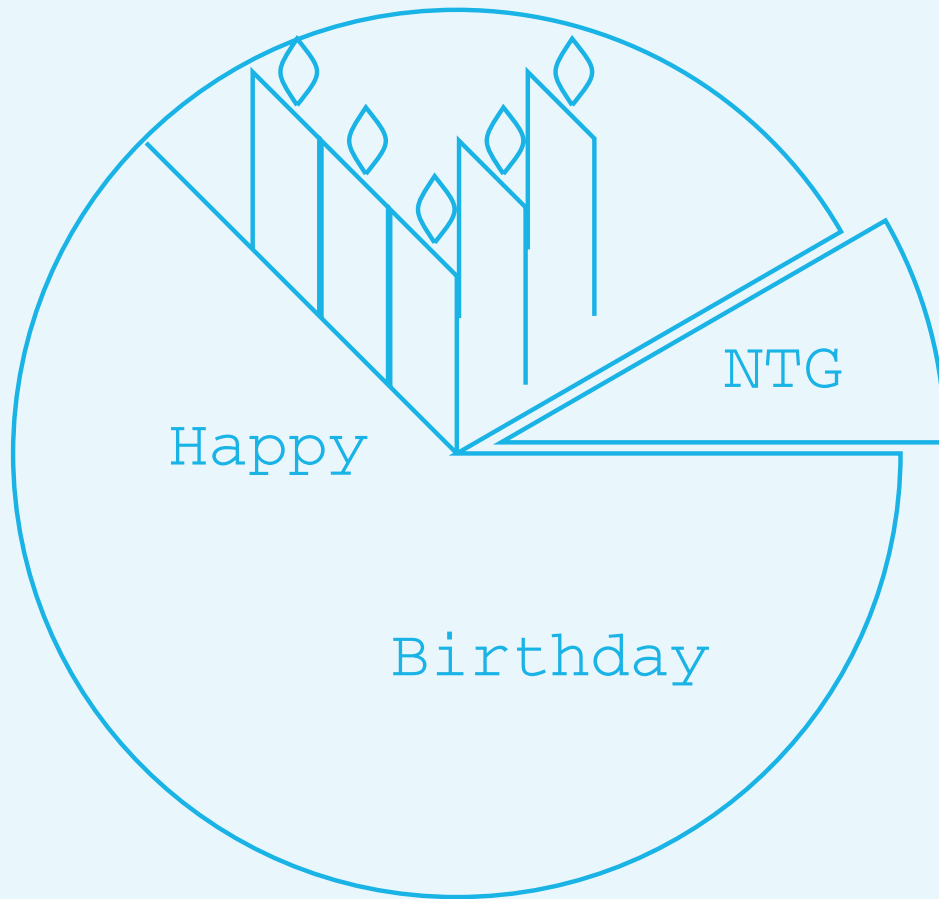
FIFO paradigm

```
\newcount\n \newcount\rcnt \newcount\ccnt
\newcount\tableentry \newcount\prev
%
\def\pascal#1{\n#1 \def\0{1}
  \ccnt1 \loop\expandafter\xdef\csize\the\ccnt\endcsize{0}
  \ifnum\ccnt<\n \advance\ccnt1
  \repeat \rcnt0 \ccnt0 \displaylines{\rows}}
%
\def\rows{\global\advance\rcnt1
  \ifnum\rcnt>\n \swor\fi \nxtrow\rows}
\def\swor#1\rows{\fi}
%
\def\nxtrow{1 \ccnt1 \prev1
\loop\ifnum\ccnt<\rcnt \tableentry\prev
  \prev\csize\the\ccnt\endcsize \advance\tableentry\prev
  \expandafter\xdef\csize\the\ccnt\endcsize{\the\tableentry}
  \quad\the\tableentry \advance\ccnt1
\repeat\cr}
```

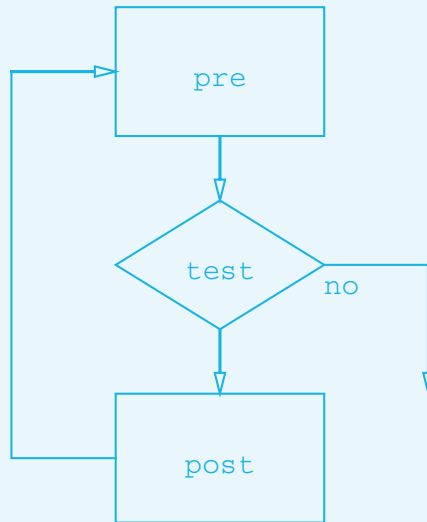
Alternative?

Pict Env \rightarrow gkp \rightarrow PS

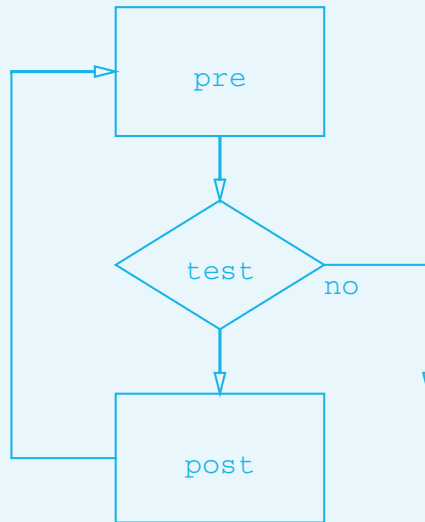
Pict Env \rightarrow **gkp** \rightarrow **PS**



Pict Env \rightarrow **gkp** \rightarrow **MP**₂₀₀₉ \rightarrow **PS**₂₀₁₂

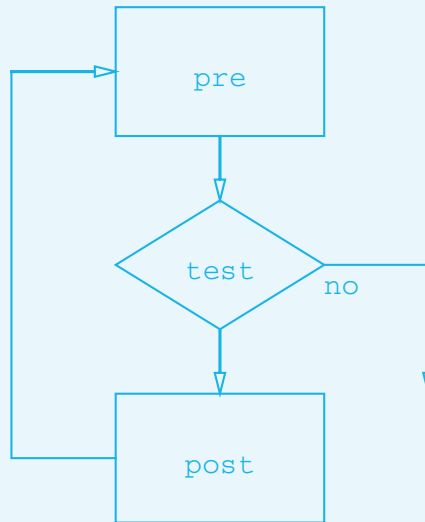


Pict Env → **gkp** → **MP**₂₀₀₉ → **PS**₂₀₁₂



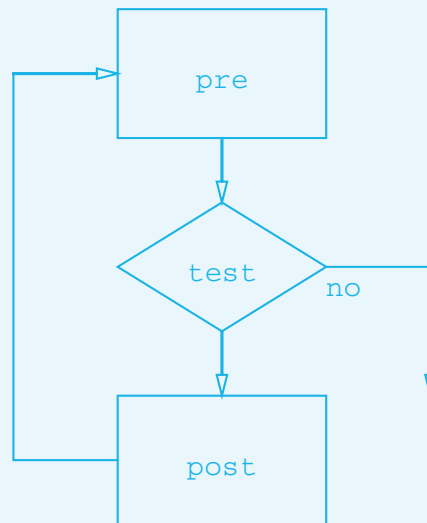
```
/Courier 14 selectfont
/s 50 def /t s .61803 mul def %half width and halh height
%bottom rectangle
-s -t 2s 2t rectstroke
0 -7 moveto (post) centershow
-s 0 moveto -2s 0 lineto 0 6t rlineto
-2s 6t -s 6t .5 5 10 arrow stroke %top-down arrow
```

Pict Env \rightarrow **gkp** \rightarrow **MP**₂₀₀₉ \rightarrow **PS**₂₀₁₂



```
/Courier 14 selectfont
/s 50 def /t s .61803 mul def %half width and halh height
%bottom rectangle
-s -t 2s 2t rectstroke
0 -7 moveto (post) centershow
-s 0 moveto -2s 0 lineto 0 6t rlineto
-2s 6t -s 6t .5 5 10 arrow stroke %top-down arrow
%diamond
0 3t translate
-s 0 moveto 0 t lineto s 0 lineto 0 -t lineto closepath stroke
0 -7 moveto (test) centershow
0 2t 0 t .5 5 10 arrow stroke %top-down arrow
0 -t 0 -2t .5 5 10 arrow stroke %arrow left
s 0 moveto 2s 0 lineto 2s 0 2s -2t .5 5 10 arrow stroke
s -14 moveto (no) show
```

Pict Env \rightarrow **gkp** \rightarrow **MP**₂₀₀₉ \rightarrow **PS**₂₀₁₂



```

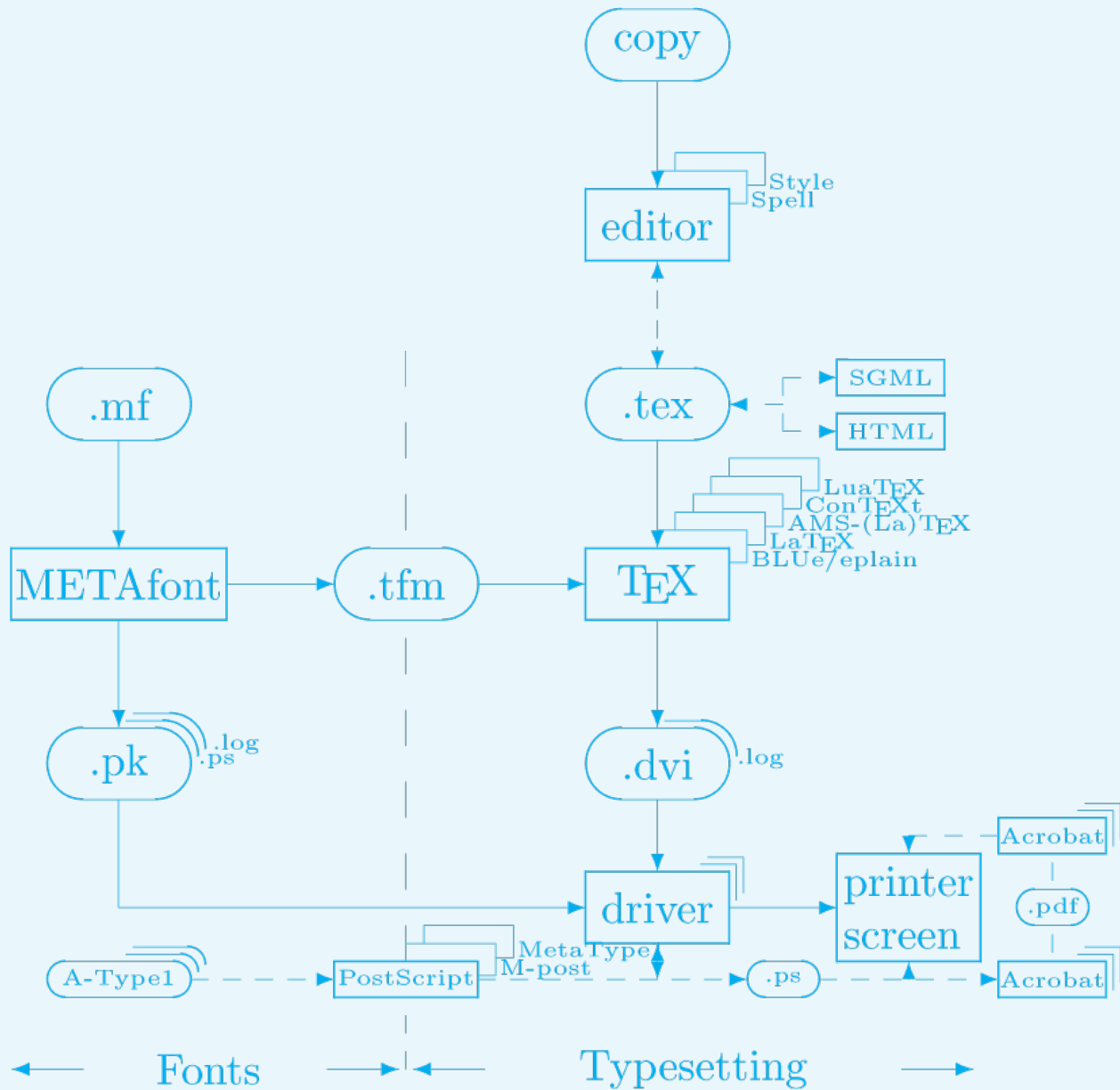
/Courier 14 selectfont
/s 50 def /t s .61803 mul def %half width and halh height
%bottom rectangle
-s -t 2s 2t rectstroke
0 -7 moveto (post) centershow
-s 0 moveto -2s 0 lineto 0 6t rlineto
-2s 6t -s 6t .5 5 10 arrow stroke %top-down arrow
%diamond
0 3t translate
-s 0 moveto 0 t lineto s 0 lineto 0 -t lineto closepath stroke
0 -7 moveto (test) centershow
0 2t 0 t .5 5 10 arrow stroke %top-down arrow
0 -t 0 -2t .5 5 10 arrow stroke %arrow left
s 0 moveto 2s 0 lineto 2s 0 2s -2t .5 5 10 arrow stroke
s -14 moveto (no) show
%top rectangle
0 3t translate -s -t 2s 2t rectstroke
0 -7 moveto (pre) centershow
  
```

My most complex flowchart

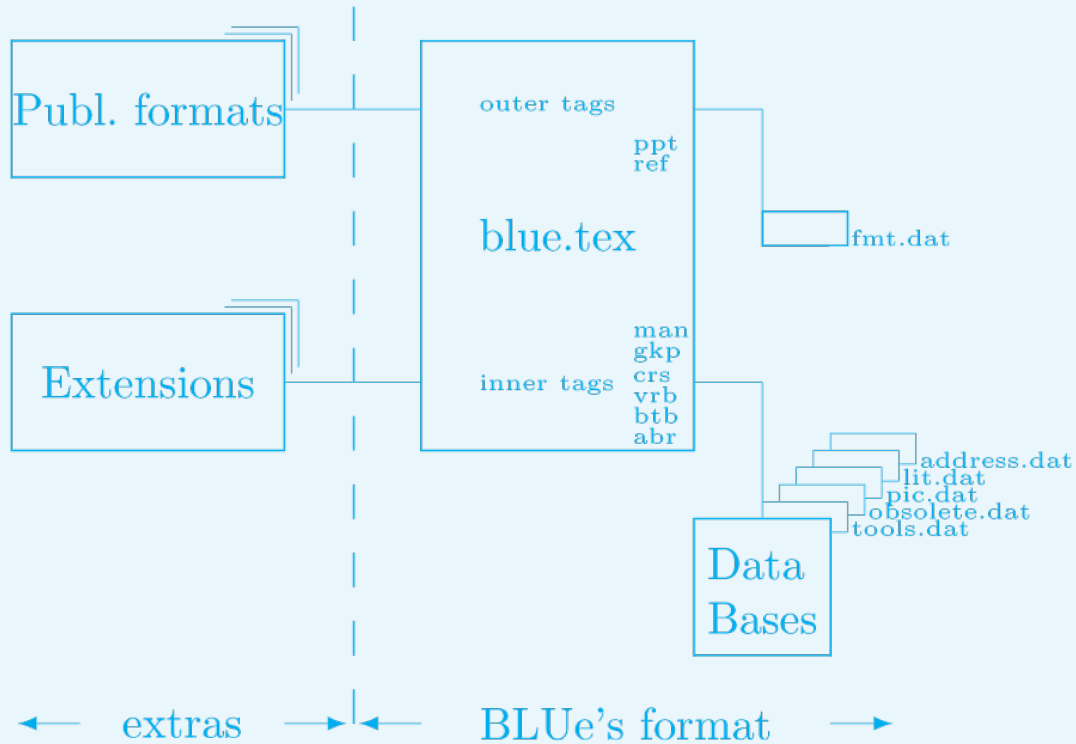
1995 2012

My most complex flowchart

1995 2012



BLUe's system₁₉₉₅



BLUe-kernel + modules

selective on-demand loading `tools.dat` `pic.dat` `lit.dat`

Font Fun T_EX

Font Fun T_EX

T_EX

Font Fun T_EX

T_EX

*N*ederlandstalige
*T*_EX
*G*ebruikersgroep

Font Fun T_EX & A_I

T_EX

*N*ederlandstalige

*T*_EX

NTG

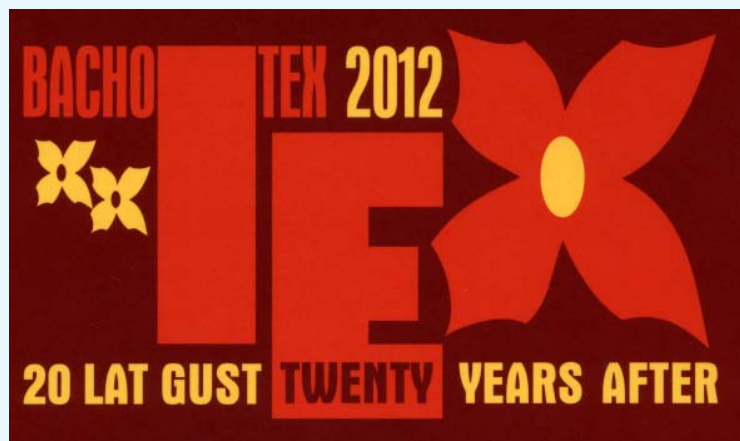
*G*ebruikersgroep

Font Fun T_EX & A_I

T_EX
X_ET_EX
N_ET_EX
Nederl_Endstalige
T_EX
G_Ebruikersgroep

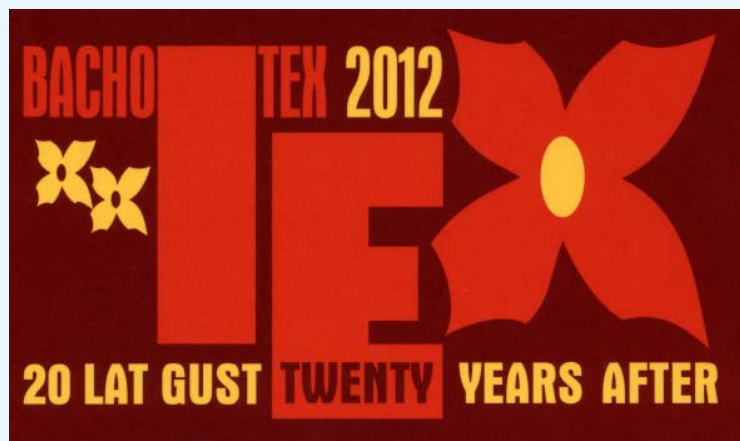
Font Fun T_EX & A_I

T_EX
X_ET_EX
N_ET_EX
Nederl_Endstalige
T_EX
G_Ebruikersgroep



Font Fun T_EX & A_I

T_EX
X_ET_EX
N_TG
Nederlandstalige
T_EX
Gebruikersgroep




Font Fun DaDa



Font Fun Word



Font Fun Word



TeX is too serious

TeX is too serious

How-to dancing text?

How to make text dance?

How to make text dance?

How to make text dance?

How to make text dance?

How to make text dance?

How to make text dance?

How to make text dance?

How to make text dance?

How to make text dance?

How-to dancing text?_{PS}

{

}

(TeX is too serious)

kshow



How-to dancing text?_{PS}

```
22121942 srand  
/Helvetica 30 selectfont 0 0 moveto  
{  
  
}  
(TeX is too serious)  
kshow
```



How-to dancing text?_{PS}

```
22121942 srand  
/Helvetica 30 selectfont 0 0 moveto  
{pop pop unirand rotate  
  nrand nrand nrand setrgbcolor  
}  
(TeX is too serious)  
kshow
```



How-to dancing text?_{PS}

```
22121942 srand
/Helvetica 30 selectfont 0 0 moveto
{pop pop unirand rotate
  nrand nrand nrand setrgbcolor
}
(TeX is too serious)
kshow
```

Note: no font variants

How-to dancing text?_{PS}

```
22121942 srand
/Helvetica 30 selectfont 0 0 moveto
{pop pop unirand rotate
  nrand nrand nrand setrgbcolor
}
(TeX is too serious)
kshow
```

Note: no font variants

FIFO string paradigm variant

```
0 30 moveto /s ( ) def
(TeX is too serious)
{unirand rotate
  nrand nrand nrand setrgbcolor
  s exch 0 exch put s show
}forall
```


Outline font variants

Outline font variants

Outline font variants

```
/Times-Roman 30 selectfont  
/oshow{true charpath stroke}def  
0 0 moveto (Outline font variants) oshow
```

Outline font variants

StarLines

Outline font variants

StarLines

```
/rays{120{0 0 moveto 108 0 lineto  
    1.5 rotate}repeat stroke}def  
.25 setlinewidth  
0 0 moveto (StarLines) true charpath clip  
newpath 100 -15 translate rays
```

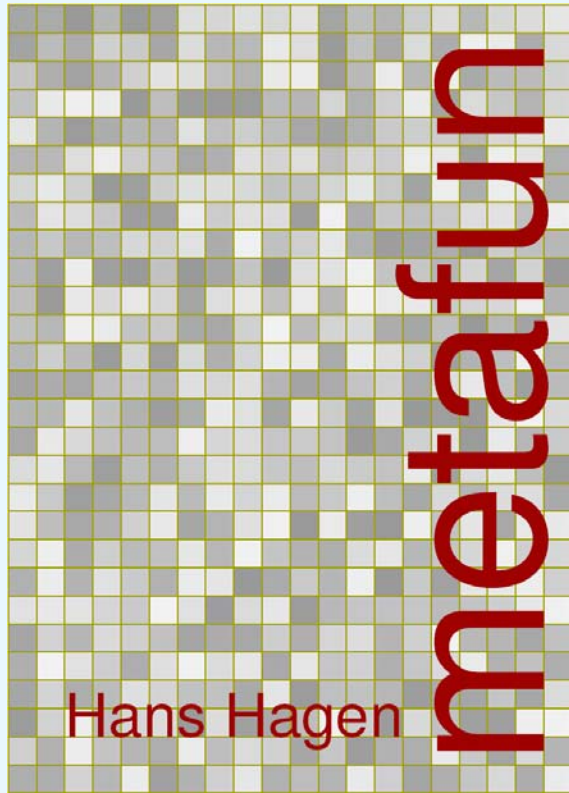


Welcome

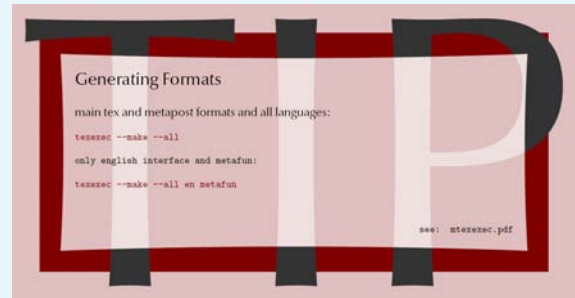
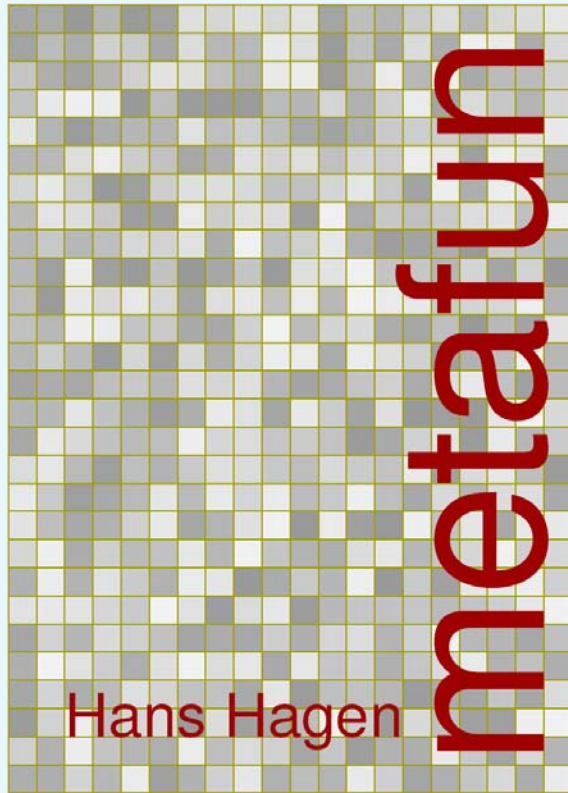
to the world of

MetaFun

MetaFun



MetaFun



MetaFun Table		
System	%	Users
Atari	10.4	
MS-DOS	49.1	
OS/2	9.4	
MacOS	5.7	
UNIX	51.9	
Windows	64.2	

MetaFun Table

System	%	Users
Atari	10.4	
MS-DOS	49.1	
OS/2	9.4	
MacOS	5.7	
UNIX	51.9	
Windows	64.2	

```
/carve{/n exch def 0 0 moveto
1 1 n{dup 5 mod 0 eq
  {-8 0 rmoveto /d 10 nrand sub def
    7 d rlineto 4 d neg rmoveto}
  {/r unirand 3 mul def
%
    r rotate 0 10 rlineto
    r neg rotate
%
    2 -10 rmoveto} ifelse
}bind for
}def
```

Free Font Lancaster₁₉₉₀ PS

Free Font Lancaster₁₉₉₀ PS

Free Font Lancaster₁₉₉₀ PS

Free Font Lancaster₁₉₉₀ PS

Free Font Lancaster₁₉₉₀ PS

Free Font Lancaster₁₉₉₀ PS

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Free Font Lancaster₁₉₉₀ PS

Free Font Lancaster₁₉₉₀ PS

Free Font Lancaster₁₉₉₀ PS

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Free Font Lancaster₁₉₉₀ PS

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Free Font Lancaster₁₉₉₀ PS

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Free Font Lancaster₁₉₉₀ PS

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Free Font Lancaster₁₉₉₀ PS

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Free Font

Free Font Lancaster₁₉₉₀ PS

Free font



Free Font Lancaster₁₉₉₀ PS

Free font

Free font

```
%!PS-Adobe-3.0 EPSF-3.0
```

```
%%Title: Shadow font, Don Lancaster, 1990
```

```
%%BoundingBox: -1 -25 180 30
```

```
%%BeginSetup
```

```
%%EndSetup
```

```
/Palatino-Bold 40 selectfont
```

```
0 0 moveto (Free Font) show
```


Free Font Lancaster₁₉₉₀ PS

Free font

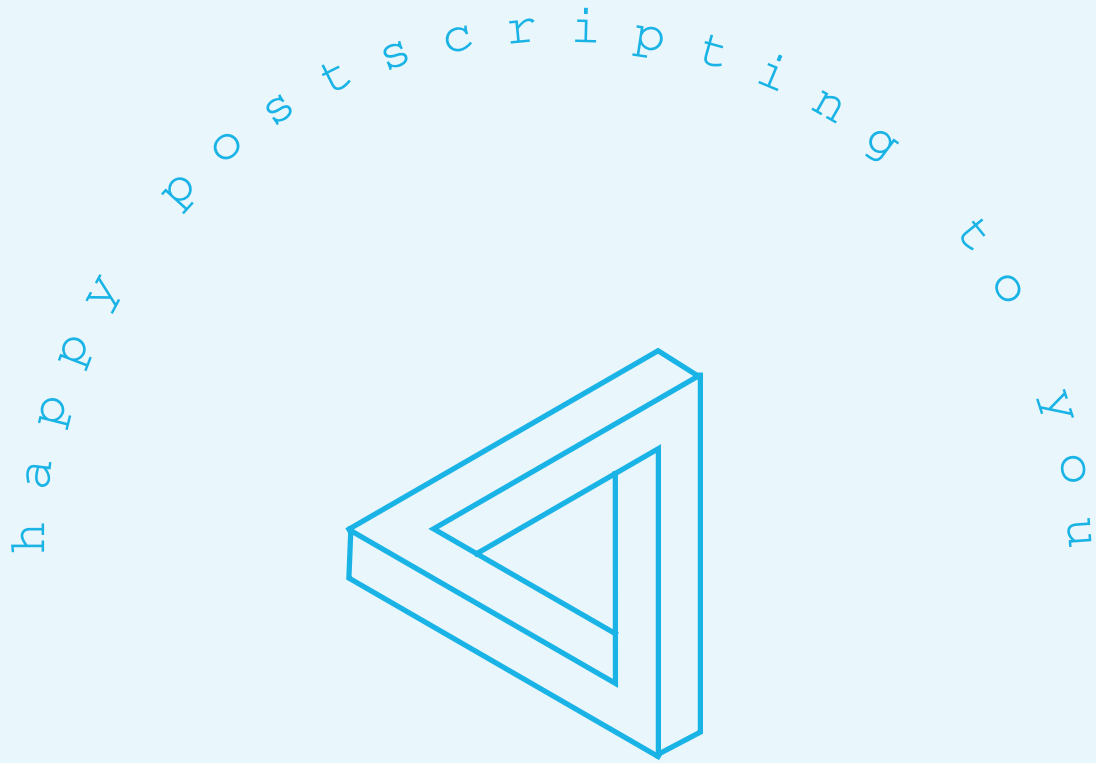
```
%!PS-Adobe-3.0 EPSF-3.0
%%Title: Shadow font, Don Lancaster, 1990
%%BoundingBox: -1 -25 180 30
%%BeginSetup
%%EndSetup
/Palatino-Bold 40 selectfont
0 0 moveto (Free Font) show

/Palatino-Bold findfont
[40 0 32 -30 0 0] makefont setfont
.8 setgray
0 0 moveto (Free Font) show
```

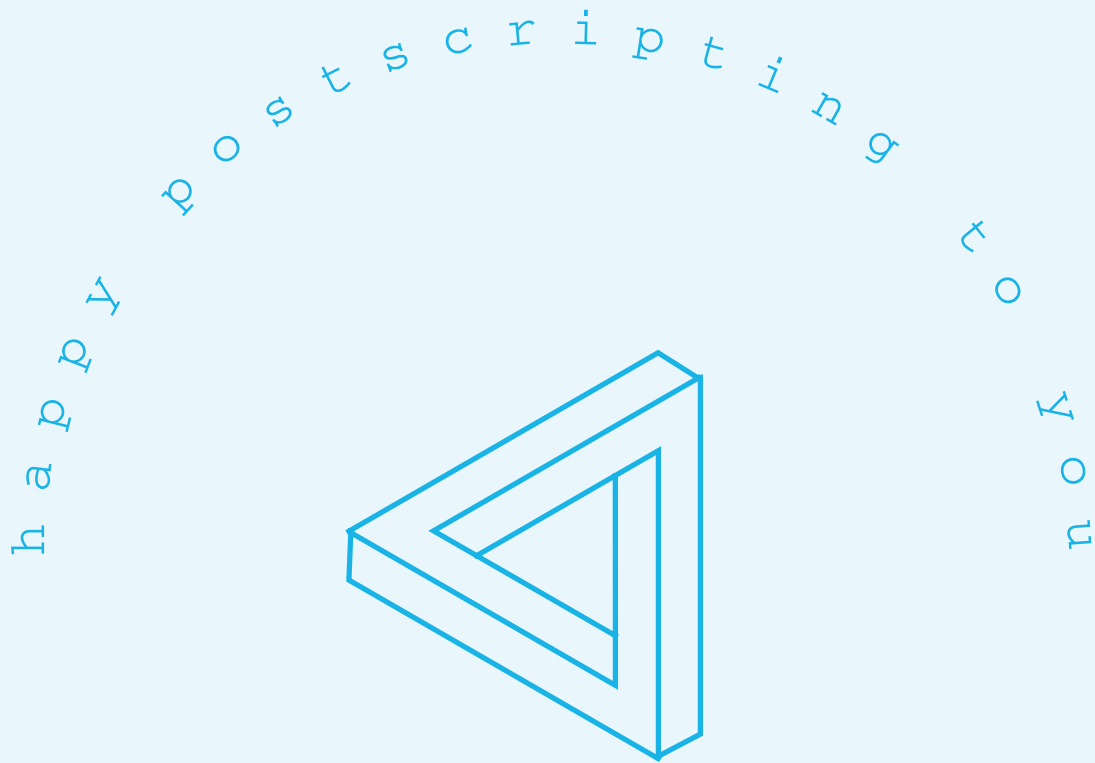
Circular text

Circular text

Circular text

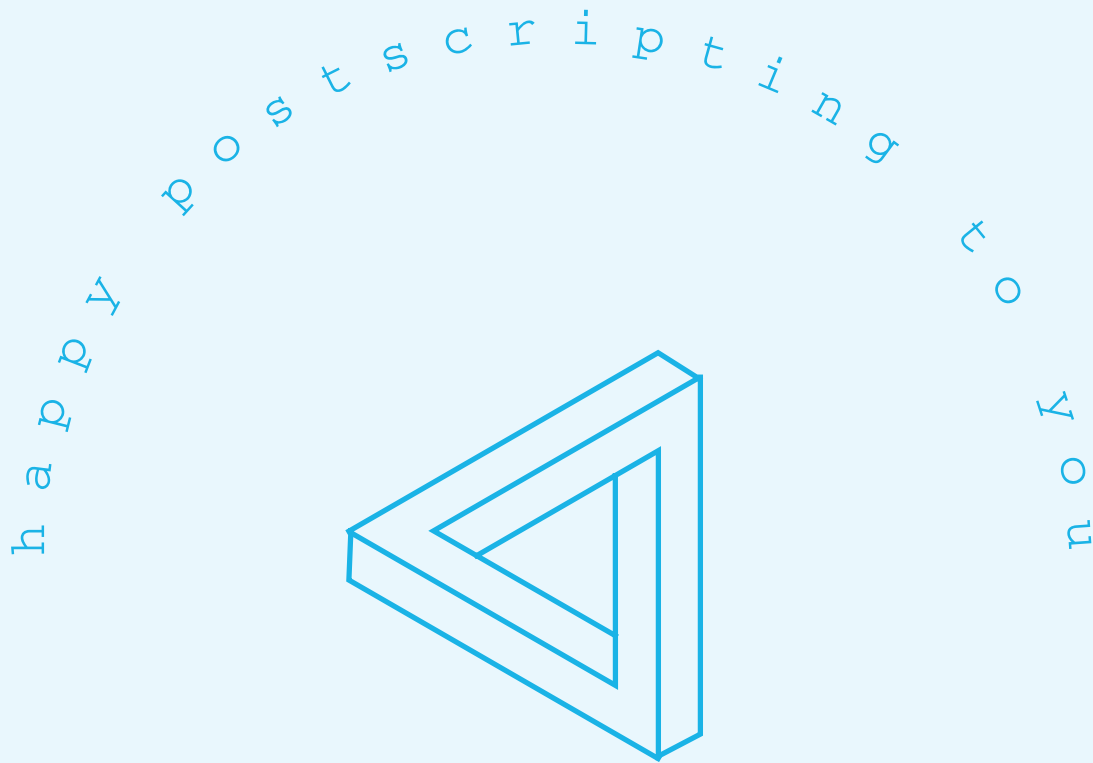


Circular text_{implicit path}



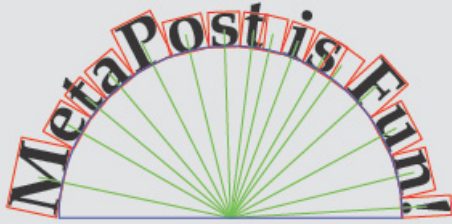
```
/textalongarc{/Courier 10 selectfont
/r 100 def /text (happy postscripting to you) def
%
%
%
%
%
%
%
%
90 rotate %begin orientation
0 r moveto %begin point
{pop pop -7.04 rotate 6 0 rmoveto} text kshow
}def
```

Circular text_{implicit path}



```
/textalongarc{/Courier 10 selectfont
/r 100 def /text (happy postscripting to you) def
3{25 34 moveto%3 rotated copies of broken line
  25 -34 lineto
  17 -38.2 lineto
  17 20 lineto
  -17.6 0 lineto
}repeat stroke
  90 rotate %begin orientation
  0 r moveto %begin point
{pop pop -7.04 rotate 6 0 rmoveto} text kshow
}def
```

Circular text MetaFun_{implicit path}



This was defined as follows. The path variable `tcycle` is predefined to the top half of a fullcircle.

```
\startMPdrawing
  def moved(expr i) =
    shifted (-radius,0) rotatedaround(origin,rot[i])
  enddef ;
  pickup pencircle scaled .5pt ;
  for i=1 upto n :
    draw pic[i] moved(i) ;
    draw boundingbox pic[i] moved(i) withcolor red ;
    draw origin -- center pic[i] moved(i) withcolor green ;
  endfor ;
```

Circular text MetaFun_{implicit path}



This was defined as follows. The path variable `tcycle` is predefined to the top half of a fullcircle.

```
\startMPdrawing
  def moved(expr i) =
    shifted (-radius,0) rotatedaround(origin,rot[i])
  enddef ;
  pickup pencircle scaled .5pt ;
  for i=1 upto n :
    draw pic[i] moved(i) ;
    draw boundingbox pic[i] moved(i) withcolor red ;
    draw origin -- center pic[i] moved(i) withcolor green ;
  endfor ;
```

Less flexible? No kerning?

Inside Circular text

implicit path

The New York Philharmonic Orchestra

Inside Circular text_{implicit path}

The New York Philharmonic Orchestra

```
%!PS-Adobe-3.0 EPSF-3.0
```

```
...
```

```
.1 .7 .9 setrgbcolor
```

```
/AvantGarde-Demi findfont
```

```
[-20 0 0 -20 0 0] makefont setfont
```

```
0 112 rotate 0 240 moveto
```

```
{pop pop 4.04 rotate -1 0 rmoveto}
```

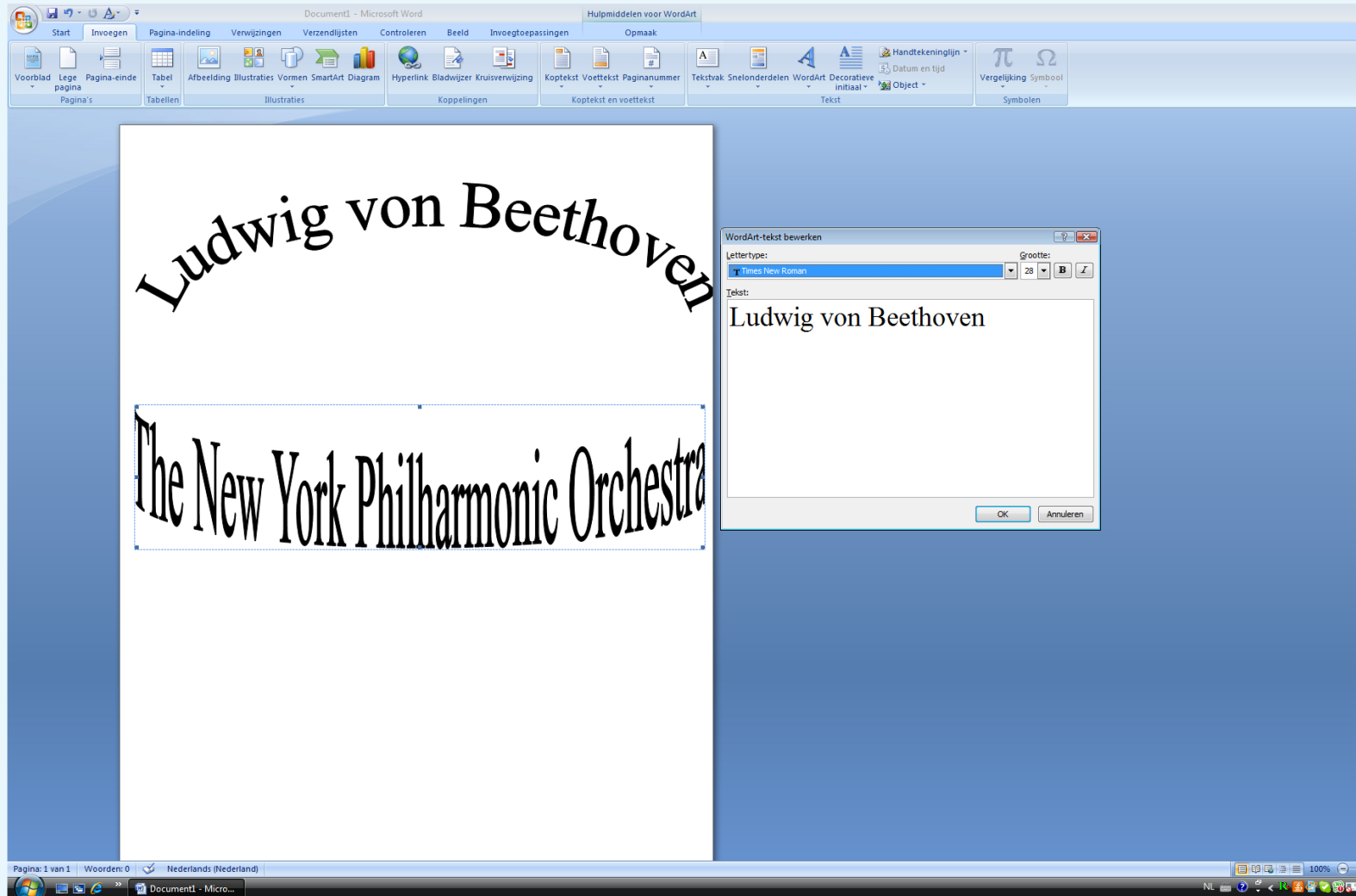
```
(The New York Philharmonic Orchestra)
```

```
kshow
```

Professional Circular TextPhotoshop



Professional Circular Text^{MS-Word}



CD-DVD labels Bluebook

CD-DVD labels Bluebook



CD-DVD labels Bluebook



insidecircletext

outsidecircletextAdobe bluebook

CD-DVD labels Bluebook



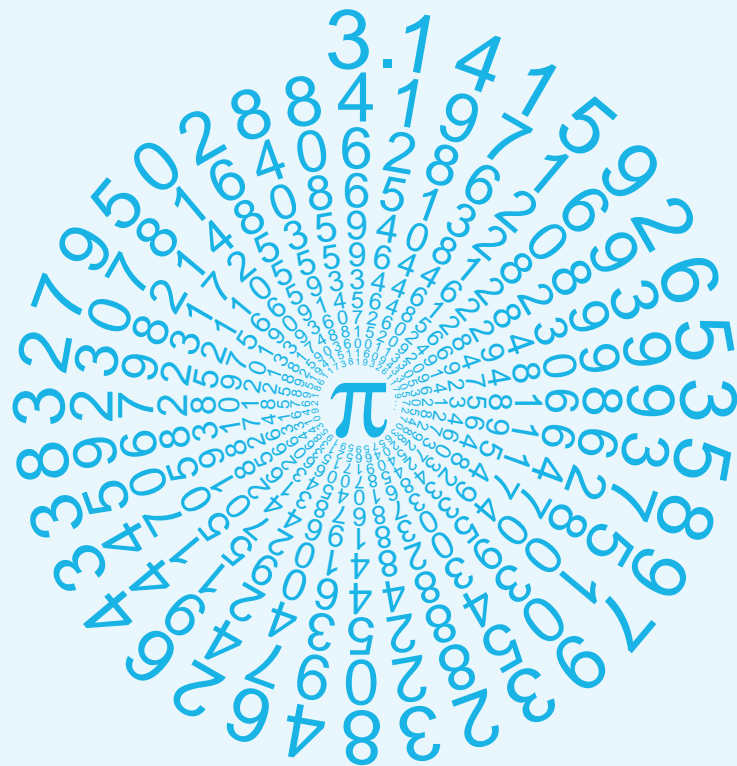
insidecircletext outsidecircletext Adobe bluebook

redundant, but more accurate and easier in use

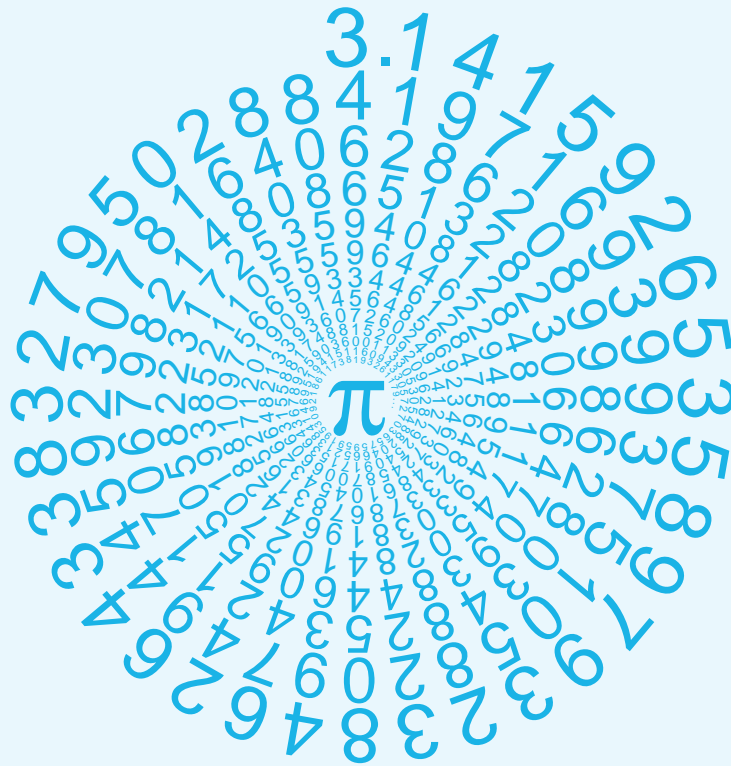
background picture .jpg→.eps

π -decimals

π -decimals



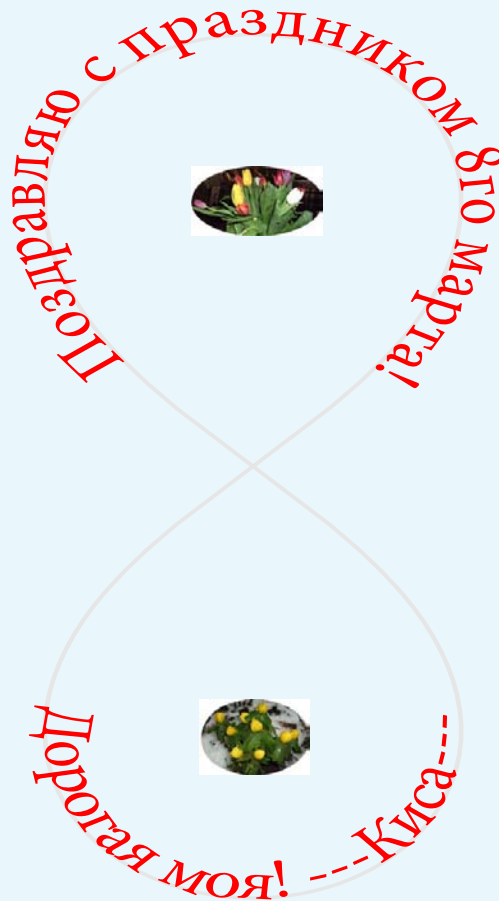
π -decimals implicit path



```
%!PS-Adobe-3.0 EPSF-3.0
%%Title: Pi-decimals along a Spiral, cgl 2010/2012
%%BoundingBox: -80 -100 100 90
%%BeginSetup
%%EndSetup
/Symbol 26 selectfont 1 -18 moveto (p) show
/Helvetica 20 selectfont
0 70 moveto (3) show 1 0 rmoveto (.) show -2 0 rmoveto
-10 rotate .995 dup scale
{pop pop -10 rotate 3 0 rmoveto .995 dup scale}
(141592653589793238462643383279502884197169399375105820974944\
592307816406286208998628034825342117067982148086513282306647\
093844609550582231725359408128481117450284102701938521105559\
644622948954930381964428810975665933446128475648233786783165\
27120190914564856692346034861045432664821339360726024914...)
kshow
```

8 March

8 March



pathtext Adobe Bluebook

Cyrillic in PS

pictures .jpg→.eps

Alice's tale & the Mouse tail

How can we find the right answer to the question?

How can we find the right answer to the question?

How can we find the right answer to the question?

How can we find the right answer to the question?

How can we find the right answer to the question?

How can we find the right answer to the question?

How can we find the right answer to the question?

How can we find the right answer to the question?

How can we find the right answer to the question?

How can we find the right answer to the question?

How can we find the right answer to the question?

Alice's tale & the Mouse tail

Fury said to
a mouse, That
 he met
 in the
 house,
 'Let us
 both go
 to law:
I will
prosecute
you.
Come, I'll
take no
denial;
We must
 have a
 trial:
 For
 really
 this
 morning
 I 've
 nothing
 to do.'

Said the
mouse to
the cur,
'Such a
trial,
dear sir,
With no
jury or
judge,
would be
wasting
our breath.'
'I'll be
judge
'I'll be
jury,'
Said
cunning
old Fury:
'I'll try
the whole
cause,
and
condemn
you
to
death.'

Alice's tale & the Mouse tail

Fury said to
a mouse, That
he met
in the
house,
'Let us
both go
to law:
I will
prosecute
you.
Come, I'll
take no
denial;
We must
have a
trial:
For
really
this
morning
I 've
nothing
to do.'
Said the
mouse to
the cur,
'Such a
trial,
dear sir,
With no
jury or
judge,
would be
wasting
our breath.'
'I'll be
judge
'I'll be
jury,'
Said
cunning
old Fury:
'I'll try
the whole
cause,
and
condemn
you
to
death.'

```
%!PS-Adobe-3.0 EPSF-3.0
/Courier 10 selectfont /LM 10 def
/crlf{.995 dup scale currentpoint 10
LM exch moveto } def
LM 100 moveto
%
[(Fury said to)
(a mouse, That)
(he met)
(in the )
(house,)
'Let us)
(both go)
...
('Such a)
(trial,)
(dear sir,)
(With no)
(jury or)
(judge,)
(would be)
(wasting)
(our breath.')}
('I'll be)
(judge)
('I'll be)
(jury,')
(Said)
(cunning)
(old Fury:)
('I'll try)
(the whole)
conde
y
]{show crlf}forall
```

Alice's tale & the Mouse tail

T_EX: `\obeyspaces\obeylines`

Alice's tale & the Mouse tail

TEX: `\obeyspaces\obeylines`

TEX: `\beginverbatim`

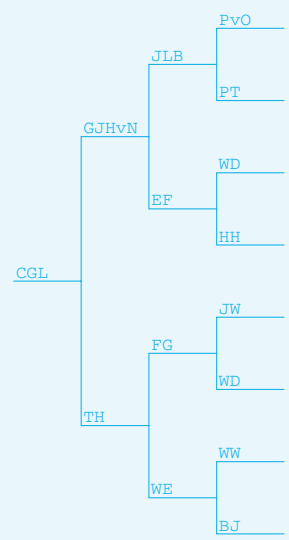
`...`

`\endverbatim`

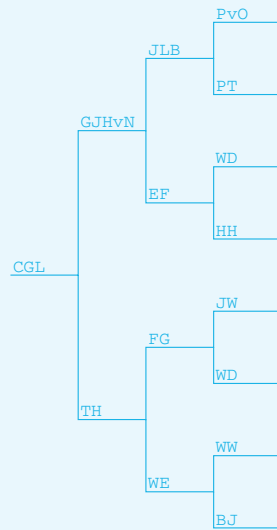
Binary Tree PWT_{TB22.14}

Binary Tree PWT

Binary Tree PWT_{TB22.14}



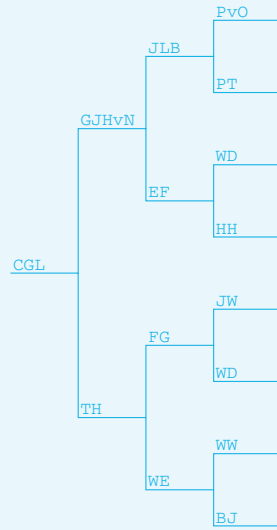
Binary Tree PWT_{TB22.14}



```

\def\bintree{\E{\the\n}%
  \ifnum\n=2 \eertnib\fi
  \divide\n2 {\N{\the\n}\bintree}%
  \S{\the\n}\bintree%
  \multiply\n2}%
\def\eertnib#1\bintree{\fi}
  
```

Binary Tree PWT_{TB22.14}

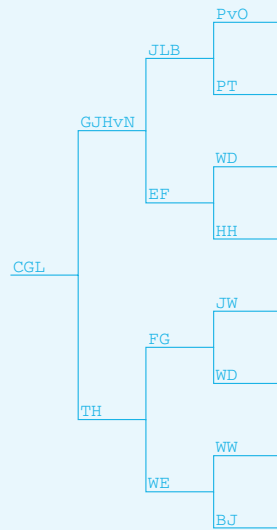


```

\def\bintree{\E{\the\n}%
  \ifnum\n=2 \eertnib\fi
  \divide\n2 {\N{\the\n}\bintree}%
  \S{\the\n}\bintree%
  \multiply\n2}%
\def\eertnib#1\bintree{\fi}
\data
\def\1{CGL}\def\2{GJHvN}\def\3{JLB}\def\4{PvO}
\def\5{PT} \def\6{EF} \def\7{WD} \def\8{HH}

```

Binary Tree PWT_{TB22.14}



```

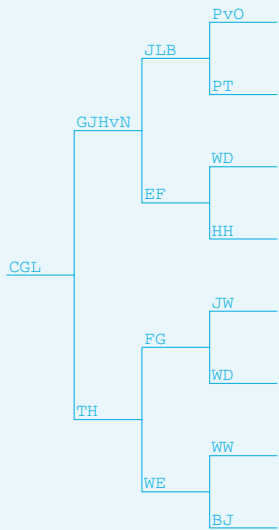
\def\bintree{\E{\the\n}%
  \ifnum\n=2 \eertnib\fi
  \divide\n2 {\N{\the\n}\bintree}%
  \S{\the\n}\bintree%
  \multiply\n2}%
\def\eertnib#1\bintree{\fi}
%data
\def\1{CGL}\def\2{GJHvN}\def\3{JLB}\def\4{PvO}
\def\5{PT} \def\6{EF} \def\7{WD} \def\8{HH}
%
\let\Eold\E
\def\E#1{\global\advance\k1
  \xytxt{\csname\the\k\endcsname}
  \Eold8}

```

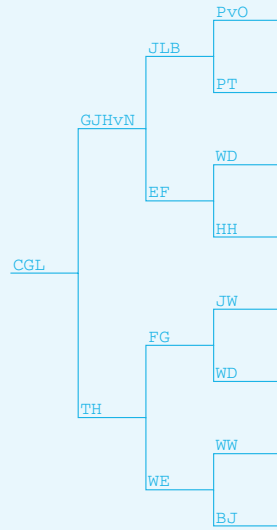
Binary Tree PostScript

Binary Tree PostScript

Binary Tree PostScript



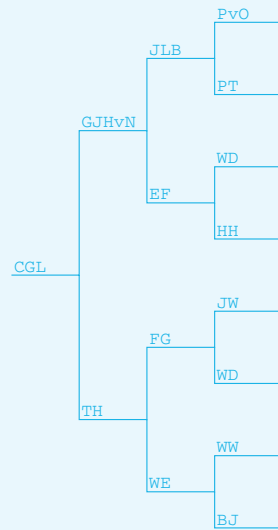
Binary Tree PostScript



Lindenmayer production rule

$$Bt_n = E_n \oplus [N_{n \div 2} Bt_{n \div 2}] \oplus [S_{n \div 2} Bt_{n \div 2}]$$

Binary Tree PostScript



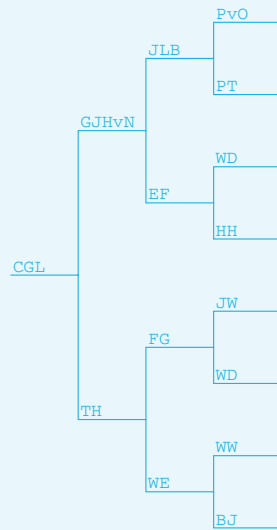
Lindenmayer production rule

$$Bt_n = E_n \oplus [N_{n \div 2} Bt_{n \div 2}] \oplus [S_{n \div 2} Bt_{n \div 2}]$$

```

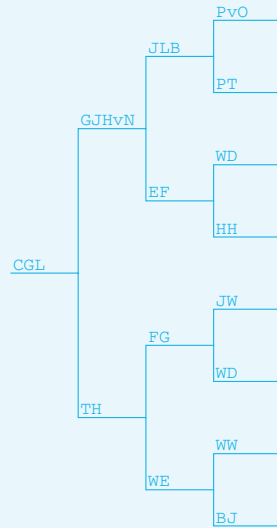
/Bintree{% default index k; value of n on stack
/n exch 2 div def
E
n 8 gt {currentpoint N n Bintree
        moveto      S n Bintree}if
/n n 2 mul def}def
  
```

Binary Tree PostScript



```
/Bintree{% value of n on stack
/n exch 2 div def
E
n 16 gt {currentpoint N n Bintree
        moveto      S n Bintree}if
/n n 2 mul def}def
%
/N{0 n rlineto}def /S{0 n neg rlineto}def
/E{n 0 rlineto}def
%
%
%
%
%
%
%
0 -3 moveto 256 Bintree stroke
```

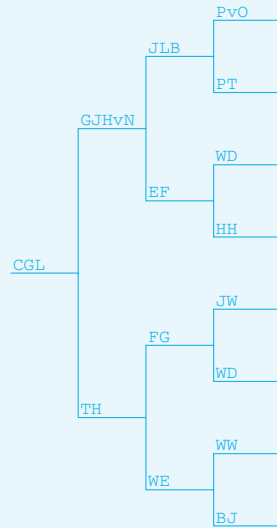
Binary Tree PostScript



```

/Bintree{% value of n on stack
/n exch 2 div def
E
n 16 gt {currentpoint N n Bintree
        moveto      S n Bintree}if
/n n 2 mul def}def
%
/N{0 n rlineto}def /S{0 n neg rlineto}def
/E{gsave  ntg k get 2 3 rmoveto show grestore
   /k k 1 add def 60 0 rlineto
  }def
%
%
%
0 -3 moveto 256 Bintree stroke
  
```

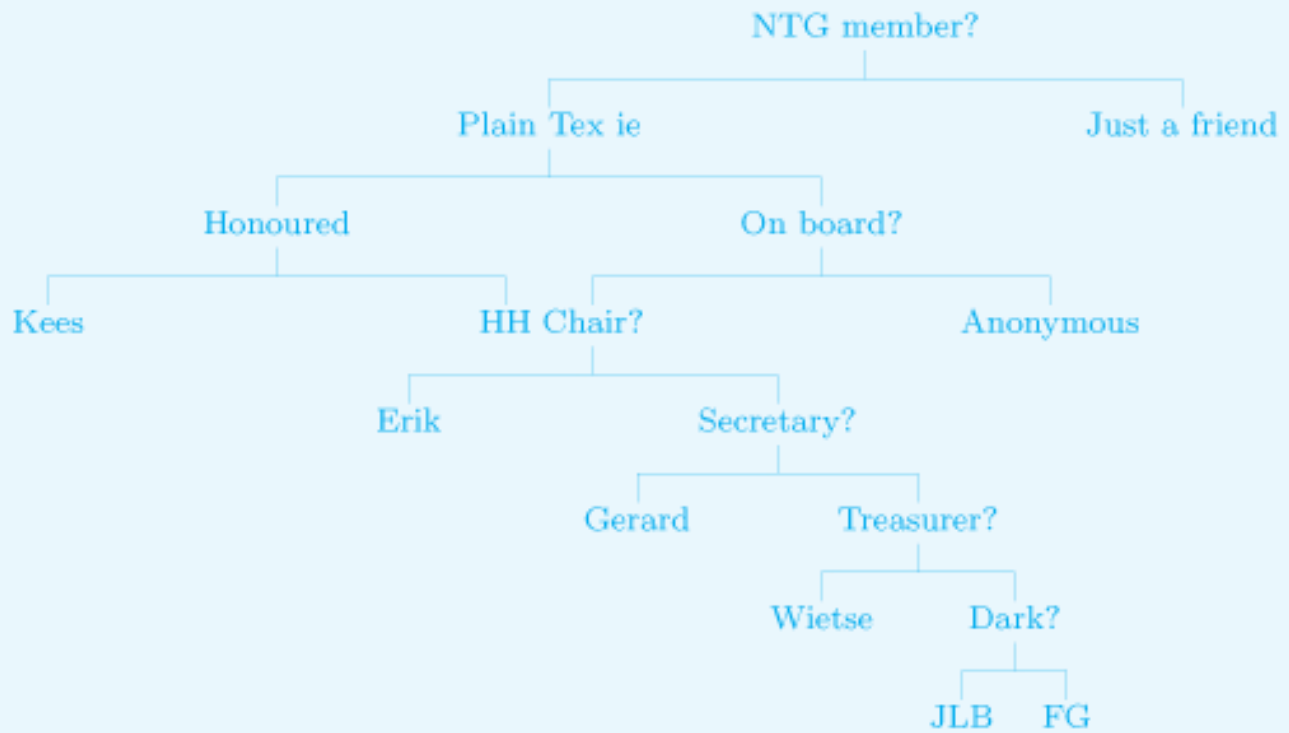
Binary Tree PostScript



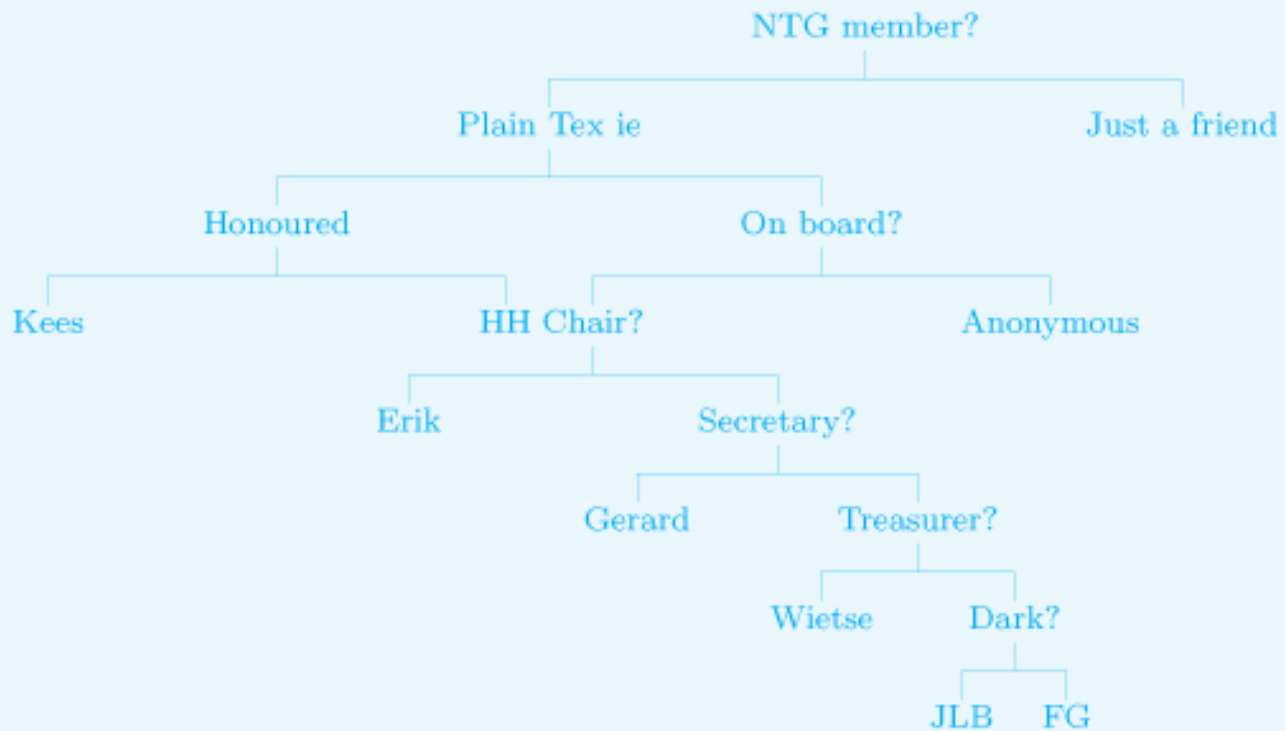
```
/Bintree{% value of n on stack
/n exch 2 div def
E
n 16 gt {currentpoint N n Bintree
        moveto      S n Bintree}if
/n n 2 mul def}def
%
/N{0 n rlineto}def /S{0 n neg rlineto}def
/E{gsave  ntg k get 2 3 rmoveto show grestore
   /k k 1 add def 60 0 rlineto
   }def
/Courier 12 selectfont /k 0 def
/ntg [(CGL) (GJHvN) (JLB) (PvO) (PT) (EF) (WD) (HH)
      (TH) (FG) (JW) (WD) (WE) (WW) (BJ)] def
0 -3 moveto 256 Bintree stroke
```

Unbalanced Binary Trees₁₉₉₅

Unbalanced Binary Trees¹⁹⁹⁵



Unbalanced Binary Trees¹⁹⁹⁵



```
\beginbt 1 NTG member?  
10 Plain Tex ie  
100 Honoured  
1000 Kees  
...  
11 Just a friend  
17 \endbt
```


Conclusion Binary Trees

**Abandon T_EX for drawing
Binary Trees with leaves**

Conclusion Binary Trees

**Abandon $\text{T}_{\text{E}}\text{X}$ for drawing
Binary Trees with leaves**

use PostScript

Conclusion Binary Trees

Abandon $\text{T}_{\text{E}}\text{X}$ for drawing
Binary Trees with leaves

use PostScript

but ... unbalanced trees?

Conclusion Binary Trees

Abandon T_EX for drawing
Binary Trees with leaves

use PostScript

but ... unbalanced trees?

Contest

Conclusion Binary Trees

Abandon $\text{T}_{\text{E}}\text{X}$ for drawing
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Unbalanced trees with leaves
in PS or MP?

Conclusion Binary Trees

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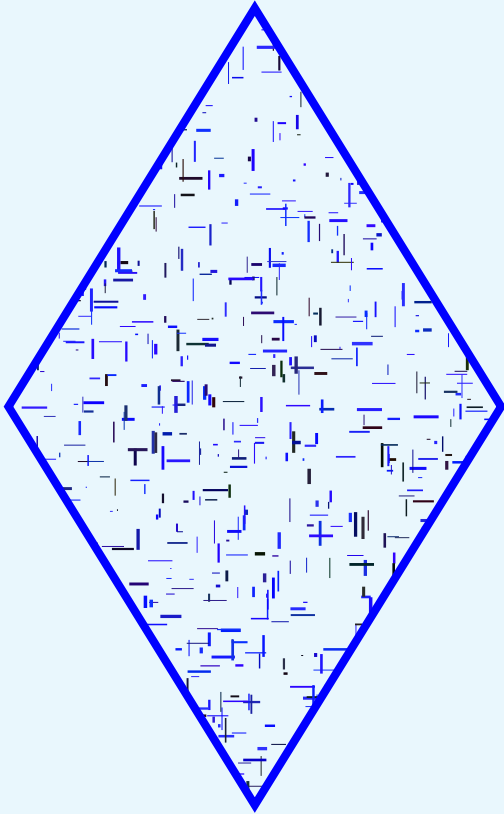
Contest

Unbalanced trees with leaves
in PS or MP?

Mondrian

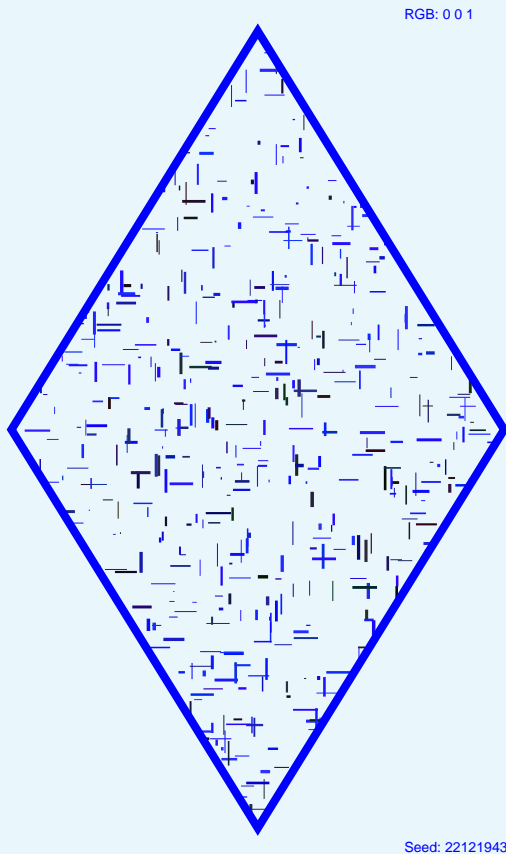
Mondrian

RGB: 0 0 1



Seed: 22121943

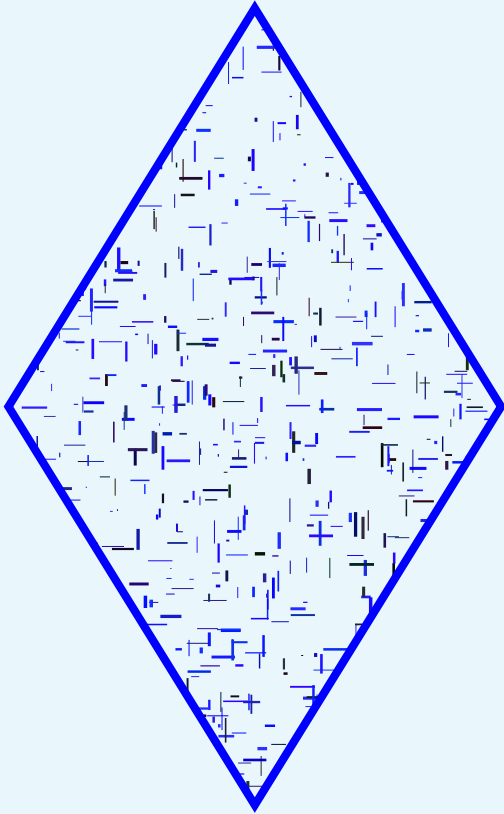
Mondrian



```
%!PS-Adobe-3.0 EPSF-3.0
%%Title: Mondrian CGL
%%BoundingBox: -1 -1 601 801
%%BeginSetup
%%EndSetup
(C:\PSlib\PSlib.eps) run
22121943 0 0 1 2 Mondrian
showpage
```

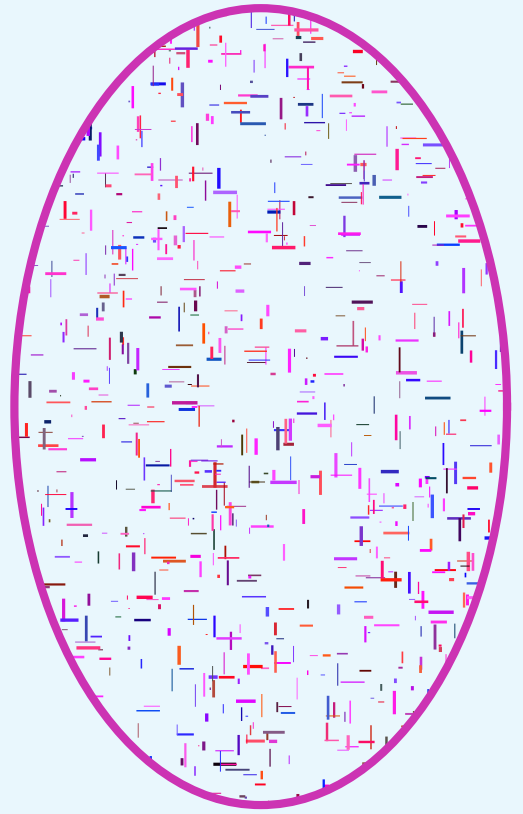
Mondrian

RGB: 0 0 1



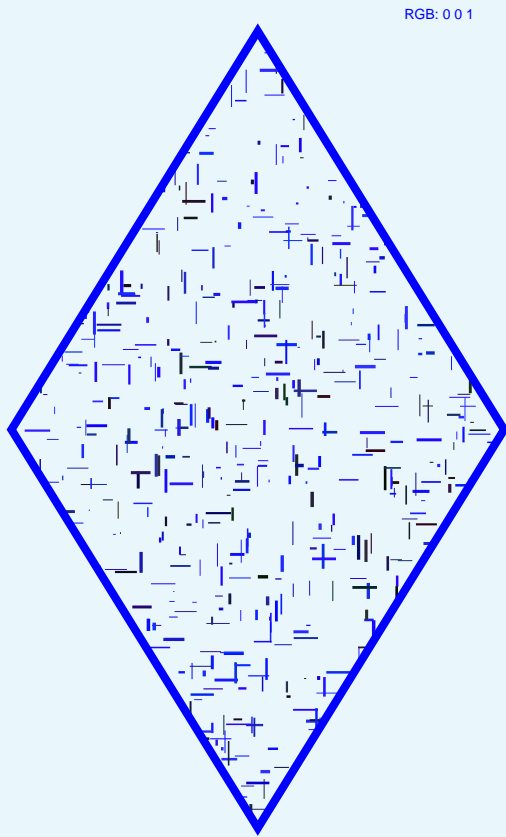
Seed: 22121943

RGB: 0.8 0.2 0.7



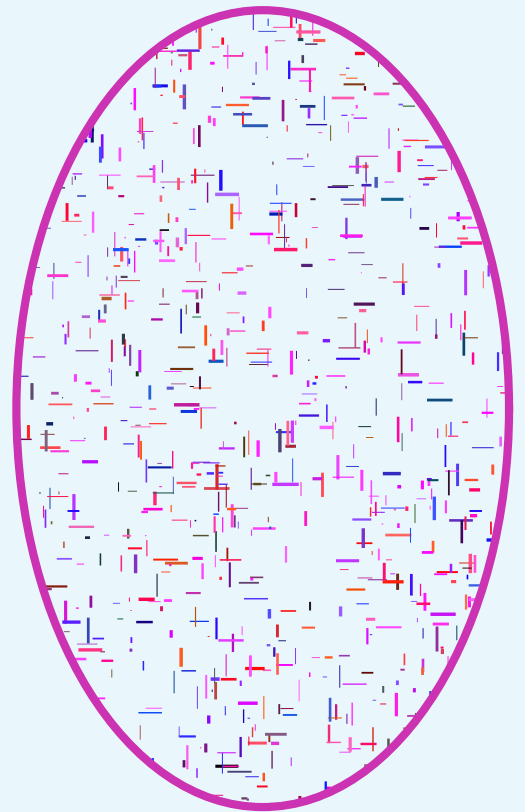
Seed: 7101951

Mondrian



RGB: 0 0 1

Seed: 22121943



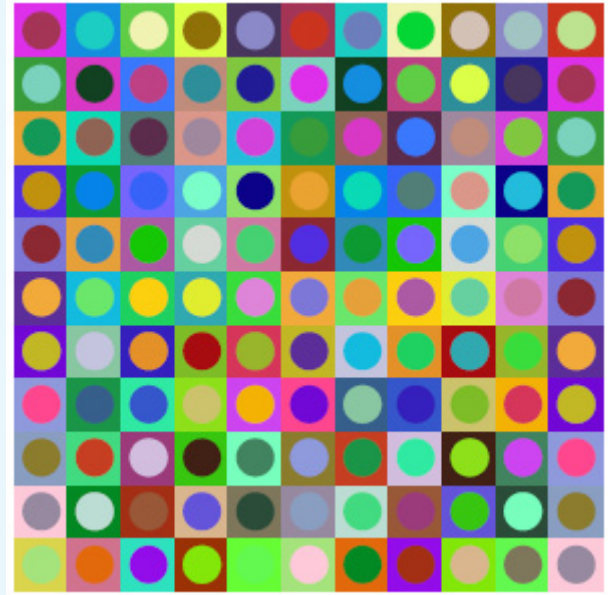
RGB: 0.8 0.2 0.7

Seed: 7101951

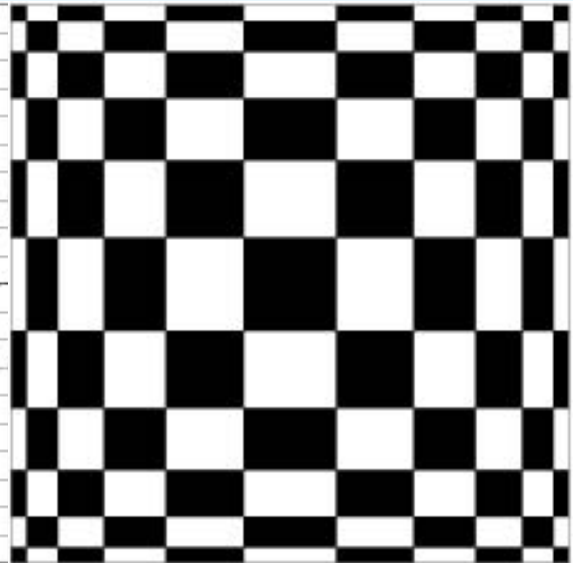
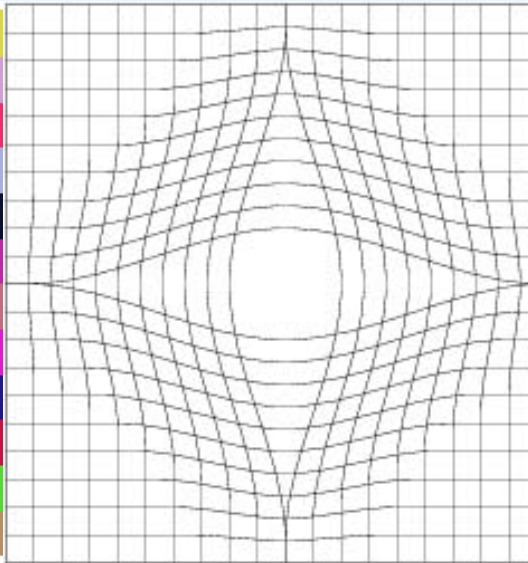
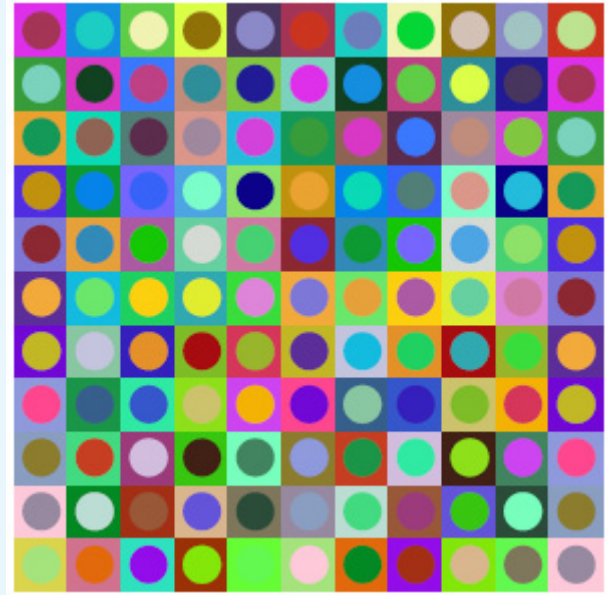
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showpage
```

Vasarely

Vasarely



Vasarely



3D emulations

3D emulations

Escher

3D emulations

Escher

3D emulations

Escher

3D emulations

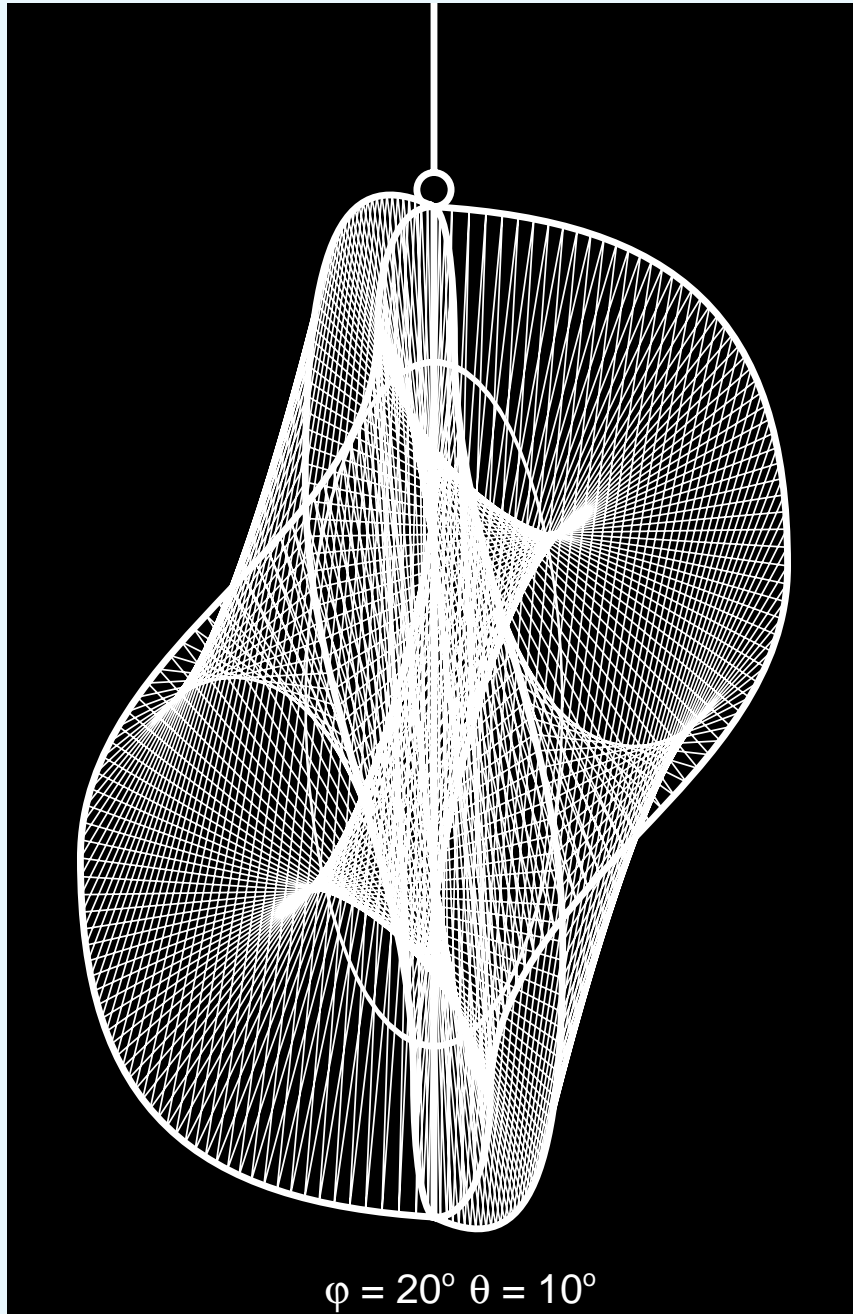
Escher

3D emulations

Gabo

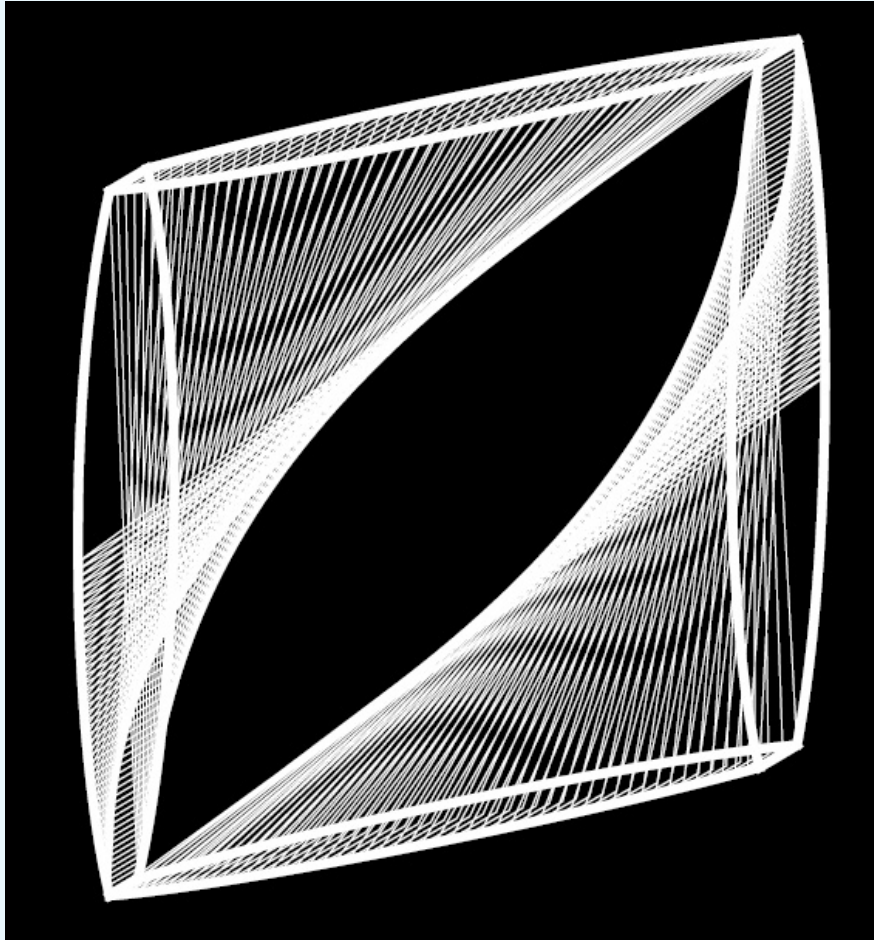
3D emulations

Gabo



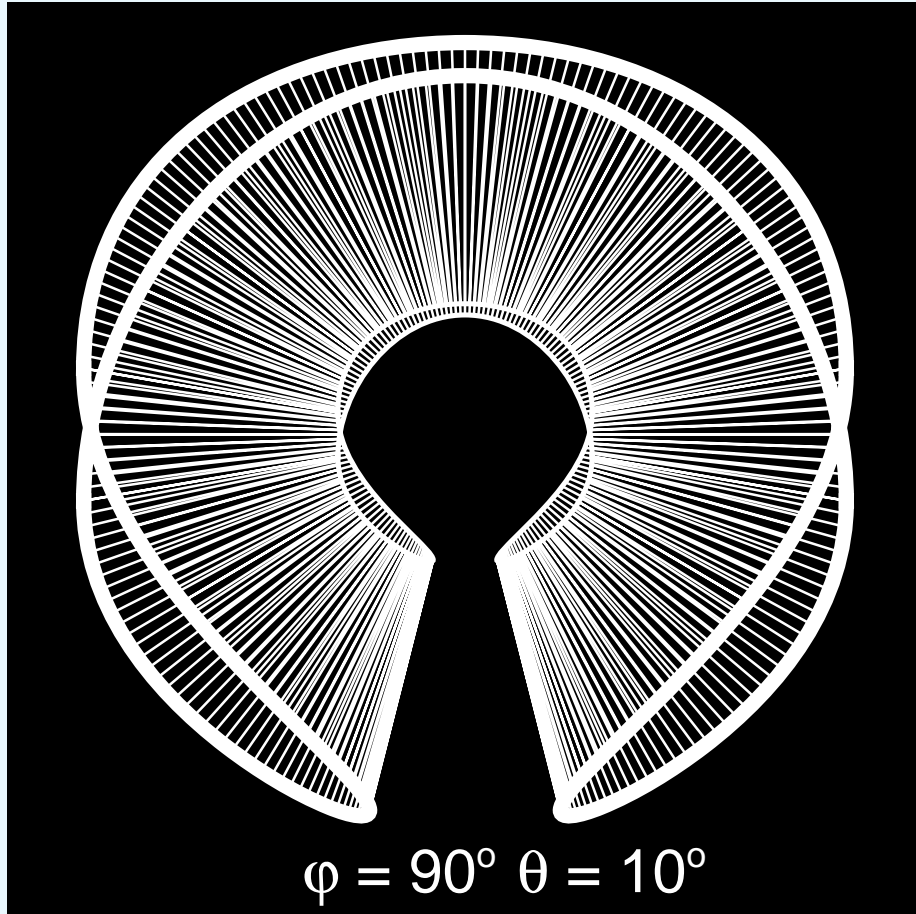
3D emulations

Gabo



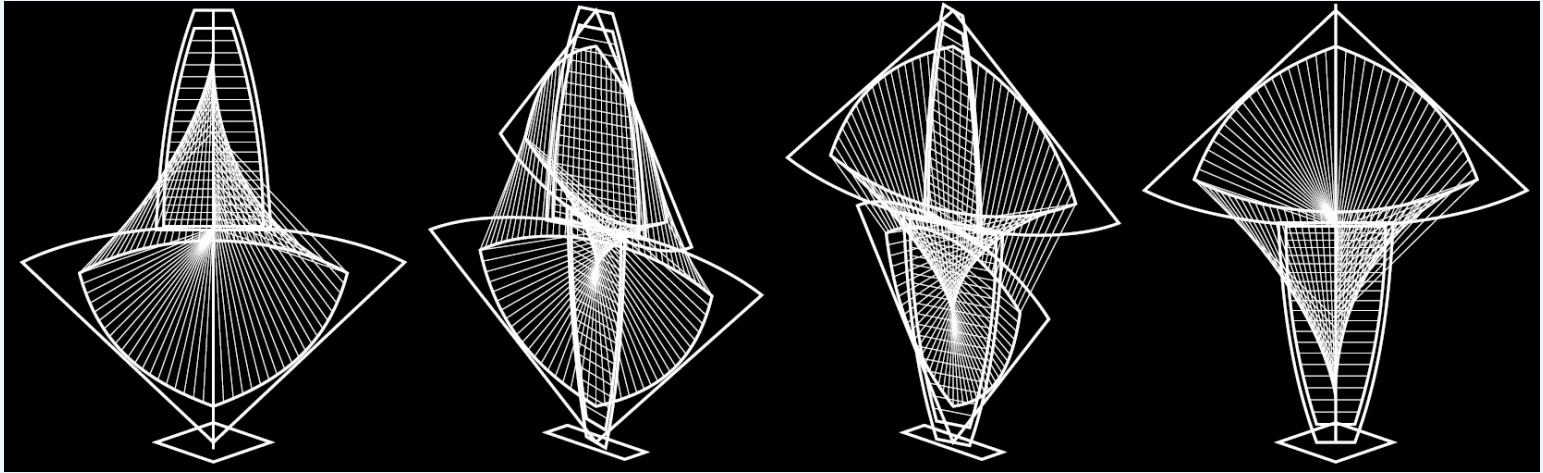
3D emulations

Gabo



3D emulations

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Conclusions

- BLUe T_EX&PS → preprint&fun

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- MF ... THE I-error of T_EX&Co
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Wishes

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- **BB via pathbbox in 1-pass**

```
%!PS-Adobe-3.0
```

```
%%Title: One-pass cropping, LRM 2
```

```
/Times-Roman 30 selectfont
```

```
%
```

```
%
```

```
%
```

```
%
```

```
<</PageSize [w h]>>setpagedevice
```


- **BB via pathbbox in 1-pass**

```
%!PS-Adobe-3.0
%%Title: One-pass cropping, LRM 2
/Times-Roman 30 selectfont
0 0 moveto (StarLines) false charpath
        flattenpath pathbbox
/ury exch def /urx exch def ...
/w urx llx sub cvi def /h ury lly sub cvi def
<</PageSize [w h]>>setpagedevice
```

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```
%!PS-Adobe-3.0
%%Title: One-pass cropping, LRM 2
/Times-Roman 30 selectfont
0 0 moveto (StarLines) false charpath
        flattenpath pathbbox
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/w urx llx sub cvi def /h ury lly sub cvi def
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newpath
/rays{120{0 0 moveto 108 0 lineto 1.5 rotate
        }repeat stroke}def
0 1 moveto (StarLines) true charpath clip
newpath 50 -15 translate rays
```

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```
%!PS-Adobe-3.0
%%Title: One-pass cropping, LRM 2
/Times-Roman 30 selectfont
0 0 moveto (StarLines) false charpath
      flattenpath pathbbox
/ury exch def /urx exch def ...
/w urx llx sub cvi def /h ury lly sub cvi def
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newpath
/rays{120{0 0 moveto 108 0 lineto 1.5 rotate
      }repeat stroke}def
0 1 moveto (StarLines) true charpath clip
newpath 50 -15 translate rays
```

Alternative?

Wishes

- PS → .pdf in T_EXworks
- MP → .eps → .pdf in T_EXworks
- BLUe as format in T_EXworks
- BB via pathbbox in 1-pass
- maintenance pdfT_EX
- OTF font tables à la DeK_{window on}

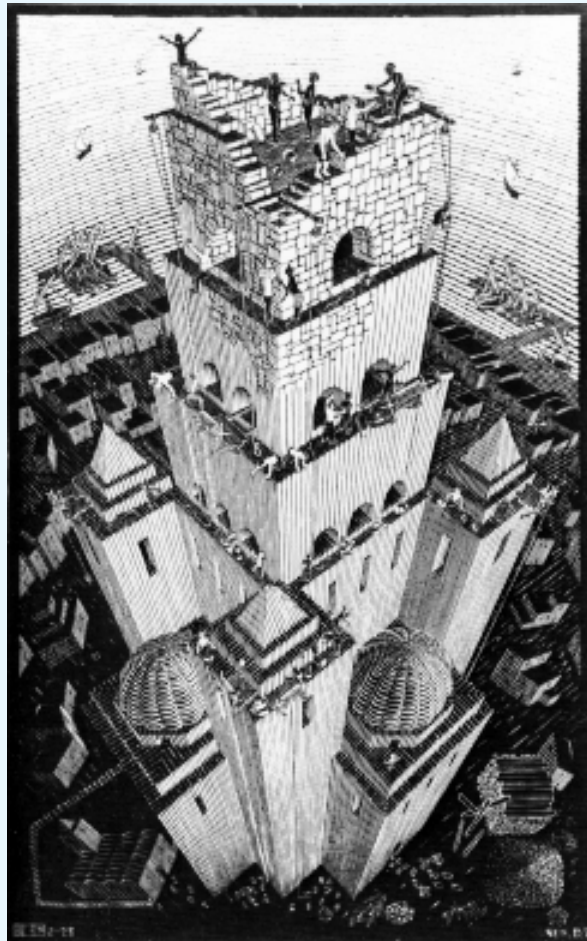
Mandatory

- **LuaT_EX&OTF**
simpler in use, not complexer
well-documented

Goossens2008 XeTeX?

Mandatory

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simpler in use, not complexer
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- avoid **Tower of Babel** confusion



Ensor's view of 'Breskens'

Ensor's view of 'Breskens' is a critical and satirical commentary on the political and social conditions of the time.

The painting depicts a group of people, including a man in a top hat and a woman in a long dress, standing in a dark, shadowy environment.

Ensor's use of light and shadow is a key element of his style, creating a sense of mystery and drama.

The painting is a powerful statement on the human condition and the role of art in society.

Ensor's work is a testament to his skill as a painter and his commitment to social and political commentary.

The painting is a masterpiece of modern art, reflecting the artist's unique vision and style.

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Thank you, Bye 🐦