

How 3D Printing Can Revolutionize Developing Economies

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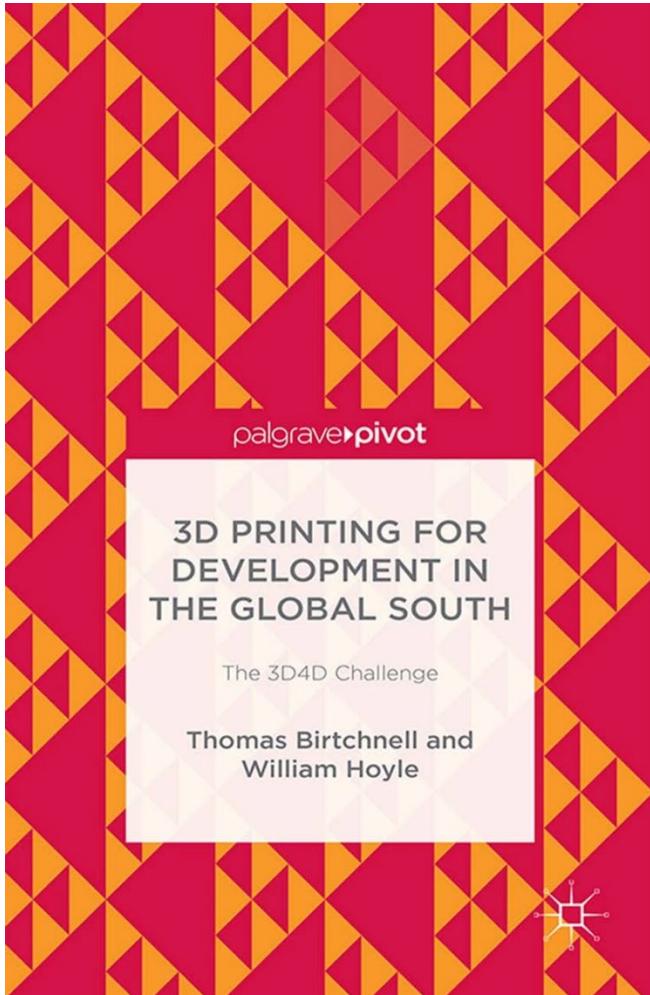
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The Problem

- Development happens inside the global economy
 - Development has historically been based on unequal exchange
- Question: Can 3D printing change development?



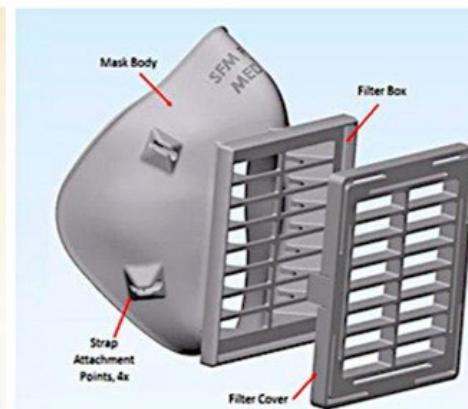
The Approach



- Qualitative data through a review of research literature
- Theoretical Frameworks
 - Birtchnell and Hoyle's 3D Printing for Development (3D4D)
 - J.K. Gibson-Graham's plurality of economies
 - Unequal exchange

Interventions

- Expand roles of makerspaces
 - Should also be used to incubate innovation
- Pair 3D printing with social enterprise
- Organize volunteer manufacturers



Images: 3D printed Personal Protective Equipment during COVID-19

Results

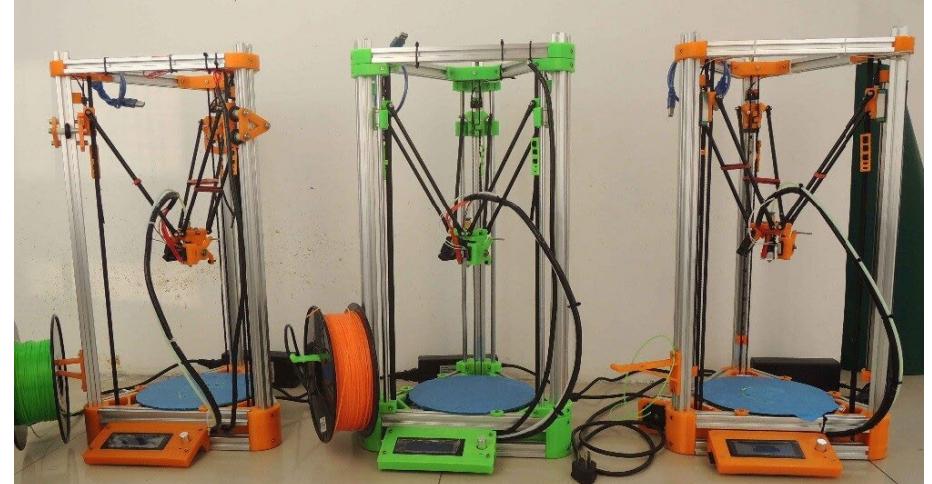
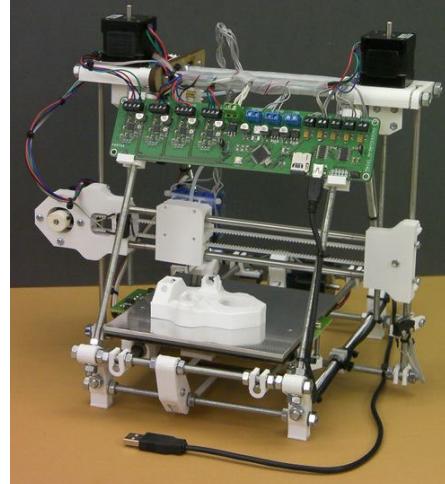
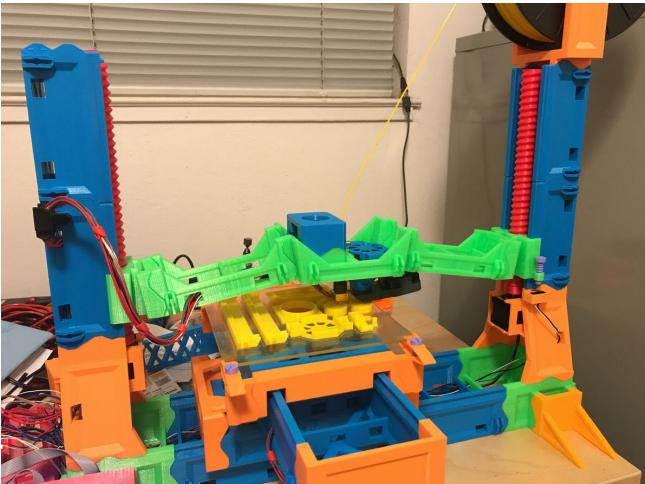
- 3D printing is already enabling new social enterprises
- 3D printing is creating new ways to process waste
- 3D printing supports alternative models of manufacturing
- 3D printing can be used to create a wide range of useful items



Images: Protopen recycling project in India

Conclusions

- 3D printing can help break away from the model of unequal exchange
- 3D printing puts manufacturing in the hands of the people
 - Empowers individuals to address local problems
- Focusing on social impact lets us step outside the limits of capitalism



Images: RepRap open-source 3D printers

Selected Bibliography

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