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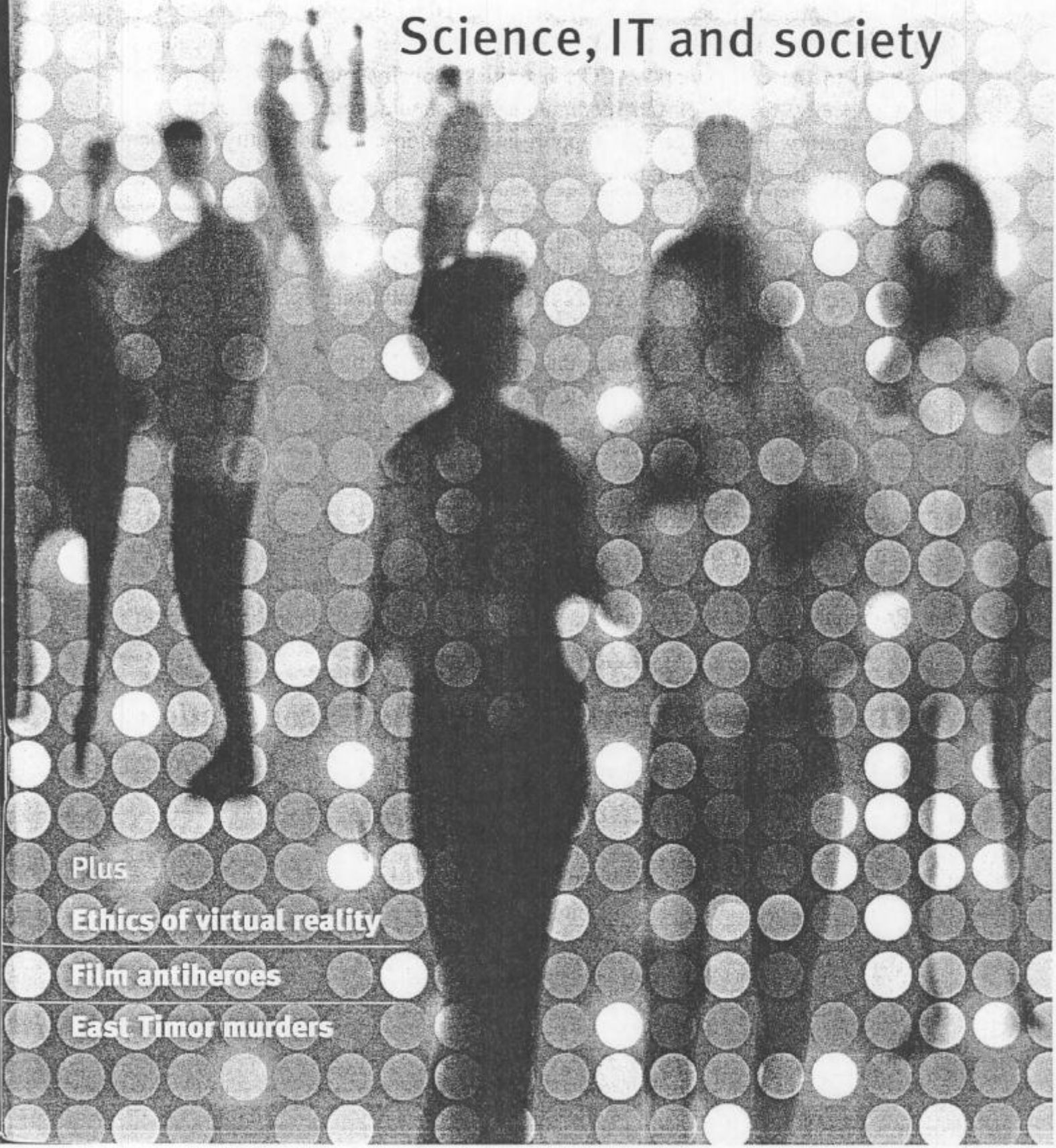

Plus

Ethics of virtual reality

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East Timor murders

The ethics of virtual histories

Patricia Harkin, Steve Jones
and James J. Sosnoski

In the early 1900s, particularly in the 1920s, African-American literature, art, music, dance, and social commentary began to flourish in the section of New York City known as Harlem. This African-American cultural movement became known as 'The New Negro Movement' and later as the Harlem Renaissance. The Harlem Renaissance transformed not only African-American identity and history, but also American culture in general. Never before had so many Americans read the thoughts of African-Americans and embraced the African-American community's productions, expressions, and style. The following article describes the Virtual Harlem project, a collaborative virtual reality tour of Harlem in which participants can travel back 80 years to see and hear historical figures, speeches and music from that period.

Virtual Harlem is designed to help students experience the neighbourhood's life and culture. In a time when so many undergraduates seem to have so little historical information, Virtual Harlem offers sights and sounds, clothing and automobiles, entertainment and politics in such a way as to allow interested students to acquire a sense of what it was like to walk the streets of harlem during its Renaissance.

As the user steps onto the streets of Virtual Harlem, a trolley car full of people passes by (Figure 1), moving through a street filled with Model-Ts. Straight ahead, the Lafayette Theatre is an obvious attraction, with an all black cast playing in the version of 'Macbeth' produced by Orson Wells. You can hear the sounds of dogs barking in the street and people laughing as they walk by. Taking the trolley and getting off at the Lafayette stop, you can hear a portion of Macbeth's infamous monologue as he holds his bloody dagger, while the cast practices during the day.

The user can walk to clubs like The Bamboo Inn, home of jazz improvisation, and the Corner Bar, an interracial club. Walking through the streets you might happen upon two men playing checkers or telling 'hoodoo' tales, the U.S. version of 'voodoo,' involving the sharing of herbal recipes, love potions, trickster tales, or other kinds of spiritualisms.

But what most people want to experience is Harlem's famous Cotton Club, where African-Americans are not allowed to enter as patrons. The gold and wood-crafted doors of this Mafia-controlled club are unmistakable, and as they open, you have a sense of entering a world of wealth, exoticism, sensuality, and illusion. Designed to be reminiscent of old plantation life, the interior strikes you as a combination of the Old South and an exotic island jungle. There are palm trees everywhere, and the room is filled with laughing guests in evening gowns and tuxedos. If you stay long enough, the curtains will part, and footage of a filmed performance of the Duke Ellington Band will play on stage, dancers tap in the foreground, and singer Freddie Washington is introduced. (Figures 2 & 3.)

At the present time, the VR representation of Harlem is limited to a few streets and buildings, (Figure 4). Another limitation, of a different order, is that some of the 'buildings' are not located in their historically accurate place because it was necessary to keep the cityscape relatively small; otherwise, the application would run too slowly to be an effective simulation of walking through Harlem.

Bryan Carter conceived Virtual Harlem as a simulation to be used in his courses on the Harlem Renaissance. In 1999, Jim Sosnoski brought Virtual Harlem to the University of Illinois at Chicago (UIC) and formed the Virtual Harlem Project whose original members were Bryan Carter, Bill Plummer, Thaddeus Parkinson, Steve Jones, Andy Johnson, Jason Leigh, and Tim Portlock. The project is an ongoing endeavor in the Electronic Visualization Lab at UIC and now includes many other artists, engineers, computer scientists, and Harlem Renaissance scholars.

The Virtual Harlem project is designed as a Collaborative Learning Network: the builders of Virtual Harlem are collaborators in a network, the aim of which is to learn about the Harlem Renaissance. Persons who are interested in the Harlem Renaissance or Harlem, N. Y. can contribute to the building of the VR model(s) as long as they follow the project's protocols. In addition, like other visualization projects (where models are constructed of the subject matter being studied), the cross-disciplinary collaboration is extraordinary (see below).

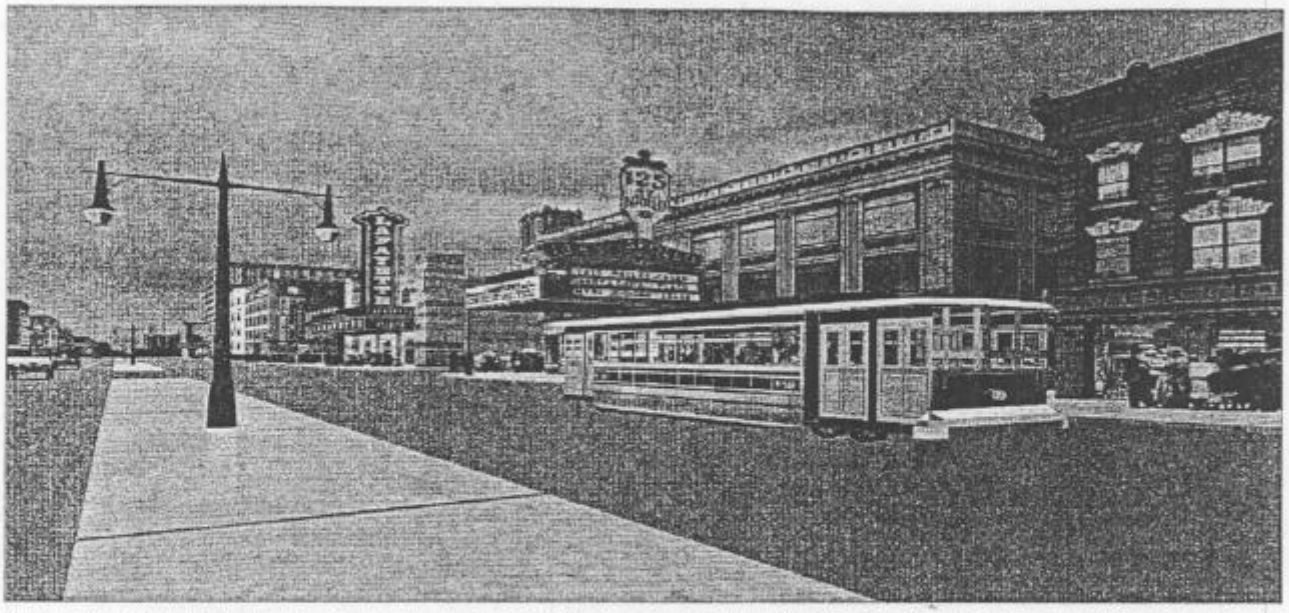

Figure 1: Virtual Harlem is a reconstruction of 10 square blocks of Harlem, New York in the 1920s and 30s. Visitors can either walk or take a streetcar around the area.

These aspects of the project render it a potential prototype for other endeavours involving new instructional technologies.

The overall objective of the Virtual Harlem project is to integrate education in African American culture with the most recent advances in instructional technology and distance learning. The educational objective is to acquaint the public with one of the most remarkable periods of African American Cultural Heritage-the Harlem Renaissance. The technological objective is to acquaint students at several levels of the educational system, especially minority students, with advances in technology, particularly with the use of virtual reality technologies. These objectives – to educate and to experiment – are integral to our conception of a Collaborative Learning Network. Persons who collaborate in the project can share their research discoveries or their study interests in the Harlem Renaissance with others in the network, thus disseminating knowledge about it and promoting continued explorations into this historical period and its urban setting. At the same time, the technological infrastructure of a global electronic network provides innumerable opportunities for teachers, students, and interested non-academics to experiment with or learn about the network technology over a complete range of relevant hardware and software at both the low and high end. By participating in a Collaborative Learning Network, persons come into contact with the entire range of technologies employed in the project, if not in a 'hands-on' manner, then at least at the conceptual level, since all of the technological discussions and experiments are available to anyone in the network.

Because of its complex structure, this collaborative learning network requires that participants be both teachers and learners. The technical staff has to learn about the Harlem Renaissance from the non-technical staff. Similarly, the non-technical staff has to learn about the technologies of virtual reality and networking from the technical staff. The unusual combination of disciplines in the project – African American culture, literary, historical, urban, gender, social, anthropological, artistic, graphic, dramatic studies, communication, psychology, engineering, computer science, and visualization – mandates that no one person in the network will be the master of any one perspective. At the same time, the diversity of perspectives allows each person in the network to view the subject matter and the technology from a previously unfamiliar perspective. Moreover, since the project is based on virtual reality scenarios at the higher end of the technological spectrum, a certain excitement is continuously generated, especially when persons enter the network and view the work that has been completed.

Because of its subject matter – the Harlem Renaissance – this project has the potential to link scholars and students from all over the world who are studying and researching African American culture into a learning network. At the time of writing, nine universities and one super computer center are associated with the Virtual Harlem network: University of Illinois at Chicago (UIC), Central Missouri State University (CMSU), the University of Missouri-Columbia (MU), the University of Arizona

Figures 2 & 3: Visitors to Virtual Harlem can walk inside the famous Cotton Club.

(UA), Columbia University (CU), Växjö University, Sweden, Morgan State University (MSU), Vassar College (VC), the Sorbonne IV, Paris, and the SARA Super Computing Lab in Amsterdam. Several of these universities have already been linked to each other for discussions of the Harlem Renaissance in connection with courses about it.

Key features of the Virtual Harlem project

Several features of the Virtual Harlem project contribute significantly to its potential as an instructional technology. From one point of view, Virtual Harlem is subject matter: it is a learning environment in which participants virtually experience a dramatic, visual history centred in Harlem, New York during its 'Renaissance' period. Visitors can enter Virtual Harlem and navigate through it as a way of learning about the historical context, the events, the everyday life of persons who were living in Harlem at the time (see Pyfer). Unlike a conventional classroom in which the subject matter being studied is available to students mostly in textbooks, on chalkboards, or in slides projected onto a screen, Virtual Harlem is a locale that has to be experienced. Students enter a

cityscape that can be experienced, albeit virtually, as if they were tourists visiting Harlem, NY via a time machine. To visit Virtual Harlem is to undergo a virtual experience.

From another point of view, Virtual Harlem is a mode of learning. Virtual Harlem is an environment that enables subject matter like the Harlem Renaissance to be studied by modelling its historical context as a dynamic system of social, cultural, political, and economic relations. The Virtual Harlem project is an effort in 'urban archaeology.' We have plotted out the surface of historical Harlem and drawn a map of its topography. At various locations on the map, we have dug deeper into its history to obtain a closer look at the development of that site. For example, whereas some buildings are no more than facades to mark the space they occupied at a particular moment in history, others can be explored in much more depth of detail. What the researchers unearth about a particular place is then recreated virtually. As a representation of a 'neighbourhood' in a city, the Virtual Harlem project can be extended to other neighbourhoods in New York City. As a representation of a city, the Virtual Harlem project can be extended to other cities and their neighbourhoods, specifically Virtual Bronzeville and Virtual Monmartre.

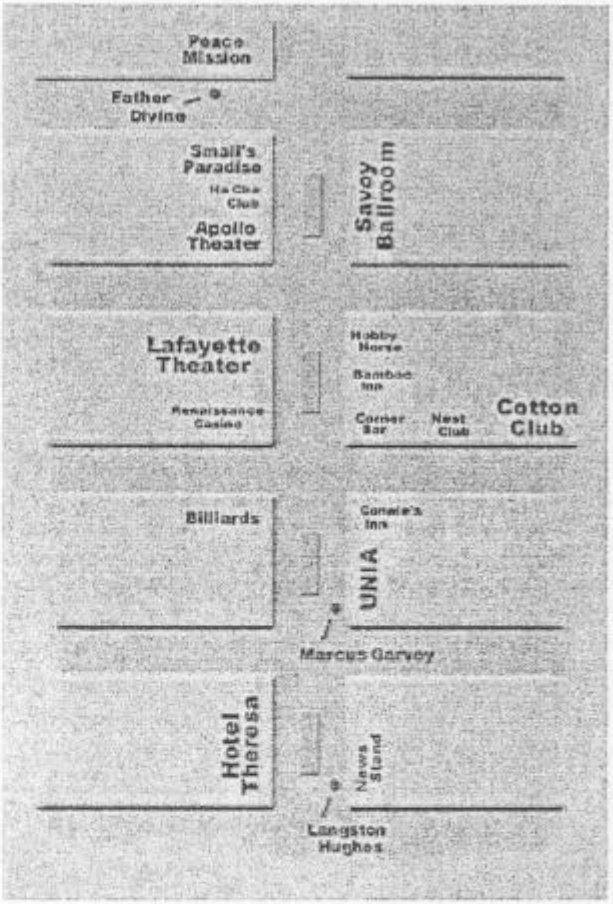

Figure 4: the street map of Virtual Harlem.

Why Virtual Harlem worked

In many but not all respects, Virtual Harlem has been a success story, especially in its early years (until about 2002). There are several reasons. One is that the project team was relatively small and comprised largely of persons who were skilled in the project's technological aspects. They were able to use photos and recordings that were readily available. Furthermore, all members of the team had a strong interest in specific outcomes of the project. And, with only two universities involved (Missouri and UIC) communication among the collaborators was simple. Decisions could be made quickly, and project media materials could be easily shared. The virtual reality labs at both institutions needed content for their applications, and were motivated to provide resources to the project. Eventually Virtual Harlem became the centre of a Collaborative Learning Network. In the fall of 2000, Virtual Harlem became the centrepiece for two courses in the Harlem Renaissance, one taught at Central Missouri State University and the other taught at UIC.

Conceptual, practical and ethical problems

It was during and as a consequence of these pedagogical applications that conceptual, practical, and ethical problems began to arise. A collaborative learning network has its own ethic: It requires its participants to grant the project – the collaboration – as much or more importance than their individual professional objectives. Members need to rely on their collaborators to meet deadlines, follow guidelines, provide information, devote class time to agreed-upon projects, and so forth. Perhaps more important, members need to be sensitive to disciplinary concerns that may seem trivial or picayune. In the humanities, the myth of the lone scholar makes it difficult for some teachers even to consider collaborating. And when they do, they often underestimate the commitment of time and energy that collaboration involves. In the case of a project such as this one, humanists who see the technology merely as a delivery tool, rather than as an object of study in its own right, tend to downplay technology's importance – and the time it takes to learn to use it.

In our case, the scholarly specialists in the Harlem Renaissance had difficulty teaching their students how to use such fundamental tools of a collaborative learning network as listservs or video conferences. Consequently, they did not incorporate the technologies into their syllabi—thereby diminishing the peda-

gogical effectiveness of the CLN. Another problem (perhaps also the result of the teachers' lack of experience with technology) was that the syllabi of the two courses were not synchronized. This resulted in instances in which students in one course were engaged in very different assignments than the students in the other course. Here again, valuable opportunities for collaborative learning were missed – or even squandered.

Virtual Harlem and ethics

These practical problems were dwarfed, however, by difficulties that arose when an ethic of disciplinary rigor came into confrontation with the technological imperative. As originally conceived, Virtual Harlem was a local pedagogy: a learning experience for undergraduates. Bryan Carter's first and second year students at Central Missouri State found 'factoids' about the Harlem Renaissance – a photograph of a building, a recording of a performance – which Carter combined and digitised into a class project. No attempt was made, in the early stages, to apply disciplinary standards of historical accuracy. When it became the focus of a CLN, however, Virtual Harlem became the topic of upper division and graduate courses at UIC, and its somewhat informal approach to history became a serious problem.

UIC African American Studies specialists in the Harlem Renaissance discovered historical inaccuracies and ideological infelicities. One person pointed out, for example, that the performers in Virtual Harlem could not possibly have appeared at the same time in Harlem, N.Y. Another was disturbed by the absence of African American women in Virtual Harlem and wanted to incorporate the Black Tower, a well known salon that was run by an African American woman and frequented by many other African American women, into the environment. But unfamiliarity with the demands of technology made for unrealistic and impractical suggestions for the improvement of Virtual Harlem, such as quick replacement of performers' avatars and rapid insertion of buildings and settings into the cityscape.

At the same time, the computer scientists and programmers were less interested in historical accuracy than in technological innovation. For many of them, similar prior work was in the context of 'cultural heritage', a situation in which the spectacle of VR itself compensated for historical inaccuracies. A programmer who, as an African American, understood the need for historical accuracy did not have the time as a graduate student to respond to the suggestions for improving historical accuracy.

In the meantime, the Advanced Technology Center at Missouri, in an effort to survive budget cuts at the university, began to commercialise Virtual Harlem by putting it on a gaming platform and opening negotiations with corporations such as Disney. This economic move reopened the clash of priorities between scholarly and non-scholarly interests in Virtual Harlem. It also opened the problem of copyright.

The ethics of telling history, virtually

Our efforts to incorporate virtual reality technology in the telling of history presented a variety of ethical problems. There is the obligation to historical accuracy, to 'tell the truth,' while respecting the multiple perspectives and motivations of collaborators (whether those be academic or commercial). In virtual history, particularly in its use of immersive VR technologies, there is not the inevitability of time or space – both can be manipulated in multiple ways while still providing realistic depictions of historical periods and places. The inherent multidisciplinarity of virtual history further complicates matters. Should one discipline have a stronger claim on an environment than another? Should historians' perspective be privileged over that of computer scientists? Should their perspective be privileged over that of visual artists? Funding makes this matter still more complicated. Computer scientists are better funded for the development of virtual reality technology than are humanities scholars. Should the humanists concede to the constraints and related struggles over power that come from one group being the primary funding source for a project such as Virtual Harlem?

As we observed visitors to Virtual Harlem, additional ethical issues, involving the experience of the environment, came to the fore. Which senses are privileged? Given that virtual reality is largely visual, what are the consequences for those who better learn via verbal and auditory media? Indeed, how is learning to be assessed? How do the project's developers decide what is to be learned in the environment? To no small degree the environment is designed in anticipation of learning outcomes, but without ongoing assessment, feedback and revision, the environment will remain essentially impervious to its experience. But for many of the collaborators, regardless of discipline, the creation of a virtual environment is an end in and of itself, and once a Virtual Harlem is built to the point that it 'works' (in terms of the technology and experience) it is time to move on to another project. But Harlem's history is found in no one moment or place, and it could easily consume considerable resources in ongoing development (indeed, in immersive VR, there is no necessary boundary to space or time and development could, potentially, be infinite). Is it possible to build some form of artificial intelligence into the environment that would allow it to

learn as it is being used and to rearrange and rebuild itself in meaningful ways based on that learning? From a strict computer science perspective it is likely that such a system can be designed, but such an effort brings forth new ethical issues.

These questions and issues will need to be continuously debated as technologies such as Virtual Harlem are further developed. For the moment, at least, there is no definitive answer to them. It will be critical that all who collaborate in such a project, whatever discipline or business they represent, whatever their contributions to the projects, must be self-reflexive as they proceed. ■

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