Contributing to Madagascar

Part 1: My experience on reproducible research

Gang Fang

August 8, 2015
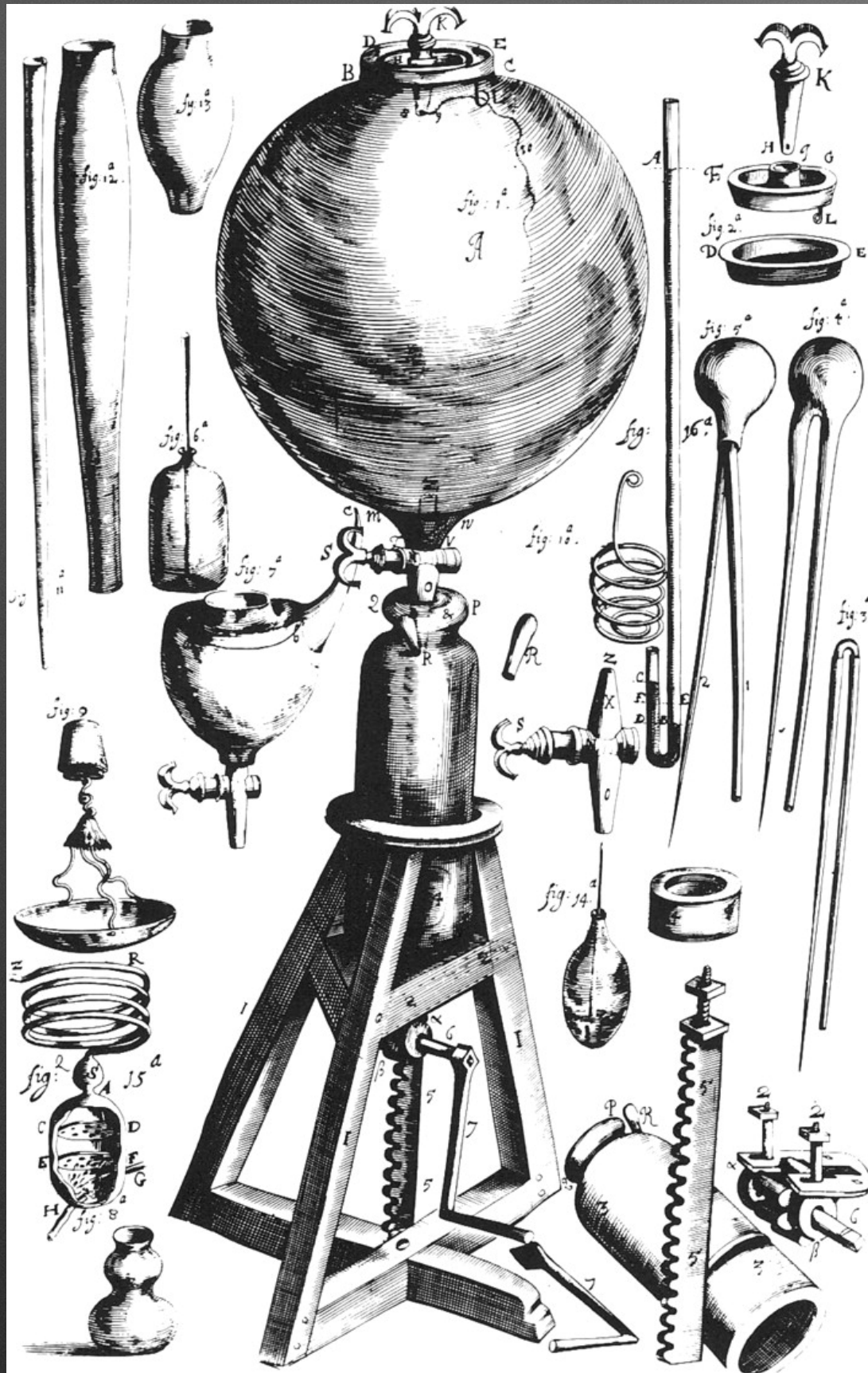
Qingdao, China

Reproducibility is one of the main principles of the scientific method.

Boyle's air pump was, in terms of the 17th Century, a complicated and expensive scientific apparatus, making reproducibility of results difficult
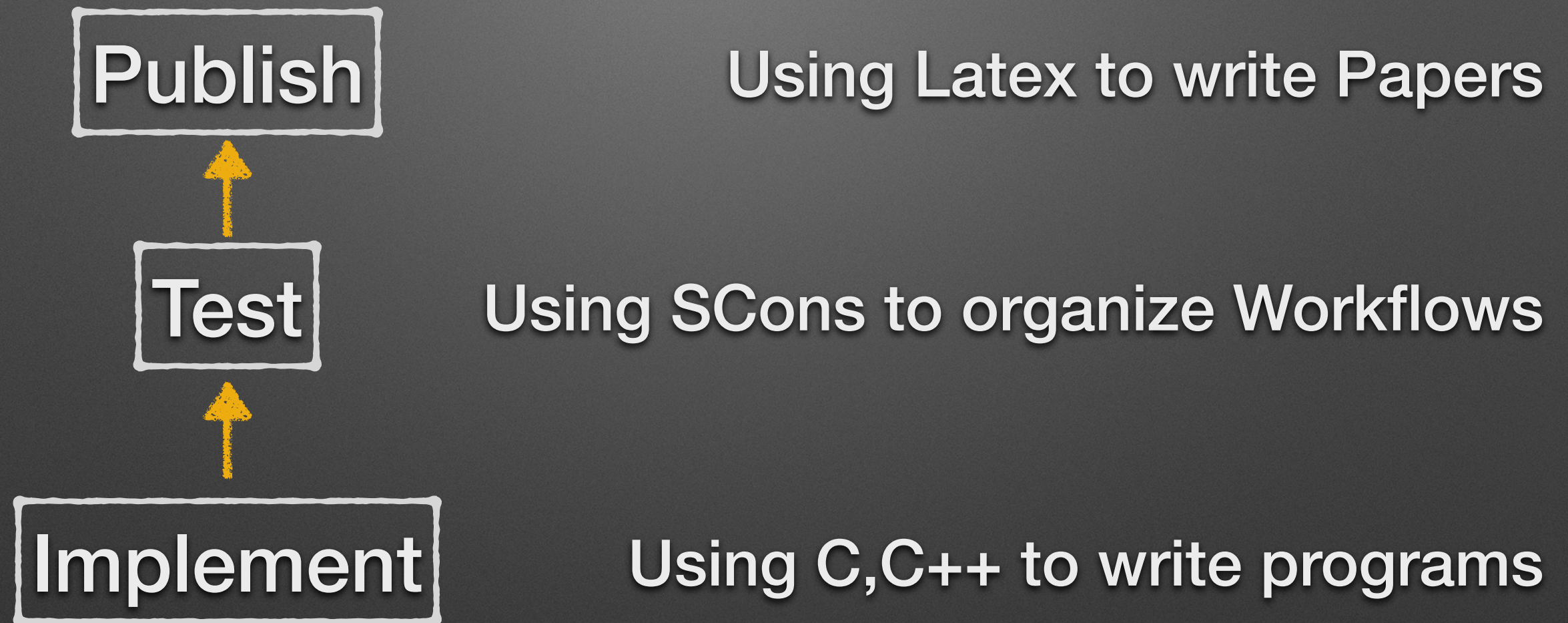
Software as a Research Tool

Research Flow

Publish — Using Latex to write Papers

Test — Using SCons to organize Workflows

Implement — Using C,C++ to write programs

What can we do?

- Contribute your programs

  svn commit or using Github

- Contribute your research papers to Madagascar

- Contribute your experiences by writing a reproducible tutorial

- …….

Who has contributed

www.ahay.org/wiki/Reproducible_Documents#Xi.27an_Jiaotong_University

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3 China University of Petroleum
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A numerical tour of wave propagation

Next: Basic wave equation Up: Reproducible Documents

A numerical tour of wave propagation

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Abstract:

This tutorial is written for beginners as an introduction to basic wave propagation using finite difference method, from acoustic and elastic wave modeling, to reverse time migration and full waveform inversion. Most of the theoretical delineations summarized in this tutorial have been implemented in Madagascar with Matlab, C and CUDA programming, which will benefit readers' further study.

16 The Rice Inversion Project
17 University of Western Australia
18 Xi'an Jiaotong University

Thanks!