

# Think-in' Therion

Marco Corvi

[Marco.corvi@gmail.com](mailto:Marco.corvi@gmail.com)

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# What is Therion ?

- A program: xtherion ?
- A program: therion ?
- A syntax
  - cave survey
  - survey processing

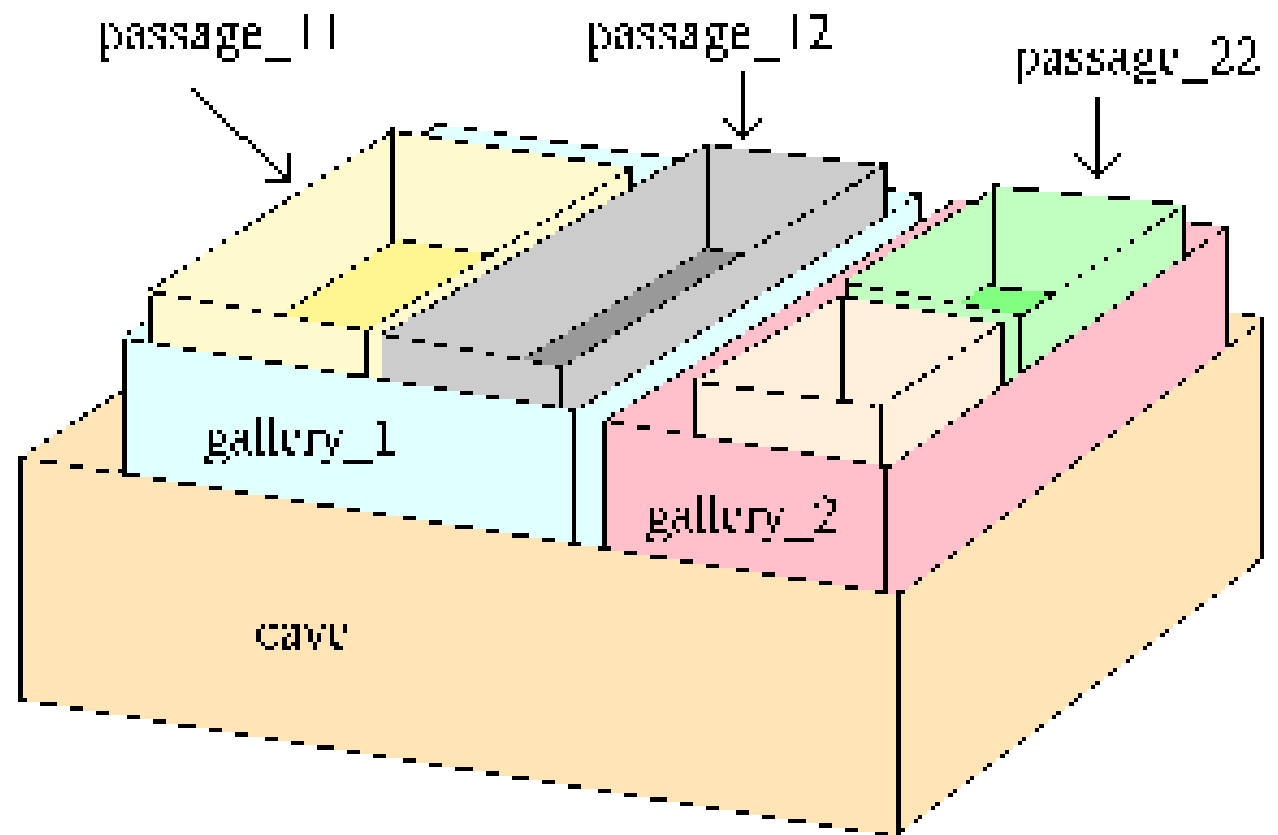
**[therion.speleo.sk](http://therion.speleo.sk)**

# Therion project

- Plain text
  - th, th2, thconfig
  - a convention, but a *useful* one
- Commands can have args and options
  - #: comment
  - \ at the end: continuation
  - spaces: separator
  - space: with double-quotes or square brackets

# Boxes

- *survey*
- *map*



# Therion approach

- Pro
  - Maintenance
  - Modularity
  - Versatility
  - Flexibility
- Cons
  - Narrow view
  - No wysiwyg
  - Strict syntax

# Survey

***survey*** my\_survey *-title* "My survey"

- *centerline*
- *scrap*
- *map*
- *equate, join, ...*
- *input <filename>*

# Names

- Files:

folder1/folder2/file

- Stations (also scraps, maps, etc.)

station@subsurvey.survey

object

Inner box

Outer box

# Survey data

- **centerline**
  - *id*
  - *author*
  - *copyright*
  - *title*
- Not a box
- Commands:
  - *date* yyyy.mm.dd
  - *team* ...
  - *declination* <value> <units>
  - *fix* <station> <east> <north> <altitude>
    - cs ...
  - *extend* ...
  - *data* <style> <reading\_order>
    - data normal from to length compass clino left right up down



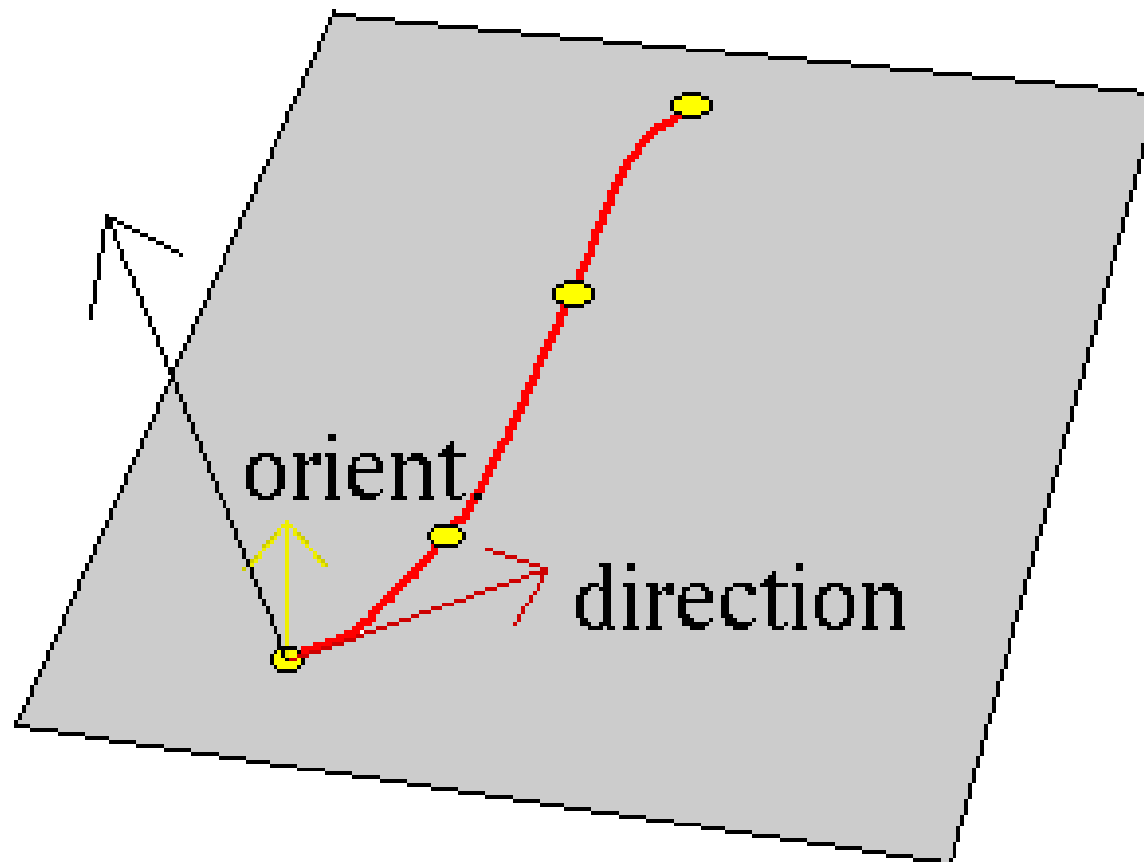
# Drawing

- ***map*** <*name*>
  - *projection* <*type*>
- **includes:**
  - *scraps or maps*
    - *preview [X Y m] above| below*
- ***commands:***
  - *break*

# Sketches

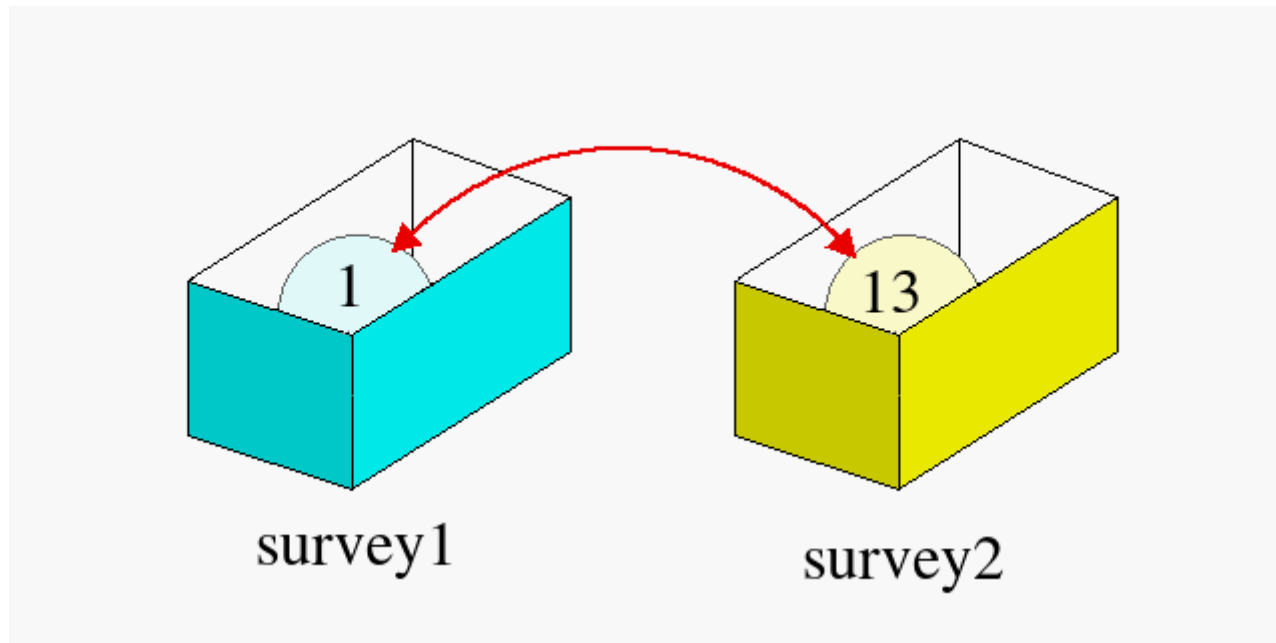
- ***scrap***
  - *proj* <projection>
  - *scale* [X1 Y1 x1 y1 X2 Y2 x2 y2]
  - *author*
- **commands**
  - *point* X Y <type> <options>
    - *station -name*
  - *line* <type> <options>
  - *area* <type> <options>

# Outline and Clipping



# Putting surveys together

*equate* 1@survey1 13@survey2



# Putting sketches together

*join* scrap1 scrap2



Let therion figure out how

*join* lineA@scrap1:0 lineB@scrap2:end



First line point



Last line point

# Maps

```
map mapA -proj plan  
  scrapA  
endmap
```

```
map mapAB -proj plan  
  mapA  
  mapB  
endmap
```

Projections must be coherent

# Processing

- Inputs: *source*
- Outputs: *export*
- Conditionals: *layout*

# Therion inputs

```
source <filename>
```

```
source  
  input <filename>  
endsource
```

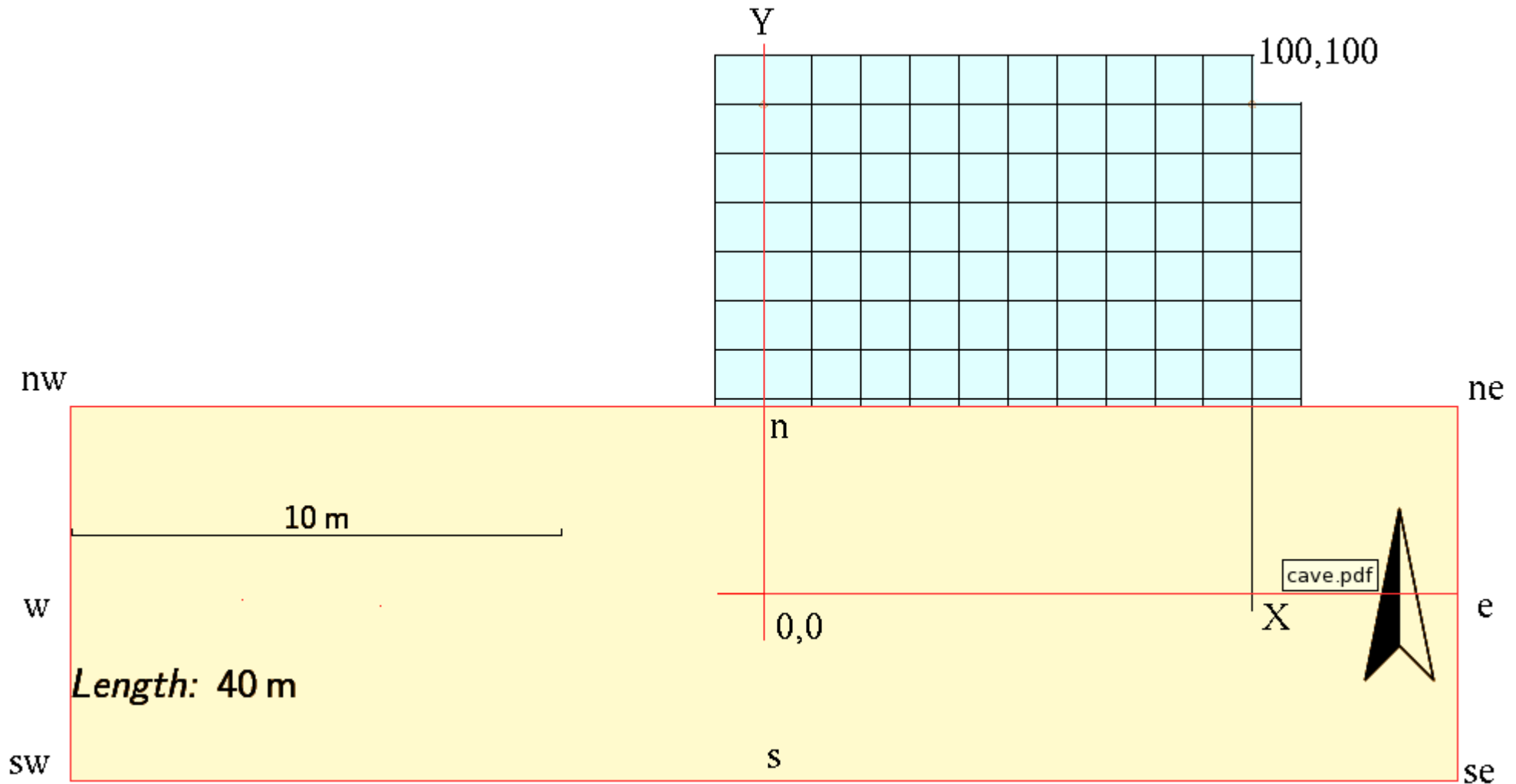
```
source  
  survey ...  
  ...  
  endsurvey  
endsource
```



# Therion outputs

- *export*
  - Cave maps and atlases
  - Cave 3D models
  - Cave infos(lists)
  - Database
- *format*
- *layout*
  - Drawing symbols
  - Composable: *copy layoutA*

# map-header 0 0 center



# *surface*

- *cs* UTM32
- *bitmap* image.jpg [x1 y1 X1 Y1 x2 y2 X2 Y2]
- *grid* X0 Y0 DX0 DY0 NX NY
- grid-data