

## The Post-Digital Perma-Library: Cultivating Ecosystems of Cosmogonic Knowledge

In lieu of a conclusion, the post-digital perma-library is a proposition compelled by the perceived impermanence and relative short-sightedness of current extractive approaches to the library's evolution, such as hybridity, and the radical potentials raised by artists included in the *BiblioTech* project.

Similar to 'the hybrid library', the post-digital perma-library challenges the pre-eminence of institutional commonplaces: space-bound private collections, book bound knowledge, limited membership, and proximity. But rather than simply combining existing technology, it proposes a library that is constantly evolving and writing itself through communities of humans and interfaces, *humaninterfaces*.

### **The Permutational Nature of Knowledge and the Intersection of Perspectival Vectors**

Generative literature and artistic code shows us that all knowledge and imagination is fundamentally self-permutational; that is, computational and executable information. This appears a banal comment at first glance, but the implication is that pattern-recognition and pattern-playing are the primary modes for textual practice, and pattern is always a question of perspective and topology. This is the role humaninterfaces play, unknowingly their rich and nuanced movement through the *possibility* space of the library today. The library is a space formed and enlightened by intersecting perspective vectors. The intersections of these vectors is the perma-library's network diagram, combining the views of its users into productive contradiction, in which each interaction echoes the intensifications and openings that occur when adding or removing a book from a shelf.

### **Post-Custodial Thinking, Shadow Libraries and New Forms of Publishing**

Large publishing houses are parasitical of institutions and are not entirely complementary to the interests of users. Such a dynamic exists precisely because large publishing houses are not themselves users, aside from any particular ideological or market position. Shadow and post-custodial libraries, and smaller scale and more user-like entities, demonstrate models for interaction, collection, commentary, and re-processing, unsupported by esteemed journals and 'library-priced' monographs. The post-digital perma-library, with printing technologies – photocopiers transformed into post-industrial print-on-demand engines – screens, speakers and stacks, could enable scholars and students to publish and share work directly in live environments and outward into the ecosystem of knowledge. Commons networks of this nature can be less dependent on commercially provided hard-wired infrastructure. The library becomes a platform for collaborative knowledge flow, fostering interaction, intertextuality, and innovation in a deliberately fragile, continually reshaped material environment. This image is at odds with the stasis we experience in most libraries, but of course there are manifold reasons why libraries are fundamentally

conservative spaces. Thus, a question for the perma-library is how it may interface and nest within existing libraries, just as *BiblioTech* inhabited galleries, or become a critical friend of libraries occupying alternative spaces.

### **The Library as a Resonance Chamber for User Energies and Ideas**

Post-digital artists focusing on affect show us that the current resources offered up to the ledger for libraries include numerous bodies providing their cognitive and emotional faculties, and natural resources, often unknowingly. The current model of the library, as it accumulates and pioneers the integration of, cutting edge technology into its spaces and distributed networked presence in our lives, also knowingly and unknowingly generates value externally, at some unknown cost to the lives of users, students and scholars. The post-digital perma-library acts as a resonance chamber for the energies, ideas, feelings of its users by refusing extractive relationships with the technical ecosystem. Such a relation will more equitably re-distribute the priority given to formal traditions for knowledge, among matter that is less easily quantified, more magical and real.

### **Embracing Open-Source Technology and Refusing Extractive Relationships**

Artists working with open-source technology show that a refusal of proprietary extractive relations needn't be at the expense of functionality or innovation, but rather has the potential be one of convenience and interoperability. To embrace open-source technology and refuse extractive relationships, the post-digital perma-library should understand software tools and hardware infrastructure as texts for remixing, augmenting and critical reading as part of knowledge cultivation. Users can write their own resilient infrastructures at the human scale, interfacing with the global situation in kludged, intransigent ways. Like a language itself, the network can translate between local instances towards a future dialect-rich tech-in-common. In some ways then the perma-library is a scaled-up confabulation of the reading-writing, producer-consumer hybridity we have become adept at on social media and smart phones.

### **Perma-Relationship with Collections**

In the post-digital perma-library, the integration of reading and writing technologies goes beyond mere convenience. It means admitting and affirming that collections themselves are, and need to be, constantly evolving, writing themselves through the contributions of the community of users. This transformative process creates a dynamic and ever-changing repository of knowledge, a more resilient perma-relationship between the users and the collections, which can be catalysed by drawing on the code convention of 'forking'. The post-digital perma-library users' commentaries, annotations, re-sortings and arrangements form new text-worlds, networked like a sea of bubbles. The post-digital perma-library is iterated in its entirety in a multi-verse of potential space.

### **Innovating Reading Practices**

Libraries should be oriented towards new practices of reading. The post-digital perma-library is a place where reading is innovated. Readers can take advantage of new technologies to become deeper, weirder, more efficient... and without extractive relationships attached to these efficiencies the energies saved will flow back to its users.

### **Humans as Interface in the Reading Room**

Humans are the interfaces for the endless stream of knowledge that flows through the perma-loop of books, articles, and digital media in this space. Speed Reader software allows users to consume temporally discrete allocations of information, ASMR paper textures and pattern recognition techniques enhance the reading experience to turn the body into a vibrating fork. The reading room uses data from users' optical patterning to make communities of users harmonically resonate. Boundaries between reader and text blur. CGI and VR collections will also be a critical component of the post-digital perma-library. These collections enable users to 'step into' textual events providing new perspectives and insights by living within increasingly rich and complex dimensions of texts and media.

### **The Critical Role of AI in the Post-Digital Perma-Library**

AI will play a critical role in the post-digital perma-library. The outside world is obsessed with the kinds of pattern recognition offered up as AI. Libraries can orient themselves to catch and refunction the energies of this obsession, producing its own patterning, pattern-ers. This will enable the library to process and analyse its own data, making it possible to identify patterns and connections that may have been overlooked by humans without offering up these insights for extractive use – instead the post-digital perma-library cultivates users as the generators of knowledge, overseeing their physical and mental welfare. As AI continues to perform its herding function, drawing us ever closer to the mean, we need to add noise, difference, productive tensions, and outliers back into the system – the perma-library can become a key site for this.

### **AI and Human Collaboration in the Post-Digital Perma-Library**

AI will also generate new knowledge, autonomously creating simulations, models, and predictions that can be tested and refined by humans liberated from an output-driven mechanisation of their role in the institution. Learning from post-digital culture we know that the most effective approach is to embrace the co-creative potential of human-machine collaboration, where AI becomes a partner in the knowledge creation process rather than a replacement for human expertise. This approach enables us to leverage the strengths of both humans and machines, with humans providing the creativity, critical thinking, and ethical judgment necessary to guide AI-generated knowledge towards new forms of knowledge and understanding that benefit society as a whole.

### **Stacking Functions and Expanding the Library's Role in the Community**

The existential issue facing the post-digital perma-library is the absolutely diffuse nature of how it defines knowledge circuits, space, and community – in a word the degree to which its ecosystem reaches out into the world. Considering this challenge seriously, the book stacks become more than just shelves filled with books. 'Stacking functions' is a permaculture principle that involves finding ways to use each element in a system to serve multiple purposes. Book stacking functions mean that shelves housing specialised knowledge is spatialised in a way, which builds critical thinking, offers a refuge from distractions and information overload, becomes a space for workshopping digital distillation techniques, and can function as a host to reading-writing groups on the topic of existing syllabi to connect students and wider communities of users.

### **Fostering a Culture of Collective Ownership and Responsibility**

The post-digital perma-library will need to engage users as active participants in the preservation of knowledge, empowering them to contribute to the creation and curation of the library's collections. This will involve integrating technologies like blockchain to ensure the integrity and security of the data, but it will also require an understanding that the ultimate regenerative technology is a human reader-writer. The community of users will become the most resilient mode of data storage available if they are empowered and supported appropriately. By fostering a culture of collective ownership and responsibility, the post-digital perma-library can become a truly sustainable and long-lasting repository of knowledge.

### **Reading-Writing Eco-systemic Interface Communities**

The perma-library generates reading-writing interfaces among its shelves and plants. They immerse themselves in an immersive textual experience, integrating themselves into the perma-library's diverse forms of knowledge. These interfaces are active participants in its ongoing evolution, using their skills to create new interfaces and access points to the perma-library's archives. For them, the perma-library is a place of inspiration and creative energy. They experiment with executables and codecs, creating experiential texts that poeticise the knowledge inside. Through their work, the perma-library becomes a living, breathing work of art. And as the reading-writing interfaces continue to engage with and transform this ecosystem of knowledge and creativity, the perma-library resonates with a new kind of vitality. It becomes an ever-expanding hub of innovative knowledge, a post-digital ecosystem that is always in flux and always generating new forms of reading-writing interface.

### **Expanding the Nature of Human and Inhuman Knowledge**

Finally, the post-digital perma-library will expand the nature of human and more-than-human knowledge, and integrate it into lives that are better lived. As AI and other advanced technologies continue to develop, the line between human and machine intelligence and agency will become increasingly blurred. The library will be a place where researchers can explore the implications of these developments, asking questions about what it means to be human in an age of intelligent machines. It will also be a place where new forms of knowledge, generated by both humans and machines, can be studied and understood, providing new insights into the nature and production of knowledge itself.