



DOPAS Training Workshop 2015

Movie night D3 8 "Time"

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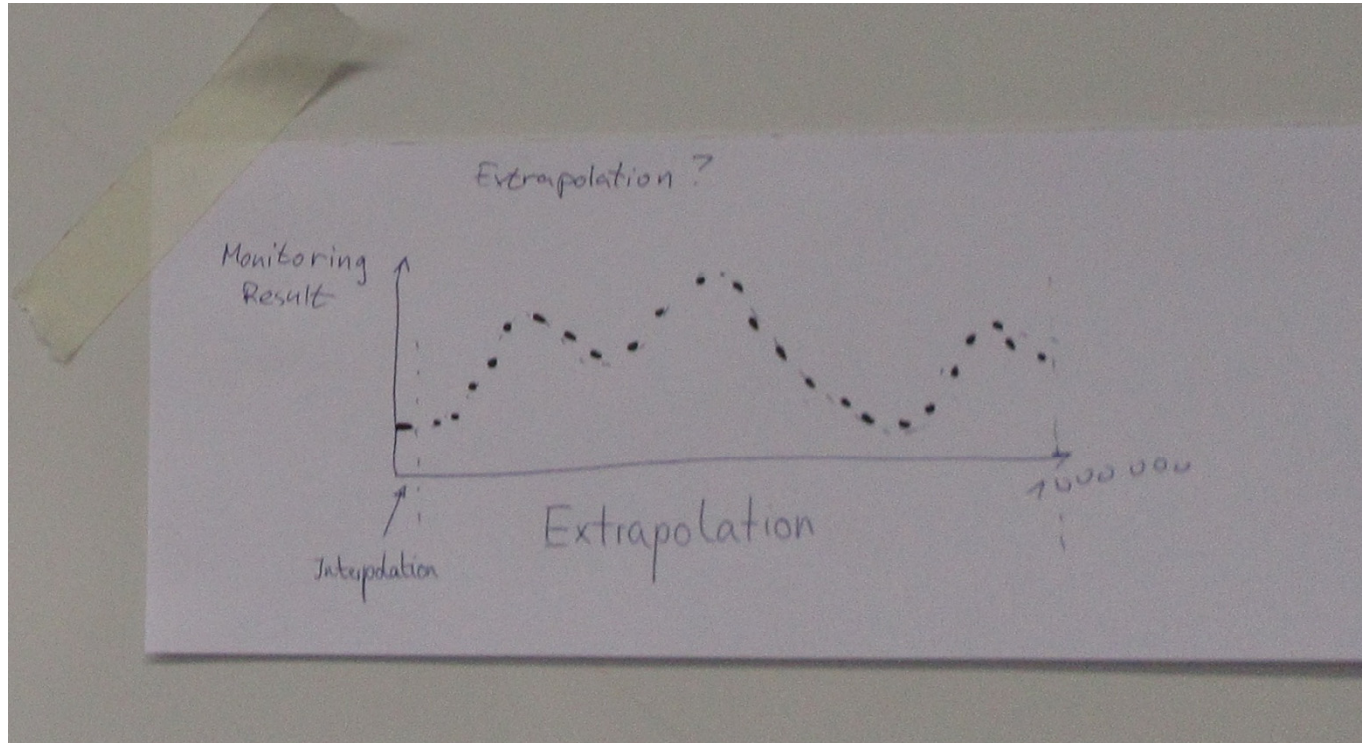
nagra



Svensk Kärnbränslehantering AB



About time 14.9.2015



Source: DOPAS TWS participants' group (1)



About time 14.9.2015

Short time:

DOPAS 4 years + experiment

How long is "long time"

Finland: 100 000 yrs

France; GD 1 000 000 yrs

Is this enough?

- - - - - -

Laboratory scales ~5 years

Repository timescales 10^6 years

UNCERTAINTIES

Perceptions of time

Source: DOPAS TWS participants' groups (2,3)

DEEP TIME



HUMAN TIME



A 76 min
documentary
by Danish
director Michael
Madsen

INTO ETERNITY

"THIS HIDING PLACE
SHOULD NEVER BE DISTURBED"

A FILM FOR THE FUTURE
BY MICHAEL MADSEN



This
documentary
has received
several prizes
and has been
used especially
by less advanced
programmes for
communication

D3 8

time

Premiered at
DocPoint
festival 2010
in Helsinki,
Finland

Filmed on site
in Olkiluoto,
Eurajoki,
Helsinki, and
Stockholm



Screened with
MagicHourFilms' permission



18



Into Eternity - Movie

Copies for private use can be obtained e.g. from: www.cdon.com
(version screened with English subtitles
price around 8 euros + shipping

**Permissions for screening can be agreed
with the producer:**

**Lise Lense-Møller
[llm@magichourfilms.dk]**

**Also different language versions are
available from them.**

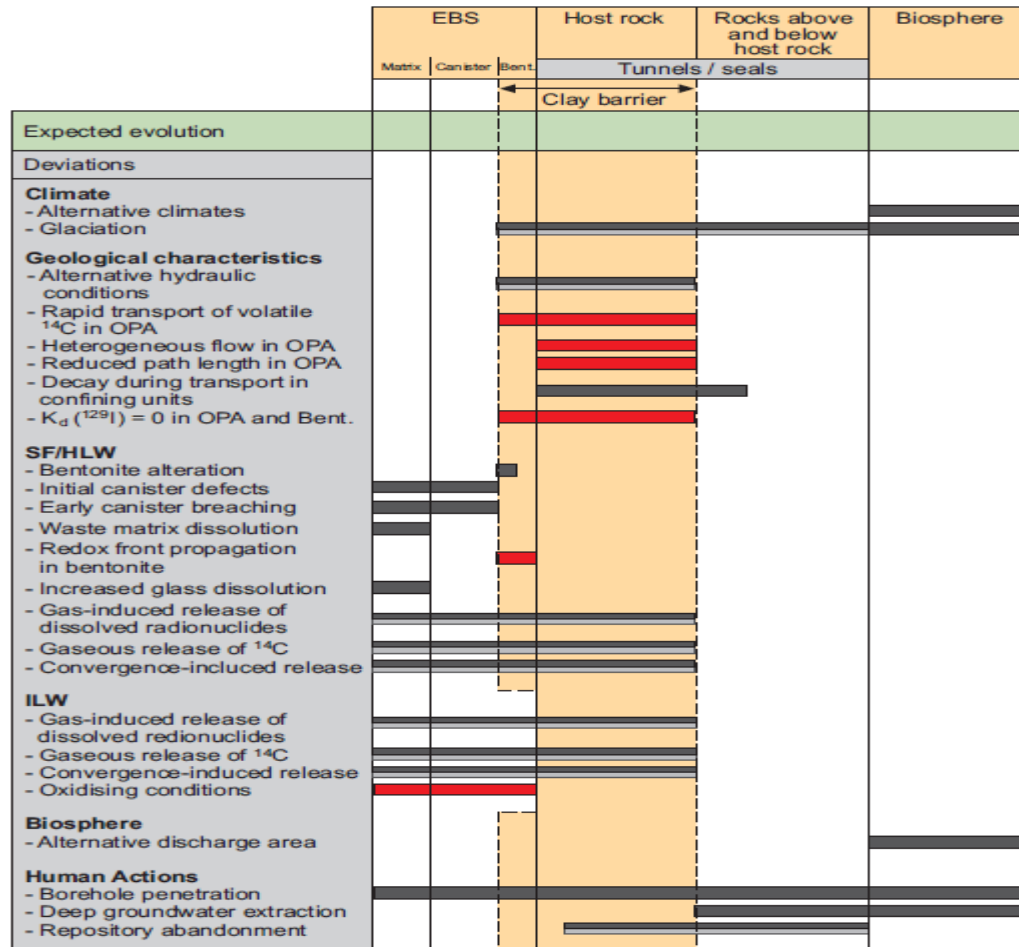


D3 8. Discussion questions on the movie:

- **Your impressions about the movie? Have you seen it before/seen it for the first time?**
- **What did the director try to convey to the audience? How did he succeed?**
- **What type of challenges did the movie point out in your view?**
- **What did you like about the way of presenting his view or may message (concept of time? the difficulty of knowing about the future? the way of communicating about the repository? handling of uncertainty?)**
- **What would you have changed in the way of presenting his point of view/s? Why?**
- **Could this movie provide support for the deep repository? Would it make you uneasy about the repository?**
- **Did this meet what you expect from a documentary? Yes/No - Why?**
- **Can you separate the movie as an artwork from making a statement?**
- **Other comments?**
 - moose metaphor; entry into tunnel depicting the future human intrusion
 - what has happened since 2009-2010 when the film was finished?



Influence of time



Timescales to be considered by each object – Swiss case.
 (c) Nagra. 2002. NTB-02-05 p.171

Fig. 5.7-1: Range of influence of possible deviations from the expected evolution of the disposal system

Black bars – transport through host rock, gray bars – transport through tunnels/ramp/shaft and seal system, red bars – "what if?" cases.



About time and certainty

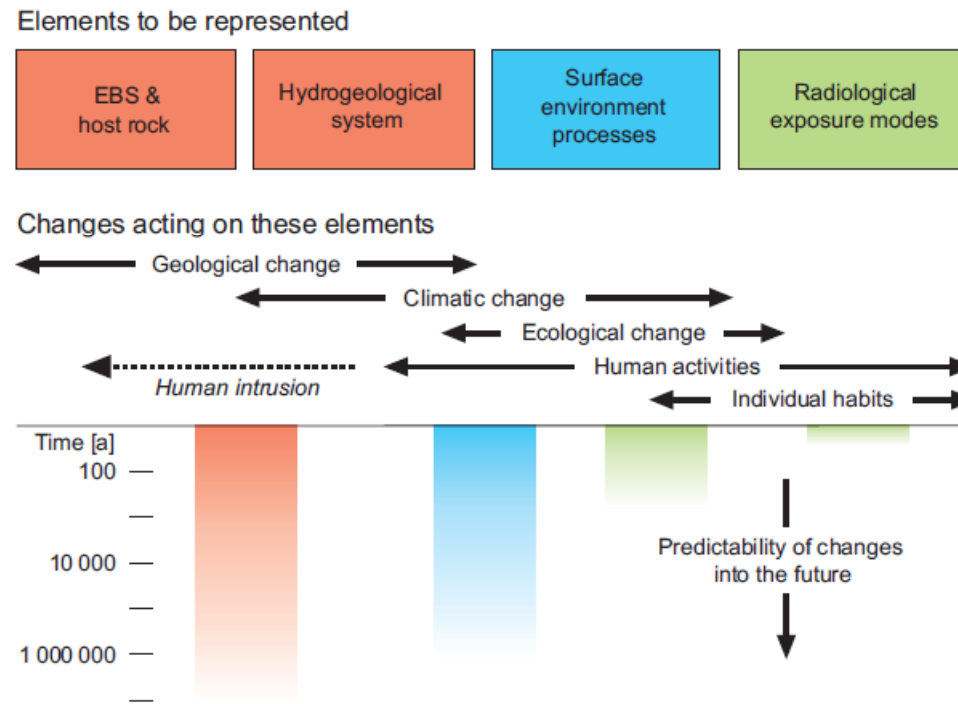
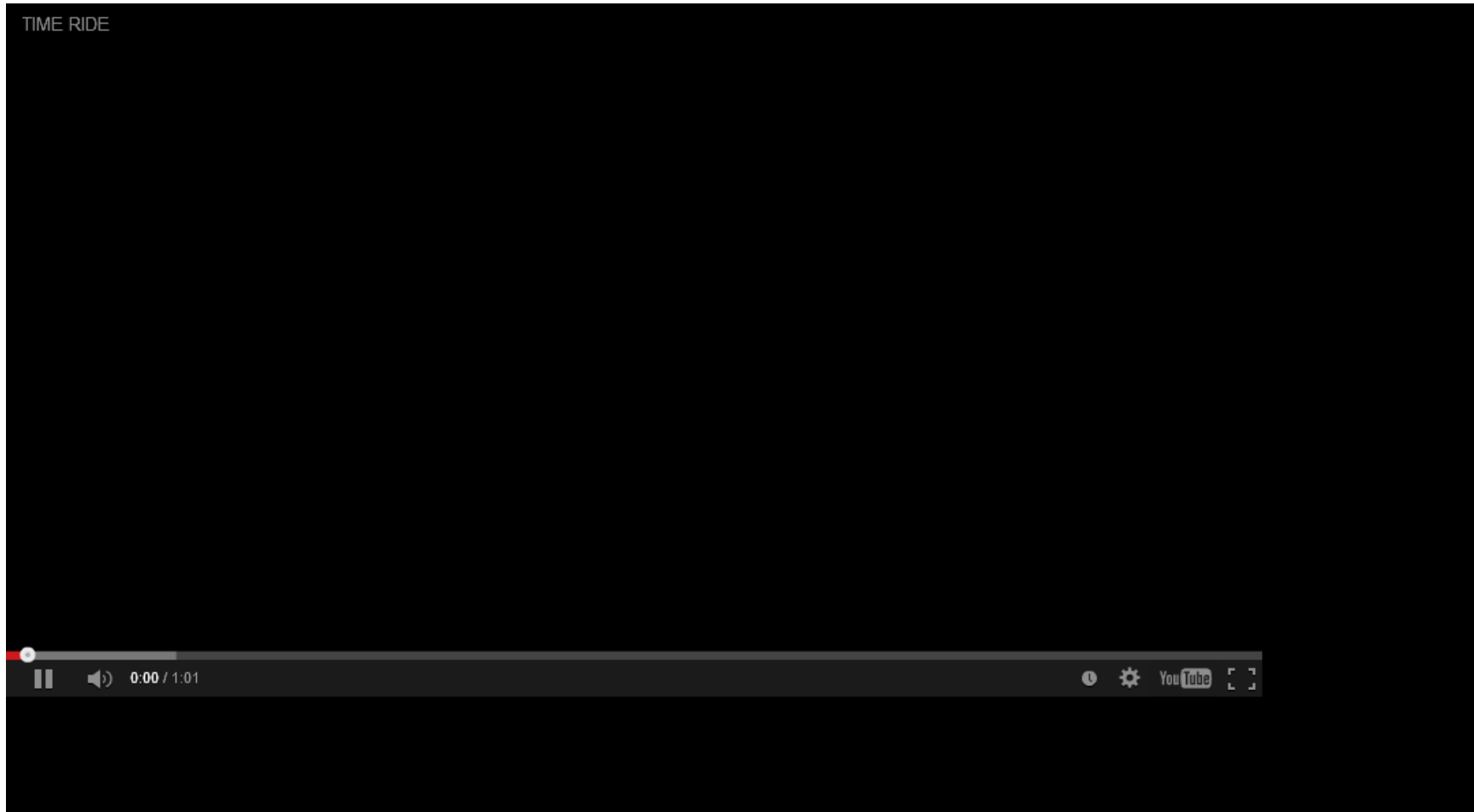


Fig. 2.5-3: Schematic illustration of the limits of predictability of the different elements of a geological disposal system (NEA 1999c)



Examples from communicating about time





Timeride trailer (from NAGRA)



**Researching the unknown
Experiencing Underground
Discovering
Living Space and Time
Visit the “Timeride” exhibition.
The future safety began 180 million years ago

(Trailer translation to Time ride)**



Other video resources

- **Timeride** (<http://www.timeride.ch>)
 - <https://www.youtube.com/embed/cRo230LVzjw?rel=0>
 - available for visits
- **Time Trek** http://www.turku2011.fi/en/time-trek_en
- **Timetravel to final disposal**
<http://www.posiva.fi/media/videot#.Vda4QZ3yVmM>
- **Posiva Youtube (Time travel)**
<https://www.youtube.com/watch?v=Jqsc-3vZ8wU>



References

- **Lehto K. & al. 2012. Time Trek: a 13.7 km long nature trail leading through the history of Universe and the Earth. International Journal of Astrobiology, January 2013. OJ 2012 doi: 10.1017/S1473550412000225**

