

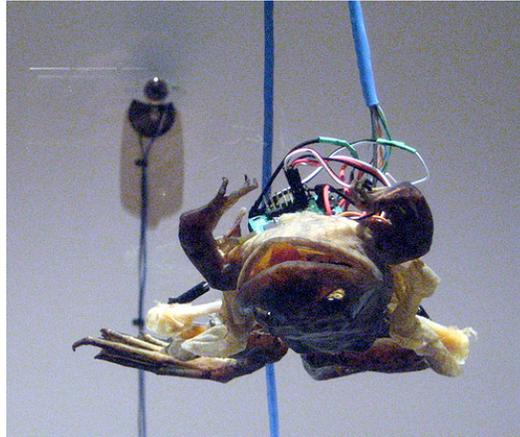
Research Issue: Challenges for the cataloging of New Media Art

50-word Summary

"Contemporary technological art, artifacts and descriptors are inherently unstable because each of their defining characteristics are changing rapidly, and resist canonization. Systems — policies, protocols, symbolic and technological — must be developed that can negotiate and record the interaction and development of global and local vocabularies, including various levels of folksonomic input."

Issue Statement

Consider for a moment the following works, and the problem of collecting and naming them:

Garnet Hertz: Experiments in Galvanism

Description: A dead frog suspended in mineral oil. Electrodes are placed in the main muscles of the frog's body controlled by an implanted web server connected to the Internet. Viewers can go to a URL and control the movements of the frog's body.

Simon Penny: Petit Mal



Description: A machine that senses and moves towards concentrations of heat and motion (in a "glitchy," heuristic, manner) propelled by two bicycle wheels driven by a motor, and powered by a battery system that also provides ballast for the structure. It appears to be attracted to, and interact playfully and intelligently with nearby human observers.

Sponge Collective (Sha Xinwei, et al.): TGarden

Description: Players choose costumes with embedded sensors that react to movement of other players in a rich, aural, and visual media space. The visual and sound environment of the space changes, in response to player movements and interactions, with each other, and with the history of these movements and interactions.

Beatriz da Costa: Pigeonblog

Description: Pigeons, fitted with pollution sensors, cellular transmitters and Global Positioning Systems, are (theatrically) released in different areas of California, sampling

columns of air inaccessible to conventional methods of air quality measurement. The air samples are transmitted to a web server and the data is visualized over a map of the area.

Experiments in Galvanism, Petit Mal, TGarden, PigeonBlog — These works, and others like them, are quite different in conception, goal and execution, but are often displayed or categorized together as "new media," "interactive art," "tactical media" (or variations on these themes, such as the recent turn to "tactical biopolitics")*.

Contemporary technological art, artifacts and their practices — and hence the terms used to describe them — are inherently unstable, and can be expected to remain in that state for some time. Systems — policies, protocols, both symbolic and technological — must be developed that can negotiate and record the interaction and development of global and local vocabularies, including various levels of folksonomic input, used to describe these emerging bodies of work.

Describing these objects is necessary for purposes of recall, as the number of such artifacts in collections increase and diversify. Description is also arguably important for the migration and re-creation of works like those considered above, since many can be very difficult to preserve in a functional state. Documentation and description often creates the only durable record of a new media object's existence, outlasting the work itself.

Limiting aspects of Current Practices

Data structure, value, and content standards

Cultural objects are cataloged using schemas and formats containing categories that allow for the description of various aspects of a work. The content of these

* Hereafter referred to as "New Media art," without scare quotes, for the sake of brevity.

"containers" is in many cases restricted by controlled vocabularies and/or statements formulated by syntax rules. Controlled vocabularies are collections of standardized terms, using preferred or authorized words to denote singular concepts. These terms are articulated in various relationships with one another (narrower, broader, related, synonymous, etc.), and their application boundaries are delimited through scope notes, faceted structures, and domain specific application (the description of works of art, for example), for the purpose of indexing and the retrieval of objects. The agents determining these relationships — standards committees, editorial boards, collection managers and curators — take into consideration a variety of factors to determine a preferred term, depending on the vocabularies' designated use including, but not limited to literary and user warrant. Non-preferred terms are used to enhance retrieval as well. Given the use and scope of such projects, it is clear that the development of such tools takes time, and a relatively stable object of study.

The Getty Institute's Art and Architecture Thesaurus (AAT) is a useful example of a controlled vocabulary that is widely used. The AAT is quite comprehensive — structurally, seven facets (hierarchical lists of terms that aim to exhaustively describe mutually exclusive concepts such as physical characteristics, materials and genre) are used to describe significant aspects of cultural objects. It explicitly describes itself as an open-ended, compiled resource, however, not a comprehensive description of the universe of Art and Architecture, and is constantly being altered and expanded to accommodate new practices. It does abide by certain standards of agreement and citation, and this involves wide ranging research to determine literary and user warrant for such terms. Users subscribing to this vocabulary as a service can use it in its entirety, or parts

of it as a base for their own local vocabularies, useful for their particular collection and its needs.

Beside what Svenonius efficiently termed the "unspeakable realit(ies)" of such an object, clearly beyond the reach of description, many aspects of New Media practice can be adequately described with current Metadata standards and the Controlled Vocabularies at hand. *Petit Mal*, *TGarden* and *PigeonBlog*, for example, fall reasonably well within the confines of conceptual, performance or interactive art as described in the AAT. They have "authors," dimensions, and for the most part, exist somewhere.

Material descriptors are more difficult: The challenge for a controlled vocabulary then becomes to resist the wholesale appropriation of all electronic and scientific equipment catalogs, yet still be able to effectively describe the work. The materials and technologies these works are made of are still undergoing rapid change. Concepts many people consider foundational — hardware and software for example — are not only historical products but also historical, and relatively recent, developments (and perhaps temporary). Over the past four decades, computer operating systems have been developed that maintain an abstracted, and in many cases, proprietary distance between the programmer and the machine (OpenGL and DirectX; Microsoft's Hardware Abstraction Layer, Apple's Universal Binary, for example). Beyond "physical" materials, information and presentation systems (applications, players, and the like) used for the development of New Media art are also difficult to describe. The AAT, like most thesauri, does not use branded or trademark terms or as a matter of policy, for practical purposes. "Flash," "QuickTime," and "Director" could not go into a controlled vocabulary, but coupled with version information, they describe a range of media methods and possibilities).

Genre terminology is also problematic: Many artists have sharp disagreements among themselves about what they are doing. In New Media art the question of genre is a large, unsettled question, or made into a performance trope (such as Hertz's notion of *Galvanism*, or BioArt). These techno–artistic practices utilize multiple technologies, from computational to biological, and beyond. Some practitioners argue that problematizing the popular conceptual boundary between art, science, technology, and politics — and the subject's position within it — is part of this practice. Though many practitioners associate with one another in a variety of inter-disciplinary formations, they do not necessarily see themselves part of a common project, and often resist naming and canonization. The stabilization of genre requires a considerable amount of time. Still, much New Media art is described with the idea or at least the expectation of genre, if not a discipline (of interdisciplinarity).

Folksonomies

Various alternative approaches, soliciting viewer input and reaction, have been developed and championed with increasing use of the internet, the development of social media, the read/write web, and “web 2.0,” a major practice put forth as a replacement for the use of controlled vocabularies is the Folksonomy, also known as tagging.

Tagging can generate basic recall terms. It can often lack precision, though, and only be useful for personal use. Alternatives, or modified practices like “expert tagging” may be better in terms of accuracy (though it may also reflect debates within a field of study and still lack precision), but may not be useful for the general audience in terms of recall. Ultimately the so-called “wisdom of crowds” may not manifest beyond the most basic terms. folksonomies can generate recall terms, but lack precision for satisfying the

needs of expert communities. Faceted tags hold some promise for the disambiguation of homonyms, but as more complication is introduced into the process, familiar problems arise. Specifically, the need for expertise — not just in subject matter, but also in metadata — becomes increasingly necessary. Experiments with game contexts for describing images (for example the Google image labeling game, <http://images.google.com/imagelabeler/>) are interesting as a user interface and data collection method, but do not necessarily produce information that escapes the problems outlined above.

Tagging strategies have been attempted as a way to catalog collections of New Media art. Rhizome.org's *Artbase*, for example has a large collection of works available to members online. Besides basic categories such as artist, date of creation, title of work, etc., Rhizome chose to let artist describe their work with tags. Even with "expert tagging," however, search has become difficult because of the issues raised here earlier. Currently they are seeking a more comprehensive solution, and proposing a design that can make use of, and feed into, controlled vocabularies and take advantage of work done in that field

Narrative Description

It is possible that linear narrative in various media — text and video for instance, become the only viable standard for actual description. These descriptions must then pay a great deal of attention to historically situating a given work, and pay a great deal (again, considering Svenonius' injunction for efficient description) of attention to the formulation of descriptive phrases. A data content standard like this, that would be useful, might require the same discipline and rigor, attuned to the nuances of word collocation and

MapReduce* search algorithms, as a controlled vocabulary does to the formulation of descriptors. In this mode, it might seem that we are back in the world of the AACR2, though, for different reasons than before, attuning formulaic prose to match the logic of search engines. This is possible, even worthwhile, perhaps — but certainly entails more human labor than any other mode considered here.

"Scoring"

If the materials of New Media art are so unstable, it could be argued that preservation is a secondary task, perhaps even irrelevant, as the components, considered as functions and behaviors are reasonably replaceable. The Guggenheim Museum has sponsored research along these lines, a project called the Variable Content Initiative. Richard Rinehart of the Berkeley Museum of Art, one of the participants, has proposed that New Media Art might be more akin to music, where the score for performance is more important (and possible) to preserve than the actual piece. This is useful to some extent, but suffers two main problems. One is that these works are not simply performance, but heavily invested in their own materiality. The second is the problem that if one looks at technological art in this manner, as an orchestral score, reconstruction makes it clear that the instruments have changed, merged, split, or been completely rethought, and becomes a question of translation rather than preservation or performance.

Another approach?

All of these descriptive practices are useful, and that is why people have continued to develop them — yet — and of course, they are problematic. Given this state

* Google's software framework for distributed computing with large data sets. See <http://en.wikipedia.org/wiki/MapReduce>. Other document based databases, such as CouchDB and Hadoop, also use this method.

of affairs, perhaps our task is not to choose a winner, or embark on a project of grand synthesis, but to ask what structures or practices might be useful for the indexing of new media art objects, or representations of them, for purposes of retrieval or even reconstruction, and create public spaces where that conversation can happen.

Expecting a complete synthesis to emerge is unrealistic for a nascent field, and even then, the problem of naming — as an act of exclusion/inclusion, and power — will always be problematic. The tensions between these social spaces of naming may not be reconciled, and the nature of the project poses the problem (or feature) of infinite recursion, but the establishment of "demilitarized zones" — where these conflicts can be examined and explored by various publics — could be useful, allowing professionals to reap the benefits of standardized terms and syntaxes, folksonomies, local vocabularies and scores simultaneously when describing new media art.

I would like to advocate strategies that allow existing systems (via APIs*, libraries, modules for Content Management Systems, etc) that dynamically link controlled vocabularies with other forms of classification, such as different types of tagging (social, expert, faceted, game-context etc.), — even search and word collocation information, allowing ecosystems of meaning and historical context (and debates of meaning) — to be visualized and navigated by users. This would not be a crosswalk mapping (where all unresolvable particularities reside in "notes"), but instead an application space where all this information is visibly, and in qualified ways, bound to digital objects (both representational and born-digital), and where the intersubjective and historical tensions between terms and methods could be visible.

* Application Programming Interface

The establishment of an application space for socially created, critical, and controlled vocabulary clusters to interact in a variety of contexts allow for structured but malleable and provisional information to be useful. It would be a constellation of interstitial and polycentric spaces, reflecting affinities and communities of use rather than struggle to position itself as a central aggregator. Each naming practice could play to its strength, and be in constant “conversation,” each affected by the others. Other systems, such as consortiums, partnerships, and policies (formal and informal) between organizations involved in this work could further establish this practice.

Creating and popularizing spaces and techniques where these questions are debated and tested in practical contexts (recall, search, debate, and conversation) is useful for a project of naming; it also creates electronic records in the natural conduct of its business (which also, in iteration and accumulation, produce useful network effects), and establishes an awareness of the classification system itself as an artifact with an embodied history.

This application space could also lend itself to enactment in a variety of ways, including in aesthetic projects. This arena seems full of opportunity for experimentation in data visualization, user interface design, and given the nature of the application, it is conceivable that such a contested and lively interaction space would have the potential to be instantiated in or at least deeply affect the conception and design of such works.

To a certain degree, this project has already begun. *ArtsBase*, mentioned above, consists of a basic metadata and a tagging system. The Flickr/Library of Congress pilot project, *The Commons*, likewise seeks public metadata input through Flickr's popular image management interface, and the Library's controlled vocabulary, the Thesaurus for

Graphic Materials, is a very dynamic vocabulary that is open to new inputs. The obvious difference of course is the range of materials to be indexed, and the new dimensions that require description (temporal, media, and interaction, for instance). Another difference is that the systems I am advocating here are not just a mediating space between controlled vocabularies and tagging, but an open-ended range of object description and contestation that cannot pretend to be distanced from the object, but realizes its role in affecting the object and its perception.

Professionals managing collections of New Media art are going to be faced with issues of description for some time, My hope is that in developing this issue into a manifold practice, professionals managing new art collections will not be forced to create their own vocabulary, choose one that is inadequate, or wholly “rely on the masses,” (or the artist) through tagging alone, or be constrained completely by the limits of a controlled vocabulary that cannot address the particularities of the problems encountered in describing New Media artworks. Instead they will choose to join a larger stream of discourse where all these practices of naming are accessible and in conversation with one another. Instead of picking a winning term, they would be able to place them in game/process arenas where descriptors can further be tested and shaped.