Accountability for Archival Digital Curation in Preserving the Memory of the World

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Abstract

Diverse parties empowered by the Internet and digital technologies are documenting events and publishing records, joining historians and archivists in collective memory formation. Democratized and inclusive collective memory provides robust checks and balances to official archives, and it reserves a way for future reprisals or reparations. Consequently, preservation takes a new meaning in this regard. In order to conform to historical mandates and eradicate falsehood, archival digital curation needs normative guidelines to include active selecting and updating in addition to passive safeguarding. We propose an accountability model to be the simpler and more succinct basis of new criteria and norms. We summarize four principles of accountability as: identification, authorization, attestation and retribution. Those principles help to transcend differences and resolve conflicts in historical cooperation to preserve more objective, true and just Memory of the World, which in turn will improve the accountability of nations and transnational organizations in World Politics.

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1. Introduction

Memory of the World (MoW), like history or archives, is necessarily selective. Archivists take responsibilities to filter, determine and sort out a vast amount of information and disinformation to document events and reflect the minds, wills, deeds and background characteristics of those involved. Historians trust archivists to take custody of such records so they in turn can select, exploit, explicate and vitalize ``historical facts'' (Carr, 1961). What happened in the past then can be preserved as wisdom or *collective memory* (Halbwachs, 1992) to help mankind shape future. In theory, such educative purpose is noble and valuable as it helps humanity avoid reoccurring flaws and mistakes. But, in reality, undertaking such responsibilities can hardly be a straightforward endeavour that is totally objective or independent.

Historians may take pride in ethics and professionalism when standing up against outside influences to exercise best interpretive discretion on the authenticity, veracity or validity of written documents and verbal communications. Yet they may not be able to detect or overcome their own myopic ideologies or biased beliefs if any of such interferes with their work. Archivists share similar limitations in their duties and responsibilities. As they strive to draw right decisions and fair judgments for purpose-driven narratives, they may well be limited by the lack of funding or lack of access to restricted information sources. Important information may not survive the manipulation and control of powerful individuals, organizations or regimes if they have conflicting interests in dictating the sources and channels to get the outcomes they desire. In the past, limitations imposed by the powerful or self might have undermined historians and archivists' efforts, causing history to be inevitably clouded or skewed, redacted or whitewashed to some legendary tales or reduced to propaganda of little or no trustworthiness, only to be rewritten by later historians or rulers, repeatedly.

Now, modern digital technologies and the Internet have given societies, particularly the archival and historical communities, the needed capability and an unprecedented opportunity to change that. Since, now, with the help of information technologies, the generation, preservation, protection and access of digital records can be made autonomous, ubiquitous and robust. Diverse parties now join historians and archivists in documenting events and publishing records. Their collective efforts to spread truths and shape memory across political, ethnical or other artificial boundaries cannot be easily dismissed by the powerful, giving historians and archivists a leverage to counter undue influences. Were historians and archivists in government institutions under political pressure, say, unable to maintain truthful accounts or stand by justice, such *collective memory* serves to provide checks and balances and reserves a way for future reprisals or reparations (Wallace & Stuchell, Understanding the 9/11 Commission Archive: Control, Access, and the Politics of Manipulation, 2011). So, knowing it or not, the nature of historians and archivists' tasks is no longer as vulnerable or subjective as before.

On the other hand, new technologies bring new challenges. The non-stop, unending flood of digital data from computers, networks, surveillance or mass communications etc. are unlikely to be used again as a whole. Yet, it's prohibitively difficult to sift through such data streams and decide which pieces are, or will be, valid and important *records* (Duranti & Endicott-Popovsky, 2010) or which records have historical values can add to current archives (Cox, 1994). So, instead of selecting and updating, new archival facilities are created to accommodate, not to use but to store, the huge amount of data that may vary in format, expanding in size. As digital technologies rapidly evolve, new expertise and resources are needed not only to deal with the new technologies but also to convert and transfer records stored with old technologies into the new formats. But, unless there is political incentive or financial support, ordinary archives may not get the preferential treatment to benefit from the state-of-the-art technologies but remain as is. Since it will be increasingly difficult for the archival institutions to keep multiple sets of expertise and resources in order to maintain these archives, these likely will risk obsolescence of technologies when the old technologies used to maintain these become unavailable over time (Hedstrom, 2001). These archives are marginalized in a way as they are forced to retire from public access. Whereas those archives privileged to be converted because they are favoured by the powerful likely will be showcased by the archival institutions, along with those new ``archives''.

When decisions on which archives to be transformed or transferred are based on political or technological dictations rather than on historical merits, and when archives are categorized and divided by media or formats rather than by contents, archives will be increasingly maintained by technicians oblivious of archival missions and values. Because the more resources devoted to maintain technologies,

the fewer can be allocated to maintain contents, archivists and archival institutions are forced to retrieve from their active role in *collective memory* formation (Brown & Davis-Brown, 1998) (Wallace, Introduction: memory ethics--or the presence of the past in the present, 2011) back to a passive shop-keeping role, yielding to budgetary manipulation or other undue influences of the powerful (Schwartz & Cook, 2002) again. In the light of South African's apartheid-controlled archives (Sachs, 2006), this may not be a healthy development for archivists, historians or for societies at large.

2. Archivists & Digital Curation

The trend of *digitization* in archival communities renews the awareness of *preservation* and gives rise to recent focuses on digital curation (Lee & Tibbo, 2011) (Yakel, Conway, Hedstrom, & Wallace, 2011), which Elizabeth Yakel (Yakel E. , 2007) summarized as:

> [T]he active involvement of information professionals in the management, including the preservation, of digital data for future use.

Based on Yakel's brief description here, however, it is unclear how archivists or archival institutions are related to digital curation unless we can make a direct connection between archivists and *information professionals*. On exploration of such possibility, Lee and Tibbo have elaborated six dimensions in their *DigCCurr Matrix* of Digital Curation Knowledge and Skills, and suggest ``archivists can take advantage of these connections to advance the archival enterprise'' (Lee & Tibbo, 2011). Specifically, they point out the connections are in *preservation*; i.e., archivists as information professionals must actively take responsibility of preservation in digital curation.

Nevertheless, the notion of active involvement in Yakel's description seems to suggest archivists to participate more in the technological aspects of digital curation activities rather than focusing on their historical roles and duties. Most of the current discussions on digital curation and the fledgling education programs and academic curriculums also seem to presuppose a normal or political, social and ethnical stable environment to develop normative disciplines that focus more on technological or managerial knowledge and skills and less on the moral or ethical aspect of digital curation as if it's not an issue. Whereas the case of South African's apartheid-controlled archives (Sachs, 2006) suggests that ordinary archival responsibilities conceived under such presupposition may not be sufficient to resist or counter corruptions in political, social or ethnical unstable environments where archivists and archival institutions are expected to play a significant role as a witness or monitor, or a historian, to stand up against the atrocity or injustice of the powerful, to witness and preserve evidence and proof for future recourses, reparations or retribution. We think talking about digital preservation in terms of how, without focusing on what to preserve and why, is a wrong way to answer the challenges of digital technologies. In fact, it probably can help archivists to really take the opportunity of technologies if we put focus on what and why when talking about how to use digital curation to make archival work more independent and meaningful.

Specifically, we think information professionals should serve archivists, not the other way around. Yes, archives can be part of digital curation; and an important part if you will, but an archivist's responsibility in its fullest and truest sense is much more than an information professional's responsibility. When archivists involve in digital curation, we should consider the meaning of preservation in terms of preserving the true and just Memory of the World as opposed to preserving everything. Archivists and

archival institutions should not be dictated by insurmountable amount of digital data or the perpetual upgrades and updates of modern digital technologies. Rather, archival missions and values should reflect collective memory in general and the Memory of the World in particular. To this end, one important issue of digital curation---the controlled destruction of archives---remains not fully addressed. The *Reference Model for an Open Archival Information System (OAIS)* (Consultative Committee for Space Data Systems, 2012), for example, in describing components and services required by archival institutions does not mention archive selection, appraisal, disposition, destruction or removal (Lee & Tibbo, 2011).

As Pierre Nora has pointed out, using memory as a metaphor for archival work, the natural formation of memory is ``remembering and forgetting'' (Nora, 1989). He even said ``the indiscriminate production of archives is the clearest expression of the `terrorism''' that hijacks memory, and ``while amateur archivists tend to keep everything, professional archivists have learned that the essence of their trade is to exercise controlled destruction'' (Nora, 1989). There is a difference between ``keep everything'' and ``produce archives''. And the imperative of our epoch is the latter, not the former, or at least not just the former. Archives are not just storehouses or junk-dumps where you put some superfluous, no longer needed yet maybe can be recycled, objects there just in case these will be of some use again one day in the future. The true meaning of *preservation* is not to keep everything.

But, in practice, maybe it is! If keeping everything is the only way to preserve something. Here we see how digital curation can come to play and be used by archivists for historical merits. It is not important whether you keep everything or not. What's important is there are ``things'' that must be preserved by archivists and archivists can use digital curation to achieve that preservation. Such preservation against, say, intentional erasure by the powerful must be done consciously. You almost can sense the danger when an archivist hides that something in a junkyard or storehouse, or in an archive, in order to safe-keep it as evidence or proof. This is what we need in archivists and archival institutions in case political or social corruptions make it extremely important to keep that evidence or proof. But those are extreme cases, i.e., we must see corruptions as exceptions not the norms. In normal situations, when archivists and archival institutions are not under undue influences, they should not store everything if that pollutes or muddles up archival presentation hence dilutes the values of archives and the effectiveness of preservation thus affects their more important historical mission, function and purpose, which is, in our opinion, to truthfully reflect the collective memory of social justice.

3. Archivists' Responsibility

Archivists are unique among information professionals as they are hired specifically for preservation so they have the privilege to contribute to a ``higher'' cause---the preservation of collective memory. For this historical responsibility, competent archivists shall use digital curation with discretion to guide their daily responsibilities in promoting the cause. They are not confined to pragmatic doctrines, like keeping everything or not, because they need flexibility to use curation for such purposes. And this is true for all archival activities. Although archivists differ from other professionals in this regard, they do carry out duties and responsibilities; do conform to professional disciplines and ethics to be *responsible* in decisions and actions with loyalty and obedience, just like other professionals do. As for their exercising of discretion, this won't be a problem since under normal circumstances their professional roles do allow some autonomy, delegation and manoeuvre. So, usually archivists should be able to work ``wisely'' as information professionals and follow professional disciplines and ethics to fulfilling their daily job

requirements and the higher calling at the same time to contribute to the cause of preserving collective memory.

But exercising discretion can be a problem under abnormal circumstances, where *exceptions* occurred such as social or political injustice, atrocities, corruptions, or deceits etc. When archivists' historical responsibility calls for actions to serve the higher cause in such situations, those powerful individuals, organizations or regimes that committed the wrongs may block the calling in order to hinder the preservation of truth and the eventual justice. At this point, archivists are on their own, their professional disciplines and ethics won't help because these likely were not developed to deal with such situations. The professionalism may in fact conflict with the call for actions. So, archivists are left alone to make a choice.

They can either keep their disciplines and ethics, but give up their discretion or be oblivious of the wrongs as if nothing bad had happened but content to be *responsible* to work diligently, loyally and obediently, hence secure their jobs but fail their historical mission. Or, they can divert from the now inappropriate disciplines and ethics and realign their sense of duty and responsibility with the historical calling, to use discretion and their proficiency in digital curation to resist, counter, or record those exceptions, willing to be held *responsible* for disobedience or disloyalty in order to be *accountable* for their historical role but, then, may risk their jobs. Facing such a dilemma, nothing in the archivists' professionalism can guide their choice but their own subjective rationality, common sense or conscience, which may not be reliable due to conflict of interest. So, to be *accountable*, or *responsible*? That is the ultimate test of archivists.

As nothing in archivists' professional repertoire gives them the needed justification or guidance to fulfil their historical calling during exceptional trying times, they may fail to act when their roles are particularly important to detect, deter, document the events of atrocities, corruptions or deceits etc. Such professionalism obviously is inadequate to serve the mission of preserving collective memory as humanity's last line of defence for truth and justice. So, can we design archival curriculums to include the exercises of, say, disobedience and disloyalty, which are justifiable under the assumption of *exceptions*, not the norms, so that archivists' *responsibility* won't make them susceptible to political, social, ethnical or other undue interferences? We think the problems persist even we can do so. Because we will still rely on the archivists' subjective senses to tell if exceptions had occurred and there are undue influences trying to hinder the historical responsibility thus warrant disobedience and disloyalty. As such senses are subjective; archivists may have conflict of interest causing their subjective senses unreliable. Furthermore, those partake in documenting events and publishing records now include possibly untrained, unsophisticated and sometimes unscrupulous individuals or rogue organizations and regimes. They are the new ``powerful'' in the sense that now they have power to purposefully pollute or muddle up our collective memory rather than safeguarding it if they, say, do not and will not conform to professional or whatever disciplines. Although scholars have generally affirmed the values of unofficial documents and records (Josias, 2011) (Wallace, Introduction: memory ethics--or the presence of the past in the present, 2011), there is yet a comprehensive and coherent strategy for archivists to integrate unofficial accounts into collective memory or to maintain their archives' integrity to reflect the collective memory. After all, who can disqualify others, or has authority and legitimacy to decide what shall be included or excluded in the collective memory?

What we need is a fundamental, simple, and very succinct set of principles as the basis of a framework upon which we can have norms and criteria applicable to both normal and exceptional situations to be used by professional and layman archivists alike to guide, hence can justify, their

decisions and actions and allow them to reason within themselves and reason with each other; such that they can become reasonable and hence responsible and accountable. Such accountability and responsibility help them trust, communicate, exchange and understand ideas for archival work, to reach agreements to transcend cultural, social or religious differences but summon up their essence and use it to resolve political, ethnical or economic conflicts, to help each other improve each self, to work together to achieve historical cooperation in preserving true and just Memory of the World, which is the collective and accumulated wisdom of mankind that reflects the ultimate truth and the utmost justice. To this end, and since digital curation and digital forensics seem to face similar challenges (Diamond, 1994) (Duranti & Endicott-Popovsky, 2010) (Lee & Tibbo, 2011), we propose the same fundamental accountability principles we use to guide systematic approaches in digital forensics engineering to be applied to sustain this historical-archival paradigm.

4. An Accountability Model

It is much debated among scholars about what *accountability* is exactly and how can we construct and enact accountability (Liu W. W., Trust Management and Accountability for Internet Security, 2011). Since accountability is such a virtue that has been (mis)characterized as elusive or having a *chameleon* quality (Sinclair, 1995), it is often misused to mean something else like blames, liability or punishment etc. On the other hand, responsibility seems to be well understood and people seem to use the word all the time seemingly without causing any confusion. Nevertheless, as Gardner (Gardner, 2003) has pointed out (without using the word), in its core sense responsibility is accountability; both are our *reasoning* capability as human beings. Thus, for us, *being responsible* in this sense is exactly the same as *being accountable*, i.e., we give reasons to respond or justify, or account for our decisions or actions; even in the former case this may be mandatory while in the latter case it's voluntary. But we don't usually use the words this way.

In our common usage of the words, there is a subtle difference between ``holding someone responsible'' and ``holding someone accountable'' that the former implies power and control while the latter implies democracy. For example, our superiors in an organization have power and control so they can hold us *responsible*, to lay specific blame, punishment or liability on us if we violated a rule or displeased them. On the other hand, we can only hold our leaders or superiors *accountable* for something they did not do right or didn't do, but they did not violate any law either. So they, not us, still have the power and control. Oftentimes, such subtle differences disappear as we use the words. For example, if our superiors did violate a law then the law, not us, can hold them responsible; but we may say we hold them responsible because we reported it. Or, if so many people blame a leader and hold him accountable then eventually such democratic force may remove him from power. Or, he may resign in order to show people his accountability, which is a required quality of democratic leaders.

From an individual's point of view, *responsibility* seems to be a virtue for subordinates. It is about being responsible to instrumental authorities (superiors), with loyalty, obedience, and efforts to take care of mandates and necessities with professionalism in duties and obligations; whereas *accountability* seems to be a virtue of leaders. It is about being accountable for missions and values, with self-motivation in self-control and self-improvement of leaderships that measure up to common sense, social norms, altruism, or other higher civil, moral intrinsic orders. But every individual can be both a subordinate and a leader at the same time. Because, as human beings, even some of us are the instrumental authorities, we all are subject to intrinsic authorities like humanity and morality. On the other hand, even the least among

us can aspire to have the leadership quality. Responsibility is purpose-driven, objective, more concrete and specific but can be too narrowly delineated, inadequate if become reactive or passive; while accountability is self-motivated, authoritative and encompassing, but can be subjective, vague or elusive sometimes. So, we really need both to complement each other in our historical-archival paradigm.

In our previous work (Liu, Aggarwal, & Duan, 2009) (Liu W. W., Identifying and Addressing Rogue Servers in Countering Internet Email Misuse, 2010), we implemented four accountability principles, namely: *identification*, *authorization*, *attestation* and *retribution*, in a trust management framework for Internet servers to leverage organizations' civil roles to improve accountability in their trust relationships with users, peers and authorities. Those principles also are crucial for servers to bring deterrence and recourse to enforce responsibility so they can trust better, putting reliance on responsible users and peers while holding rogue users or peers responsible. But these principles are also crucial for servers themselves to account for others and become trustworthy leaders or allies. Thus those principles facilitate accountability in both its *holding to account* and its *giving account* aspects. Now, as the professionalism and ethics manifested in archivists' responsibility have shown inadequacy in the case of South African's apartheid-controlled archives, we believe these accountability principles are useful for our historical-archival paradigm to help archivists make decisions and help them judge or justify their actions in the time of conflict. Specifically, the guidance and justification lie in the principle of authorization, which is based on autonomous *deference*, *reasoning* and *qualification* (Liu W. W., Trust Management and Accountability for Internet Security, 2011), as shown in Table 1.

Table 1: Archival missions, values, and processes defined by accountability.

	Missions	Values	Activities
Authorization	democracy	legitimacy	deference
		protection	reasoning
		access	qualification
Identification	no-deceit	worth	appraisal
		truth	authentication
		knowledge	classification
		reality	verification
Attestation	justice	information	communication
		education	presentation
		evidence, proof	certification

		utility	exhibition
		trust	reputation
Retribution	improvement	deterrence	punishment
		reparation	reconciliation
		correction	rehabilitation
		remedy	liability
		recourse	reprisal

Accountability in a democratic society is marked by deference to the higher, intrinsic, authority and legitimacy (Gardner, 2003), unlike responsibility that is marked by deference to instrumental authorities such as rulers or enforcers. Thus, the way accountability works is different from the way responsibility works. The latter is like a command chain running from the top down and stopping at whoever cannot reject the duties or liabilities, whereas the former actually works in a reversed way. Oftentimes, accountability starts from someone *not* at the top who is willing to give account---e.g., a *whistleblower*--- and it reaches upward, to get as many higher-ups as possible. So, if archivists use the authorization principle to answer the historical calling and take actions to document the wrongdoing of the powerful, such decisions and actions are justifiable by the missions and values of the archival institution under the premise of accountability.

From Table 1, authorization primarily serves as a basis for judging archivists' decisions and actions under normal or exceptional circumstances, the other accountability principles are directly related to archival missions, values, and curatorial activities. Identification, for example, is directly related to archival selection and appraisal. Upon acquiring or receiving an object, archivists must actively determine its historical value and classify and categorize it before accepting it into archives. To have a place in the archives, any object not only must be recognized of its historical worth but also need be authenticated and verified before archivists attest to its identity. Once have a place in the archives, objects are maintained and protected in a way to allow safe access by the public. Public's opinions and feedbacks then may be collected and analysed to re-evaluate the objects. Attestation and retribution also apply directly to archival activities such as archival disposition, destruction and removal (Lee & Tibbo, 2011).

On further thought, how about the missions and values of archival work? The four accountability principles have intrinsic values to reveal these. Table 1 shows how accountability principles define the missions and values of archival activities. Our assertion is that those accountability principles help to preserve true and just Memory of the World and that in turn will improve the accountability of nations and transnational organizations in World Politics. These four principles not only are effective means as guidance or justifications to help archivists but also can be an end in themselves. Put another way, maybe accountability is the essence of history and archives, preserved in the collective memory to serve the educative purposes of helping mankind shape a better future?

5. Conclusion

As the Internet has stimulated new ideas and new ways of communications to spread and share those ideas across traditional boundaries, it has decreased the efficiency of traditional power mechanisms used by old societies and organizations in accounting or law enforcing and regulatory supervision. On the other hand, the Internet and new technologies improve the awareness of constituencies on their potential inputs and influences on organizations' policies, actions and public relationships (Pruzan, 1998); these bring about a wave of changes and new thinking on how to manage complex social systems. The vital, new perspectives emerged in business corporations and governments have shifted organizations' focuses from controls of fiscal and functional responsibilities to autonomy with ethical and managerial accountability. Archival institutions certainly can benefit from such changes too. The four principles of accountability not only are applicable to curatorial activities but also can help archival institutions' governance and public relations. The principles of accountability actually define the missions and values of archival work. We believe every archival institution ought to be an institution for, by, and of accountability. Archivists then can recognize, align with, and be accountable for the missions and values of archival endeavours to obey the intrinsic authority and legitimacy, to uphold social justice with their historical roles independent of temporal political, ethnical or other artificial powers, or instrumental authorities.

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