

# The Zimbabwe Bush Pump:

Mechanics of a Fluid Technology

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**Marianne de Laet and Annemarie Mol**  
2000

*Presentation by group 1: Lena, Magda and Johan*

# Outline

1. **Actor**
2. **The Pump**
3. **Inventor**
4. **Discussion**



# Actor: Transforming the meaning of an actor

The actor inherited from philosophy:

- *Rational Man* — a well-bounded, sane and centered human figure.
- In urgent need of an update.

The pump broadens 'actor' to include non-human, non-rational entities.

# Actor: A fluid actor

- Holding together as a fluid, rather than a network
- Can stop to act

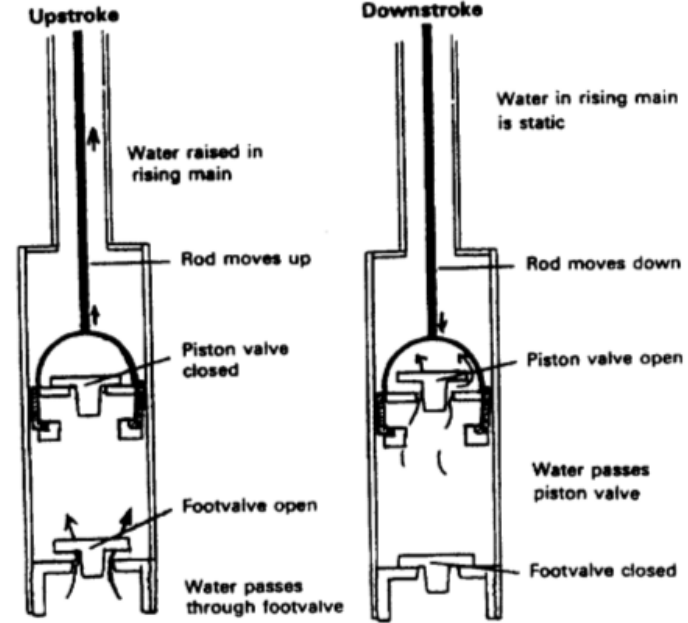
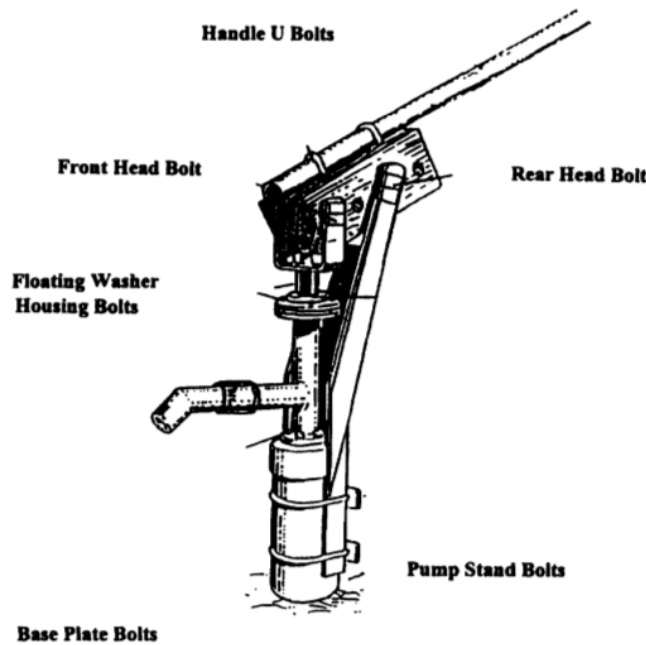
Can actors be fluid without losing their agency?  
The paper hopes to demonstrate it.

# The Pump: Zimbabwe Bush Pump 'B' type

- The pump is designed to convey certain messages
  - purity, clarity and freshness
  - “pick me up and install me wherever you fancy. I am cool and easy to use” (p228)

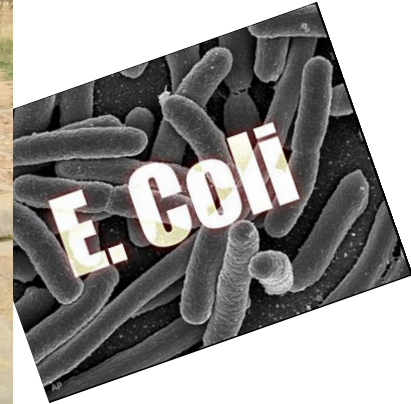


# The Pump: Topping and hydraulics



# The Pump: Headworks for health

A sanitation  
device



# The installation of the pump

- Instructions for installation
- Village participation



# The villagers

- Important community members

# Maintenance

- Maintenance programme
- The “death” of the Bush Pump

# **The community and the nation**

- Community participation
- Building the nation

# Standardization

The pump as a **national standard**:

- Gains **strength** with each **installation**.
- Pump: nation builder (water infrastructure), Nation: pump builder.
- Designed and produced **locally**, in a **decentralized** manner -> **Compliance** with standards.

# Standardization

## Hygienics and standards:

- International quality standards: Coliform & E.Coli determine whether the ZBP **promotes health**.
- **Fluidity** in handling the measurements. Questions of **health are relative**.

**Standards** make sense **only** if the instances are **uniform**.

# The Pump: A fluid pump

- The pump is framed — with a number of possible boundaries — in a range of different ways.
- Fluid evaluation of its activities (different possible failings and changes).

# Inventor: Dr. Peter Morgan

*"The designer has reached perfection not when there's nothing more to add, but when there's nothing to take away"*

- Perfected version of an established public belonging
- Granting ownership - success, affordability.
- Great materials, expertise, dedication, collaborative effort, coincidences, evolution.

# Inventor: Dr. Peter Morgan

- Involved in the invention, improvement of hydraulics, maintenance, implementation and monitoring of the pump.
- **Abandons control** in order to create **working** pumps:
  - Welcomes the **insight** of the **actual users**.
  - Inspects pumps to find out about how they **adapt** and **evolve**.
  - Serves the **people**.

Actively **dissolves** his **actorship**. He is **fluid** -not a rigid sovereign master- just like the pump.



# Discussion

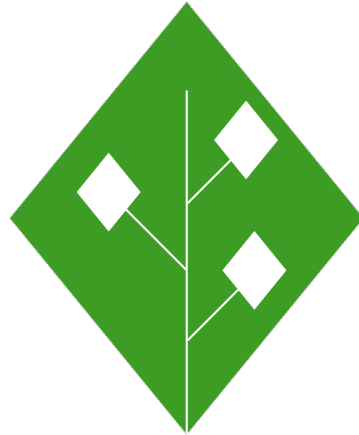
1. We've talked extensively about a successful and good technology. What is a good technology for you? Is it absolute?
2. How does the approach in the paper (with fluid actors) differ from Latour's ANT?
3. By declaring their 'love' for the pump, the writers assume a non neutral position which means that they receive accountability. Can that elevate them to the position of an actor? Elaborate.
4. In ch. 3 we examined a few theoretical perspectives that show ways in which society and technology are linked. Which one do you think is best applicable in our case?
5. Strong or weak intentionality of our designer?

## ...compared to Latour's ANT...?

- Holding together as a fluid rather than as a network.
- Actors don't need the clear-cut boundaries that come with a stable identity.
- A fluid actor is not a stable actor.
- Success in fluidity as opposed to stability.
- More?

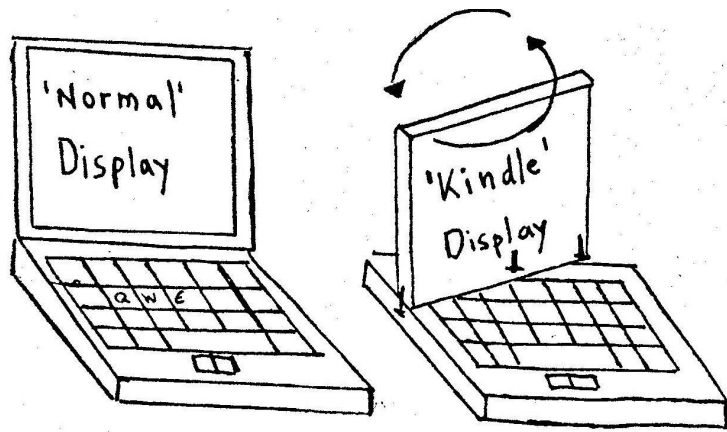
# The re-coding project

## - Modular laptop

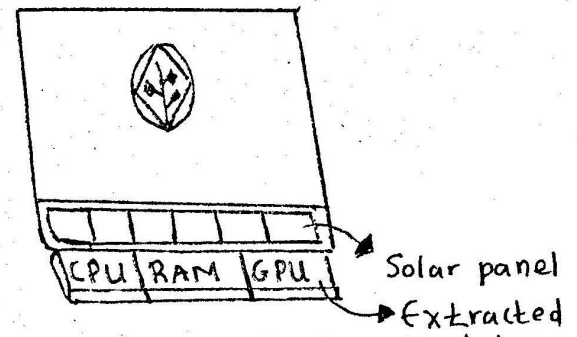


# Ideas

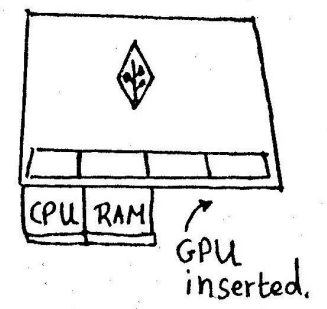
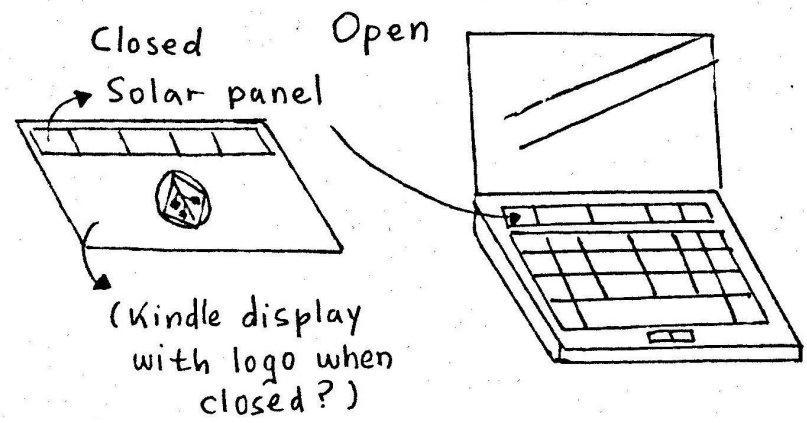
- Imagine a main board on which the users can plug in modules.
- This facilitates portability, upgrading, replacing, expanding and even sharing.
- Solar panel & Low Impact - e.g. “kindle”
- projector
- Recoding brand — Apple
  - a. Redesign logo
- Design process — user participation



flippable screen -  
'Kindle' display



Modularity  
example



# Why?

Bringing more focus to the idea of a friendly, sustainable and durable laptop. Apple has had bad media attention on their third-world factory situations.

# Goals

- Symbolic change
- Environmental friendly/Sustainable
  - Recyclable
  - Longevity
  - Low energy
- User centered
- Open source
- Fair trade
- Work situation

# //to consider

Elements we could consider to achieve sustainability (move **from quantitative to qualitative** paradigm)

- Relearning: of how to act within the relational interconnectedness of all existing ecologies.
- **Recoding: give existing things new meanings**
- **Retrofitting: to cope with the a changing climate and the failing economy.**
- Elimination: redirective design practice.
- Technological trans-innovation
- **Environments of equity**
- New institutions
- **New low impact products and structures**

Good design: sustainability, qualitative economy, for **all** humanity.

**Participatory democratic actions** offer an alternative to technocracy through tactical resistance to establish designs that impose new values on technical institutions and create a new type of modern society.