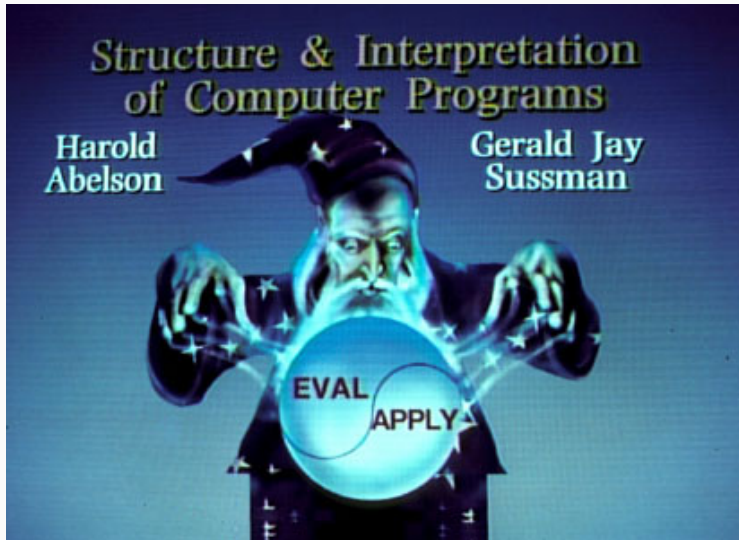


# What is so great about Clojure?

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Erwin Rooijackers

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# Clojure is a Lisp

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# What is so great about Lisp?

*"The most powerful programming language is Lisp. If you don't know Lisp (or its variant, Scheme), you don't know what it means for a programming language to be powerful and elegant. Once you learn Lisp, you will see what is lacking in most other languages." — Richard Stallman*

# Almost no special syntax, only data structures

Lists	<code>'(1 2 3)</code> , <code>'(fred kees piet)</code>
Vectors	<code>[1 2 3 4 5]</code> , <code>[fred kees piet]</code>
Maps	<code>{:a 1 :b 2 :b 3}</code> , <code>{1 kees 2 piet}</code>
Code	<code>(+ 1 2 3) ;; =&gt; 6</code>
Naming	<code>(def n 10)</code>
Lambda	<code>(def plus-two (fn [a] (+ a *)))</code> <code>(plus-two 2) ;; =&gt; 4</code>
Quote	<code>'(+ 1 2 3) ;; =&gt; (+ 1 2 3)</code>

- Parentheses!
- Code is data and data is code (homoiconicity)

- Macro expansion

# The Reader parses the Clojure data structures

## Phase in compilation that transforms source code: "programs that write programs"

```
(defmacro unless [pred a b]
  `(if (not ~pred) ~a ~b))

;; usage:
(unless false
  (println "Will print")
  (println "Will not print"))
```

Not possible to implement as function. First form is not evaluated!



# Use the command line 1

- Get the command line with: Start > Search for 'cmd'
- Basic commands (replace "<...>" by what you want):

## A normal block

- Use `@@beamer: arbitrary-command@@` to include an arbitrary  $\text{\LaTeX}$ /Beamer command.
- Use `*test*` for **alert**
- Use `/italics/` for *italics*
- Use `C-c C-b` to change the type of block.

## An alert block

An alert block.

## Example ("An example")

## Learn more:

- Rich Hickey - Clojure made Simple:  
<https://youtu.be/VSdnJD0-xdg>
- Derek Slager - ClojureScript for Skeptics:  
<https://youtu.be/gsf fg5xxFQI>