Wider Implications of Bike Design Diversity

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Fig. 13.
Gepäckdreirad der Neckarsulmer Fahrradwerke A.-G.

The Folding Bicycle

A real improvement. Can be carried anywhere.
Perfectly right and in quickest operation.
Always wanted. Write for catalogue.

THE FOLDING BICYCLE CO.
CANTUB, CONN.

The easy-chair bicycle is obviously built for comfort and not for speed.
Thinking about technology

• Conventional approach to technology as an autonomous realm
• Focus on artefacts in isolation – e.g. the machines in the pictures
• Innovation, novelty and obsolescence
Sociology of Technology

- Emphasis on technology as a social construction
- Privileges users and other actors
- Emphasises contexts of technology
- Examines technology in use

- What is a bicycle?
  - What is it used for?
  - How is it used?
  - By whom?
Thinking about technology

Key Observation:
• Different Technologies provides different opportunities and constraints (affordances)
• Affordance: the possibilities of action provided by any given object

Key Question:
• What is the relation between artefact and user?

Additional Problem:
• Users are diverse too!
Diversity of users

By social characteristics
• e.g. Age, gender, culture & tradition, experience, class, status, employment roles

By physical characteristics
• e.g. Health, fitness, impairment

By psycho-social characteristics
• e.g. Confidence, fear, expectation, values

These interact to shape diverse practices, needs and desires
Linking diverse users with diverse bike designs

• Increased cycle use requires more users

• More users implies more uses

  Diversity of bike design allows people to find machines that allow them to use bicycles when formerly they could not or would not want to.

Result

• Significant increase in range of actors, actions and activities
Affordances of diverse bike design

Bike technologies intentional (not evolving!)

Deliberate intentions to maximise one or other particular factor

e.g.
• Speed (TT bike)
• Climbing efficiency (minimal mass)
• Comfort
• Utility
• Carrying capacity

These can be mapped in different ways…
Implications (examples)

• Increased mass creates greater inertia: slower acceleration/ deceleration – potential conflict in mixed traffic

• Higher speeds (>24kph) may exceed design speed of infrastructure

• Loads may decrease manoeuvrability, increase physical footprint - questions arise over adequacy of parking facilities
Dealing with diversity

• Consider how road space is designed to cope with variety of users –
  • Are cycle facilities designed with a multiplicity of users in mind?
  • Is the implicit assumption that users are homogeneous, riding in a neat single file at uniform speed and acceleration?
• Ultimately, do we design for yesterday or for the future?
Thank You – Keep Riding
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Trio bike

E-bike

Delivery trike

Brox

e-Taxi

Bakfiets

Trailer

Town bike

Cyclists original

Race bike

Recumbent with trailer

Recumbent

e-Velomobile

velomobile

Faired recumbent