Establishing a Science Shop

Mathematical, Physical and Life Sciences Division and Oxford Internet Institute, University of Oxford

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By: Saskia Visser

> *"I don't trust the way AI is being sold to us. People aren't in the conversation, let alone the decisions. We are going to wake up one morning and the world won't be the same."*
> *From: Frankisssstein by Jeanette Winterson*

Executive summary

Science Shops are functions that aim to bridge the gap between university and communities through working with mostly not-for-profit organisations and taking on a community-led, consultative and/or collaborative approach in connecting societal issues to research. From mid July 2019 until the end of January 2020 we piloted a Pop-up Science Shop in Artificial Intelligence at the University of Oxford. That included surveying the territory, building relationships and promoting the Science Shop as well as thematic project activities to explore what works best in the Oxford situation.

We informed people in- and outside of the University about the Science Shop through personal contacts, talks and a simple card game at training sessions, conversations at fairs, texts on websites and in newsletters, a promotional postcard and a Christmas competition in co-operation with Oxford Sparks. In this competition people (excluding University of Oxford staff and students) could send in their question to spark science.

Three themes explored in Artificial Intelligence & Ethics, Environment and Health

The thematic projects were around three themes: *Where does IT leave me?* (AI & Ethics), *Living Rivers on your doorstep* (AI & Environment) and *The robot doesn't care?* (AI & Health).

In the first theme we observed and supported researchers in Public Engagement with Research activities that aimed to be more consultative and start meaningful discussions. This included: a. the Public Engagement with Research Lab *Who writes the future*?, in which secondary school students engaged with creative writing around the future of technology, b. *Science at the Shops*, a part of the IF Oxford Science and Ideas festival in which two teams of researchers set out to have discussions about the (technological) future and c. *I am a researcher Machine learning zone*, in which researchers answered questions and chatted with secondary school students about this subject. In all settings interesting discussions took place that often surprised the researchers. Trust, inclusion and transparency in Artificial Intelligence and technology were re-occurring subjects within these discussions and it underlined the need for balanced information about the positive and negative effects of AI.

In Living Rivers on your doorstep we collaborated with lecturers and trainers to connect local issues and connections to students' interest within the curriculum. Within the doctoral training programme of environmental research the DPhil-students met with local organisations on a site visit followed by a workshop to explore their own possible connections outside Academia. With these DPhil-students and Master's students from the Water Science Policy and Management programme we tested and

discussed a method of Citizen Science within the European project of Drinkable Rivers. The students were convinced a connection outside of Academia was valuable for researchers and 80% of them were interested in making such a connection themselves. Citizen Science can be an interesting way to make a connection and by taking the *Ten principles of Citizen Science* into account we can ensure an ethical practice. AI was not central within this theme, but could be a promising tool for Citizen Science and/or environmental research.

In the third theme around AI & Health we prepared *Debating Data*, a Deliberative Democracy event on the use of various types of Health Data, within a team of researchers and supporting staff. This was a good attempt to take a big step towards a consultative approach of public engagement with research, but as the event will take place after this pilot ends the evaluation is not yet available. In the preparatory phase it already attracted interest of other researchers that want to undertake a similar event in the future. The Science Shop could continue to play a constructive role in advising and supporting these organisers and in the long run make the event even more community-led, working with themes or questions brought in by community organisations.

On all three themes we also reached out to local organisations to explore issues they might have to start community-led research projects. Although we have met positive replies and had some interesting first discussions, it did not lead to official questions and projects yet. Lack of time, staff and funding is an issue for many small local organisations that can prevent them to embark on a project with results we cannot guarantee.

A future for a Science Shop: long-term relationships, support & advice, students and funding
A Science Shop is feasible within the University of Oxford, but the main challenge is to establish long term relationships with organisations outside the University. There is no structural function present within the University for the contact with local non-profit organisations, but there are researchers who are keen to make that connection. Existing contacts are often on a personal level and the researchers do not feel fully supported in their attempts to make these connections or turn them into valuable projects. A Science Shop could fill this gap and concentrate on making contact with non-university organisations and maintaining these contacts, and on the other hand advice and support researchers and students in more consultative and co-operative approach and work towards real community-led research.

We would propose to refrain from making AI as a prominent feature of the Science Shop. Although AI is an interesting field with many ethical aspects and effects on individuals, groups and society as a whole, it is a field that sparks more recognition and interest inside the university than outside. A more general Science Shop can still take AI as an interesting theme, but can also be flexible to allow a real chance to be community-led. Working with DPhil-students proved to be promising and in close collaboration with lecturers also Master's students could take on interesting projects within the curriculum.

To ensure support and easy ways into the University and into the Oxfordshire Society, the Science Shop should try to set up a light touch Advisory Committee and also look for ways to fund expenses and make up for time and effort of community organisations and researchers to explore their mutual interests.