

# SoilR

## History and lessons learned

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### Introduction of Terms

# Title

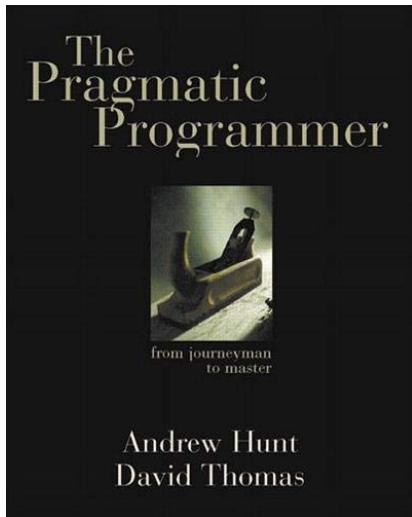
Each frame should have a title.

# SoilR

- ▶ R package, (A stable version on cran a development version SoilR-exp on github)
- ▶ collections of soil models with
  - ▶ Implementing function
  - ▶ Examples
  - ▶ (Extensive) Tests
- ▶ Documentation

# The DRY principle ( D on't R epeat Y ourself)

We feel that the *only* way to develop software *reliably*, and to make our developments easier to understand and maintain, is to follow what we call the DRY principle: Every piece of knowledge must have a single, unambiguous, authoritative representation within a system.



## *copy and paste programming*

The alternative is to have the same thing expressed in two or more places. If you change one, you have to remember to change the others, . . . or your program will be brought to its knees by a contradiction. It isn't a question of whether you'll remember: it's a question of when you'll forget.

# Refactoring (how to DRY code)

## Definition:

Restructure (the source code of an application or piece of software) so as to improve operation without altering functionality.

## Impacts:

- ▶ Generalization → Reduction of Duplication → Removal of Contradictions → Consistency, Predictability for users
- ▶ Formalization of the Generalization → **feedback on scientific understanding**

## Preconditions:

- ▶ test coverage (automated unit tests that run after every minor check in and cover most of the functionality)