

# The Programming Historian: developing and sustaining impact in the Global South



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## Introduction

This report was commissioned to create an impact pathway for the Programming Historian to develop and sustain engagement in the Global South. It came about in response to a surge in readers from Central and South America following the launch of the *Programming Historian en español* in 2017, the establishment of *Programming Historian en français* as a means of reaching communities in francophone Africa, and data suggesting user communities in cities associated with the Indian information technology sector.

Research for the report was undertaken by Penny Andrews between February and April 2020, supervised by James Baker. Research activities included meetings with members of the *Programming Historian* team, analysis of the 2018 Programming Historian user survey, and conversations with impact and community managers in comparable third-sector organisations.

The finished report was written by Penny Andrews on the behalf of the *Programming Historian* Project Team. The compressed nature of the research means that the report is one-time snapshot of project activities. As such, many activities undertaken by the *Programming Historian* Project Team are not covered by the present report.

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## The *Programming Historian* Today

### Team structure

The *Programming Historian* publishes novice-friendly, peer-reviewed, open-access articles that help humanists learn a wide range of digital tools, techniques, and workflows to facilitate research and teaching. It is currently published in three languages, with the initial English version launching in 2012. All three *Programming Historian* journals are published by independent editorial boards, who together with those in technical and project development roles form the Project Team. The structure of the organisation is currently quite flat, albeit more hierarchical than it used to be due to the introduction of sub-teams in 2018. Recruitment is usually to editorial boards, which requires a high level of skill and commitment. Onboarding is a slow process and volunteers (team members without institutional buy-in or support for their work on *Programming Historian*) often leave shortly after getting up to speed. Decisions are made in English, though the Project Team is multilingual and international (including members based in Central America, Europe, North America, and South America).

### Team structure?

Flat structures can be attractive and seem equitable, but as an organisation grows, which *Programming Historian* has done, subgroups form in order to distribute the burden of work and achieve specific tasks. Subgroups within such organisations are not always equally valued, and without the safeguards of a properly constituted structure, traditional hierarchies can emerge, led often by those from dominant groups and who enjoy positions of structural privilege. In turn, their officers/delegates can become de facto gatekeepers for decision-making. Feminist organisational studies put into practice, e.g. Hartley et al (2019), find that members say they want everyone to have an equal say but in practice only a few contribute to discussions or surveys and the work is not equally done.

Conversations with the *Programming Historian* team during the preparation of this report revealed that this is sometimes the case with this community. Open Access/Science is often accused of putting transparency and access above social justice and equity, and libertarian approaches to structures and practices can discourage sustainable involvement from people outside the usual volunteer group of white men at supportive institutions. Equality of access and equality of opportunity are not the same, and the *Programming Historian* needs to be mindful of this as the journals grow.



## How the *Programming Historian* is being used and by whom

Most traffic to the *Programming Historian* comes from English and Spanish language searches for keywords relating to programming. Where users find the site through inbound links, these are from on-topic blogs, pages, and discussion threads. Around 80% of visitors to the *Programming Historian* bounce (they enter the site and leave, rather view other pages on the site): whilst this sounds high, this is comparable with most web traffic.

The open approach taken by the *Programming Historian* might lend itself to encouraging a broad and diverse user base. This, however, is not yet the case across the sector. Reports on Open Science (term here used in the broadest sense) show that gender is a real problem for outreach and engagement (Chan and Okune, 2018; GENDERACTION, 2020). Analysis of analytics shows that audiences for the *Programming Historian* reflect this wider pattern: users are mostly male, and they are mostly using desktop/computers bar a brief period of mobile (mostly female) domination – which from context probably reflects a temporary change in search engine algorithms that was later reversed. This gender imbalance possibly reflects the digital humanities field, and the tendency of search engines and analytics to peg some interests as male, but it also aligns with gender inflected perceptions of and engagement with coding. Reluctant coders could be put off by an appearance of nerdy enthusiasm – the 2018 *Programming Historian* survey shows readers often don't try or persist with articles, despite good intentions.

Minimal to no traffic to the *Programming Historian* website comes from library search engines or Google Scholar, which suggests that the articles are not seen by audiences as journal articles. Whilst this might suggest the *Programming Historian* would benefit from integration into library systems, it could be irritating to library users if the *Programming Historian* was integrated more fully into discovery systems like Primo, Summon etc without metadata to help usefully categorise the publication type as journal articles focused on methodology. The literature on library discovery systems shows users struggle to distinguish between versions and formats in detailed item results (Nichols et al., 2014; Schonfeld, 2015; Tonyan and Piper, 2019) and it improves user experience to remove content that is not peer-reviewed journal articles and conference papers, academic books and chapters from custom library search interfaces (Hanneke and O'Brien, 2016). Library users may (erroneously) see *Programming Historian* articles in the same light as book reviews, data sets and software code – they are published with DOIs in peer-reviewed publications, but they could be seen as irrelevant to the bulk of those interacting with the service.

In terms of the types of articles being used, site analytics show that articles on the programming language Python are by far the main reason people visit the *Programming Historian*. Next to this the 2018 survey and the site analytics indicate the users value and regularly use articles on data visualisation. The single article on MALLET also features prominently in user data.



## Making a Greater Impact

### The external context

Looking at comparable open science or open community orientated projects, they – like the *Programming Historian* – often move to create outreach and external engagement roles once they start to obtain a stable financial footing. The problem, however, is that these roles tend to be over-specified and underpaid. Retention is a problem, so these jobs are regularly re-advertised. There tends to be little or no opportunities for progression in these roles due to flat structures either in the organisation or because ‘engagement teams’ are in fact teams of one. Whilst over-specified job descriptions are common in tech startups, from which open science and open community orientated projects often (unthinkingly) take their cues, the potential rewards (high salary or share options, buyout of expertise) are not there in third sector and public sector organisations.

### Who our audiences are and what they want

Most survey respondents identified as readers but not active users (that is, authors, contributors, people who submit suggested changes) of the articles. These readers tend to find the *Programming Historian* and new content via social media, though it should be noted that engagement with communities on social media is slim (e.g. it tends towards one to many broadcasts). Users report some uncertainty about what they are encountering whilst using the *Programming Historian*: Is it a set of journals or an e-learning platform? Are there guided pathways through the materials that should be chosen? Should the articles be followed exactly as part of a learning process?

### What our team wants

When discussing present and future impact with the *Programming Historian* Project Team, four themes emerged. First, team members want the publication platform and journals to be more accessible to new users. Second, they want to develop the approach to non-Anglophone publishing beyond translating articles from and to English. Third, due to the overheads associated with onboarding team members, they want better retention. Fourth, they want mechanisms for supporting readers so that they become part of a community of contributors and authors.



## What is required to enable change

Skills, time, and financial resources are needed to action these changes, and to – in turn – create a stable and sustainable platform from which to expand the impact work of the *Programming Historian*. Many of these were identified by readers and team members alike, and include:

- A team structure that proactively supports editors.
- People with expertise in communications, analytics, and on the ground outreach.
- A mixed economy of voluntary, salaried, and consultancy labour.
- Opportunities for progression within the Project Team.
- A clear alignment between the purpose of the project and the technical infrastructures the project is willing and able to implement.



## A Pathway to Impact in the Global South

### Priority Actions for the *Programming Historian*

The report makes eight broad recommendations based on analysis of findings. All revolve around the same theme: effective outreach first requires *Programming Historian* to resolve outstanding issues in its internal structure.

### **We can't do outreach in the Global South without fixing retention/buy-in from existing communities in/from the Global South.**

Communities within the *Programming Historian* would benefit the publication prioritising collaboration with external communities already working in or with the Global South. Work on developing these collaborations is in progress, and has been accelerated by the creation of a Global Team. To achieve the impact it desires, the *Programming Historian* should aim to form close and sustained relationships with communities that already exist: regional DOAJ, librarians (via SPARC and IFLA), and learned societies. Interactions with these communities will enable the journals to create content that speaks to history as it is researched and taught in those regions.

### **Clarify our purpose**

But before we start establishing these collaborative links, before we start making an action plan for impact in the Global South, the *Programming Historian* must clarify its purpose. What is the *Programming Historian* for? Does the Project Team want the project to grow? If so, how? And when the *Programming Historian* talks about impact, is there a shared understanding of who the impact is for?

### **Impact starts at home!**

And before we start trying to make an impact on others, we need to ask what impact we are having on ourselves: what impact does the *Programming Historian* have on its own board, editors, contributors, authors and the rest of the team? The role of the *Programming Historian* in people's jobs, lives, and professional development needs to be captured and showcased as the basis for expanding impact into the Global South.

### **Start articles with a list of requirements**

Users have explicitly asked for articles to begin with a list of requirements: whether or not they will need internet access throughout, if they need admin access to install software, skills or knowledge that are assumed, et cetera. Not doing this fails to meet a basic pedagogical need. We know that key barriers in e-learning include the amount of prior learning required and poor communication of technical, time and administrative necessities (Ali et al, 2018).



Users will stay on the website, return for more content, and feel part of a community of learners if they trust *Programming Historian* to support their learning.

### **Create an FAQ**

As the *Programming Historian* has evolved, a large volume of information and documentation has built up across its public facing web pages. This is now a burden on readers. There is a clear need to bring all decisions, contextual support and information together in one place, which then signposts to existing pages containing more detailed information. As it stands, the barrier to asking for help is quite high – most people will never log a problem but just give up.

### **The first hire should be a manager**

Somebody needs to be across all the teams and roles and geographical dispersal in order that effective support, insight and strategic leadership can be offered. This requires a hire. This could be a project manager or communities manager, but it needs to be clear what their role is and how others feed into it. Particularly during periods of uncertainty like coronavirus where key team members are stepping back for personal or professional reasons, someone needs to be checking in with everyone and seeking out additional support where necessary. Whilst the *Programming Historian* does not at present have the funds to make a hire of this kind, as it is crucial to get this role right, planning – including resolving the relationship between voluntary, salaried, and consultancy labour – should begin now to identify the scope, duties, and authority of this role.

### **Bring in analytics skills**

It is unwise to get too excited by a surge in mobile users or users from a particular country if they are bouncing: Indian users, for example, may be prominent in the number of hits, but their bounce rate is over 85%. The *Programming Historian* needs to learn how to do analytics (or buy in expertise) to understand what Google Analytics and other platforms are telling us. Not doing so will continue a trend of working in the dark when it comes to understanding who uses the site or what they want for the site (e.g. more articles on MALLETT), and will waste time that could be used on engaging directly with communities who would benefit.

### **Better explain what we can't/won't do**

The survey data offers pointers to what users want or expect. For example, readers have asked for video tutorials, different navigation, and progression pathways between articles. That the *Programming Historian* is unable to or unwilling to offer this, and the reasons for it (whether structural, technical, financial, or pedagogical), should be more effectively communicated.





## Further Actions

### Should have:

- Continue defining 'job' and 'voluntary' work in preparation for a) hiring a manager, b) having more money, and c) becoming a charity.
- Editing an article should not be a rite of passage for everyone who we want to work on the project. Create a structure that allows people to join the team at a lower-barrier, more granular level with one or two modest responsibilities (e.g. running the Twitter account, managed by the Communications Lead) to build confidence and skills. Not everyone can be or wants to be an editor and it leads to single points of failure when the one keen person who take on a particular task gets ill or moves on.
- Where funds allow, expand the recruitment of volunteers or freelancers with specific skill sets: communications, graphics, analytics, external liaison, finance, events management. Doing so would not be a slight on those currently undertaking those roles, rather it would free them up to focus on project activities that they are more comfortable with, are most interested in, or best fit their skills.
- Produce more articles based on non-Anglophonic datasets and translate them between language publications.

### Could have:

- Invest in regional meetings that enable the Project Team to socialise.
- Expand and diversify the use of metadata to link articles together: by dataset type, software/tools, author background.
- Encourage authors to write articles that build on their previous articles or use the same data set.
- Post-publication edited collections of thematically linked articles, with expert introductions or summaries.

### Won't not have at this time:

- Change of technical infrastructure



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