The use and impact of metadata in civil cases
by Denise Russo and Abebe Rorissa

Abstract
This article is one of the first to explore and delve into the legal system, with a focus on the burgeoning use of metadata in civil cases. Although metadata is embedded in all kinds of digital files including text, audio, and image files, as well as many social media and game applications, few understand how both the visible and embedded information is being “mined” (collected) for a myriad of uses by organizations, such as, Google or even the United States government. Consequently, in this paper, we explore the implications of metadata use in civil cases and how it could bring a new era of evidence in litigation, which has huge ramifications for how the average citizen may begin to view their privacy in the course of everyday activities.

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Introduction
“While we are seeing growing interest in and exploitation of metadata, the challenge is only beginning. With the widespread adoption of technologies like 5G we will see an increase in the number of ‘connected’ devices to over 75 billion, generating over 400 exabytes of new data each day. This will lead to an exponential increase in the amount of metadata, information about each of us that exists in the cloud, on the edge, and in the very devices where that data is created.”
(Eiseman, CEO Lloyd Group, 2021 interview with D. Russo)
The "Surveillance society clock" truly is ticking (American Civil Liberties Union, n.d.a). With mass surveillance the norm, it seems that "Big Brother" really IS watching (Orwell, 1949; Solon, 2017). Some people are even becoming more sophisticated in avoiding what may serve as metadata "red flags", while others remain blissfully unaware.

Metadata could provide a breadcrumb trail that can assist litigants in supporting their assertions during a civil case. The information embedded within a MS Word document or e-mail, for example, could serve as a viable, credible, digital witness for a complainant who feels that an employer was at fault for his/her/their injury with poorly maintained equipment. Alternatively, an employer could locate a public Facebook post from an employee that proves their claim that their employee was dancing in nightclubs rather than at home with an alleged work-place injury. This article will take an in-depth look at the potential expanded use of metadata in civil litigation, its documented use in federal and international cases, and its implications for the average United States citizen.

What are civil cases?

Civil laws ... are not great unless the things from which they flow are very distinguished. [1]

A civil case involves one or more people or an organization, such as a pharmaceutical company, which may claim that the other person or entity failed to fulfill its legal obligations, therefore, requiring the action of either a state or federal court (American Bar Association, 2019). These “parties” or “litigants” refer to both the plaintiff(s) and the defendant(s) (U.S. Department of Justice, n.d.). Often, compensation for “harm done” in some form (i.e., money for lost wages), may be requested. Civil cases differ from criminal cases in that criminal cases usually involve a crime committed by an individual who is then indicted and prosecuted in court by the state or federal government (Erstad, 2018). Outside of the United States, civil and criminal cases may be combined; however, in the U.S., these types of cases are distinct and tried separately. Types of civil cases may involve personal injury claims, reneging on a contract, auto collisions, divorce, or child custody.

Civil law is basic to over 60 percent of the world’s nations; it serves as a building block of society on which persons can solve conflicts or illuminate wrongdoings of other people or institutions within an organized, impartial, ethical forum (Murphy, 2020). Unlike federal law, civil law is concerned with resolving conflicts in a peaceful manner (Cornell and Salisbury, 2002) which does not require that evidence be presented “beyond a reasonable doubt”, but rather it must adhere to the “burden of proof” (Justia, n.d.). The burden of proof in civil cases refers to a “preponderance of the evidence or that the evidence presented is more likely true than not true” [2]. The study of U.S. civil law for those countries for whom civil court is not an option is key to their emerging legal systems, as noted by Koch [3]:

“The role of judges in large non-transatlantic legal cultures may make the civil law judicial model more compatible with traditional customary or religiously-based legal attitudes. Judges in many of these cultures are not so much presiding officials responsible for fair litigation and choosing the winner as they are counselors, educators, or even parents charged with guiding the litigants to the proper outcome. That is, judges represent moral authority rather than state empowerment. The civil law judicial philosophy, which places so much faith in the judge, might be more adaptable to such legal systems.”

What kind of information does metadata hold?

Those in the information science field who are entwined with metadata define it as “data about data” (Beal, 2021). There is visible metadata, such as pictures, texts, and MP3 files, and there is “embedded” metadata, the kind which is unseen, yet trackable and potentially verifiable. Simply sharing an office memo with a co-worker or submitting a resume using a MS Word document could unleash the sharing of other, perhaps unknown, metadata elements, including
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details about the authors of the documents, the revisions made to the document, hidden text, deleted comments, and so on (University of Michigan, n.d.).

The information that metadata contains has become a new frontier, much like the Wild West, in terms of its usage in civil cases. The weight of metadata mining for use in civil cases is currently unstandardized. In addition, its use is specific to each case tried, leaving much room for interpretation on the part of plaintiffs, defendants, their attorneys, and the courts. Is anything done online truly private and safe from scrutiny and legality?

How different types of metadata can be mined and utilized

*Your handheld devices*

**Cell phones**

Cell phones have replaced Teddy Bears in the form of digital comfort and assurance. With this level of intimacy comes pitfalls. As some fall asleep with their blue screens glowing, the metadata collection continues into the night. What did the slumbering look at right before they fell asleep? Did they keep their Facebook account open? In an apparent rollover, did the phone take a sleepy selfie and post it to Instagram? Whatever the case, every breath of someone’s life can be recorded in the metadata bowels to be mined for future use. Further, with the explosion of available downloadable “apps”, such as Google’s fertility app named “Ovia” which touts its ability to monitor women’s health and fertility cycles (Barassi, 2021), it leads one to consider: What may one glean from such digital discoveries?

There are efforts, albeit minimal, to protect and shield citizens from being survived through metadata mining and otherwise. The Protect America Act of 2007 was formed post 9/11 to address the National Security Agency’s unauthorized surveillance via an unidentified service provider to wiretap persons of interest who were outside of the United States without a warrant (U.S. Department of Justice Archive, 2007). According to Hogan & Hartson (2009), when the wireless provider rejected the government’s warrantless directives to provide information regarding certain customers, litigation ensued. Ultimately, the cellphone company was legally compelled to release the information “requested” due to the United States’ right to obtain potentially incriminating information in the interest of national security.

Lichtblau [4] reveals how cell phones in a police training manual were quoted as being “‘the virtual biographer of our daily activities’, providing a hunting ground for learning contacts and travels” [5]. This sort of data mining could be used legally for any type of case, from child abductions to drug trafficking. However, some, like the ACLU, suggest that there may be an unregulated misuse of such cell phone metadata (Abdo, 2013; Wessler, 2017).

What is more, in the 2018 landmark Supreme Court case of *Carpenter vs. the United States*, which involves the geolocation metadata gathered from cell towers, the Court upheld the need for a search warrant to access the physical locations of a cell phone (McCubbin, 2018). Prior to this Supreme Court decision, governmental institutions could easily obtain this kind of metadata, claiming that it was part of an investigation. Although a warrant may now be required, the Supreme Court decision did not address the issues that may arise with the involvement of other third parties, a topic that we will explore later in this article (Rumfelt, 2018).

*Your company laptop*

We have all suspected for years that work e-mail accounts have been and continue to be monitored by employers. As Solon (2017) stated, administrators are now taking advantage of a multitude of innovations to screen their staff’s Web browsing, keystrokes, social media posts, and secure messaging applications. Thanks to advances in motion sensors, electronic logging devices (ELD), algorithms, and other technological novelties, much more can presently be observed by employers (Steele, 2020). While this type of overseeing can result in low morale, the European Court of Human Rights ruled that a company has the right to peruse personal e-mail messages sent from company accounts during work hours (Chan, 2017). The implications of this lead one to wonder about the rules of discovery.

Metadata mining is already serving as a facet in the employee selection practice. This common human resource practice brings up more questions than answers, whether it be the legality, authenticity, or employer subjective perceptions of the data viewed, (Davison, et al., 2011). Further, one should be aware that metadata is “not as trustworthy as one may think,” as the President and CEO of Avansic, an E-Discovery & Digital Forensics company, states [6]. For example,
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Your educational history

Those of us in academia are aware of the Family Educational Rights and Privacy Act of 2007, commonly known as FERPA (U.S. Department of Education, 2008). However, professors and university staff alike may not be cognizant of the amendments that took place in 2008. For example, under the amended Act, an academic institution may release educational records of an individual without prior consent, provided there is a “health or safety emergency” [7]. In addition, per the FERPA Web page (https://www2.ed.gov/policy/gen/guid/fpco/ferpa/index.html), other sensitive data, such as date of birth, telephone number, dates of attendance, student identification numbers, and other personal student details may be given to third parties, whether it is specified as administrators or organizations doing studies on the school, without consent. What does a “third party” constitute? According to Kerr (2009), “the third-party doctrine” has been characterized as the controversial “Fourth Amendment rule” with which academics have a love-hate relationship.

In brief, the third-party doctrine is an American legal theory which maintains that data voluntarily shared by individuals with “third parties,” such as phone companies, Internet service providers, banks, and cloud-based data companies, does not have any presumed expectation of privacy (Arango, 2019). The Supreme Court holds that citizens assume the risk of what they choose to share with third parties (Thompson, 2014), which can then be collected as third-party “cookies” or tags. This metadata can be obtained by the government via third parties with no warrant. Therefore, although the Fourth Amendment to the United States Constitution prohibits unwarranted and “unreasonable searches and seizures”, the third-party doctrine is the loophole through which the government may access any “private” metadata [8].

In the case of live third-party exam proctoring software services, such as ProctorU, universities can easily breach student information in using such services. As it states in the ProctorU CCPA Privacy Policy, that “We collect Internet activity information and IP addresses from visitors to our website in order to optimize and improve our Web site and understand how visitors interact with us online. This information may be shared with our Web site analytics service providers” (ProctorU, 2021). However, none of the Web site analytics service providers are listed. In addition, ProctorU also uses “behavioural biometrics”, which is a digital fingerprint of sorts, which assesses the specific timing of when each key is pressed and then released while using a digital device (King, 2018).

Following the outbreak of the COVID-19 pandemic, the use of proctoring services has skyrocketed (Harwell, 2020). Per an Educause Poll, over 50 percent of the institutions who participated report that they are currently employing third-party software to provide either active or passive online proctoring of exams; while 51 percent of these institutions indicated their concerns over student data privacy (Grajek, 2020). Could the biometric, keystroke, and personal data that is being gleaned by third parties during a proctored exam be used in the defense or prosecution of a civil case? That remains to be seen.

Your social tagging

Social tagging is inherently, well, social, which means it has visibility that perhaps other types of metadata do not. As aforementioned, third parties feast on social tagging, which is embedded with a wide array of free-text labels (tags) and “cookies”. The seemingly benign participation in folksonomy may lead to privacy issues. During the court proceedings of United States v. Jones (2012), an Associate Justice of the Supreme Court stated that the Fourth Amendment was “ill-suited to the digital age, in which people reveal a great deal of information about themselves to third parties in the course of carrying out mundane tasks” [2]. Therein lies the rub. Whilst “ill-suited”, the Fourth Amendment still stands. In the realm of social media, there has been a civil case that has served as the precedent for the use of social metadata platforms as evidence for personal injury cases. In Suffolk County, New York, in the case of Romano v. Steelcase, Inc. (2010), although the plaintiff balked at the use of her social media to bolster the defendant’s case, the judge ruled in the defendant’s favor. As the plaintiff was seeking damages due to injuries purportedly resulting from falling off a defective chair during work hours, the judge stated that “to permit a party claiming very substantial damages for loss of enjoyment of life to hide behind self-set privacy controls on a Web site, the primary purpose of which is to enable people to share information about how they lead their social lives, risks depriving the opposite party of access to material that may be relevant to ensuring a fair trial” [10]. In the past, these personal injury claims were often addressed by the employment of private investigators to take clandestine pictures and videos of the plaintiff to disprove injury claims. This “old school” approach has been replaced by the use of what social media users love to do most, which is engage in self-centered and inward-looking behavior which is manifested in personal pictures, statements, tags, and
videos on social media platforms. These types of metadata-infused personal injury cases can serve as platforms for other civil cases.

**Your prescriptions**

Unbeknownst to most, the U.S. government stipulates that pharmacies maintain records of all medical prescriptions. Furthermore, in most states, drug stores exert their ability to peddle your healthcare metadata to data mining companies. These companies then, in turn, sell the information to pharmaceutical companies “for use in targeted sales pitches to physicians” \[11\]. Once authorities in the state of Vermont became aware of this healthcare metadata baton passing, the state passed a law prohibiting this practice on the grounds that it was doctors that should have the right to determine whether their script patterns for sales pitches should become available for purchase by data miners. During the *Sorrell v. IMS Health* (2011) case, Judge Elena Kagan asked the attorney representing the pharmaceutical and data mining companies a pointed question, “How about a ban on selling this information to anyone?” (LawCrossing, 2011) In response, the defendants’ attorney stated that it is unconstitutional to place a ban on selling such information as it would safeguard commercialization, but not privacy. The attorney went on to state that “We have a capitalist economy,” and that “commercialization isn’t a bad thing.” \[12\].

**Your bank records**

In the *U.S. v. Miller* case (1976), the Fourth Amendment comes into play yet again. A third party, in this case, a defendant’s bank, provided microfilmed banking statements, which Miller felt were illegally seized in violation of the Fourth Amendment. While initially ruling in Miller’s favor, the decision was then reversed, citing that the bank statements collected and sent by a third party, the banking institution, are not to be considered private documents. The Court explained that “The depositor takes the risk, in revealing his affairs to another, that the information will be conveyed by that person to the Government.” \[13\] *U.S. v. Miller* (1976) highlights differing conceptions of the protections of the Fourth Amendment that have reverberations on the understanding of technology, police power, and individual liberty. Cate (2008) pointed out that, in addition to the federal government, state and local law authorities also have access to financial institution documents under the U.S. Patriot Act (U.S. Department of Justice, 2001).

The data gleaned from the Society for Worldwide Interbank Financial Telecommunications (SWIFT) has strengthened the abilities of the United States and third (country) parties to locate the financial hubs of terrorist groups or individuals, thereby disrupting their activities (Lovelis, 2009). However, in 2006, the Belgian Data Protection Authority held that SWIFT’s functioning breached Belgian data protection laws (Brand, 2006). The European Commission’s conclusion on the matter was that SWIFT and the associated financial institutions failed to ensure adequate safety measures to protect the transfer of personal data. In addition, SWIFT, *et al.* did not provide prior notification to affected “data subjects” about the way in which their data would be processed (European Commission, 2007).

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**Metadata mining implications for civil cases**

It is simply a matter of time before metadata reaches ubiquitous use in the presenting of all civil cases. This notion is just as unsettling as the use of the constant, overbearing surveillance inherent with The Panopticon wherein, from the tower, a guard can see every cell, but the inmates cannot see into the tower; therefore, inmates never know if or when they are being watched (Ethics Centre, 2017).

With a few mere clicks of one’s mouse, electronic discovery has become an efficient and hearty source of potentially potent information and metadata. Although amendment efforts of the U.S. Federal Rules of Civil Procedure have not stopped the exploitation of digital civil discovery, it is still plausible that meaningful reform is attainable (Beisner, 2010).

In 2020, Google decreed that it would remove all third-party cookies in Chrome. However, one can only surmise that new technology will rise to take its place for consumer tracking (Slefo, 2020). As Eldridge (2020) and others state, an example of such new technology is geo-fencing, or the use of a consumer’s geographic location on mobile devices (cell phone, tablet, etc) to pinpoint specific marketing such as, “Buy one, get one free!” as you pass your local shoe store (Kemmis, 2020).

Metadata is consistently being used for Federal cases as Newell and Tennis (2014) point out, even though “the context is content” \[14\], metadata may divulge even more information than the actual verbal or text of a conversation, at times.
As such, patterns that may be observed, whether it is when and where calls take place, may be given weight or inflated importance by an investigator preparing to utilize metadata in a civil case. However, the consequences of such erroneous pattern associations and relationship conclusions are overarching. Our freedoms, particularly our rights to privacy and free speech, could be easily eroded, thereby taking a model citizen to a pariah status in only a few metadata searches (Levinson-Waldman, 2013).

Log records, such as those demonstrating the click-by-click activity by a user, may contain significant evidence that may be applied to the validity of a case (Krotoski and Passwaters, 2011). Currently, The Patriot Act (2001) gives the FBI the power to mine third-party personal metadata without a subpoena. The ability to “connect the dots” allows the government to fill in the blanks due to redacted information, which was illustrated in the first Federal case in 2006 (Williams v. Sprint/United Management Company) in which the plaintiff filed a suit claiming that ageism served as the reason for her termination. The court demanded that the use of data that included stripped formulas and calculations which the mobile telephone service provider Sprint removed from their metadata spreadsheets or data files be made “discoverable”, setting the stage for all metadata, both visible and embedded, to be a presumed part of a request for electronic documents and which can only be removed upon court order or agreement.

In the contract dispute case of AtHome Care, Inc. v. The Evangelical Lutheran Good Samaritan Society (2013), as one of the disputes was related to the omission of metadata in the defendant’s production, the Good Samaritan Society was found to have “inadvertently changed the creation dates” on compelled documents [15]. Although considered by the judge not to be ill-intentioned, this proved crucial to the assertions of the plaintiff that the documents initially provided by Good Samaritan were erroneous (Austin, 2020).

The not-so United States of Metadata

Throughout the United States, there are vast differences in how each individual state or district views metadata/digital privacy laws for its citizens; for example, the innovative and robust California Consumer Privacy Act (CCPA), which took effect in January 2020, gives the citizens of California the right to access, delete and “opt out” of metadata collected about them (First San Francisco Partners, 2019). The Illinois Biometric Information Privacy Act (BPIA), enacted in 2008) strongly protects Illinoisans’ biometric metadata, such as DNA, voice frequencies, fingerprints, retinal scans and palmprints, so that they cannot be disclosed to 3rd parties or identity thieves (Olthoff, 2021).

However, in most other states, U.S. residents are left fully exposed to the perils of metadata mining (Rippy, 2021). The state of Wyoming has one of the weakest stances on privacy laws; organizations can both gather and keep decades worth of citizen’s metadata, as well as, ask for employee’s passwords to their social media accounts (Leins, 2019). Connecticut, Hawaii, Louisiana, Massachusetts, North Dakota, Texas have no enacted metadata privacy laws; in fact, in all of these states, studies or task forces were put forth in lieu of a full metadata privacy act(s) or bill(s) (Turner, 2021).

A skip and hop over the metadata pond

In 2016, the U.S. Department of Homeland Security wanted access to metadata collected and stored in the United Kingdom to pursue criminal cases [16]; therefore, via the U.K.-U.S. Bilateral Data Sharing Agreement, effective July 2020, law enforcement on both sides of the Atlantic (the “pond”), can now expedite access metadata for the purposes of criminal investigation outside their territorial jurisdiction (Simmons + Simmons, 2020). Although overtly the U.K.-U.S. Bilateral Data Sharing Agreement (BDSA) is meant to prevent terrorism and child abuse, metadata acquired overseas can potentially be used in a large variety of ways in both civil and federal court. In addition to the BDSA, the Clarifying Lawful Overseas Use of Data Act (CLOUD) Act of 2018 provides yet another avenue of incidental discovery of sensitive metadata that can place the privacy of U.S. citizens at risk (Kim, 2020).

What does this mean for the average citizen?
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“Americans have come to terms with the inconvenient truth that there is no such thing as electronic communication without electronic eavesdropping.” — Brian Hochman

Long before the events of the September 11th terror attacks, the United States government has been involved in wiretapping or phone call surveillance of people who were deemed to be potentially undermining the safety of the United States in the wake of WWII in the 1940s (American Civil Liberties Union, n.d.b). Further, in the 1970s, the Foreign Intelligence Surveillance Act (FISA), was a law that was enacted by the United States to allow electronic surveillance of “foreign intelligence information” between “foreign powers” and “agents of foreign powers” suspected of espionage or terrorism (Lucas, 2019). Although FISA expired in February of 2008, its effects still linger in the minds of Americans (Electronic Privacy Information Center, n.d.).

However, after 11 September 2001 terror attacks on the U.S., the U.S. government quickly developed a vast, integrated, far-reaching system of metadata surveillance in order to protect the United States from future terrorist attacks, whether they originated domestically or overseas. The 911 Commission recommendations cover a wide gamut of potential, legally admissible metadata retrieval from transportation agencies (such as airlines), physical infrastructure (such as power grids), and cyber arenas, such as personal PCs, computer systems, and networks owned by both civilians and the U.S. armed forces (U.S. Department of Homeland Security, 2004). The metadata retrieved by the U.S. government is robust and dense with very sensitive, personal data that can be used at any time in the interest of the security and protection of the United States as a whole (Patrick, 2020).

Until the USA Freedom Act of 2015, one large issue since the 9/11 attacks had been the massive surveillance and bulk metadata collection of the phone records of the average U.S citizen; that meant that the incoming and outgoing calls of a single “target” (i.e., anyone living in the U.S. or its territories) was monitored and stored by the National Security Agency of the United States (FBI.gov, 2019). Statements that may have seemed innocuous, perhaps humorous, in isolation could have appeared to take on malignant form when seen collectively in the eyes of the National Security Agency (Frontline, PBS, 2007). Under the Bush administration, another U.S. government surveillance program from the NSA, called StellarWind, involved warrantless surveillance of many types of communications (e-mail messages, cell phone calls), as well as, banking transactions, and Internet activity (Isikoff, 2008). These are just a few examples of how metadata mining performed by the U.S. government started going deeper as a result of 9/11 and a rigorous expansion of numerous government surveillance programs.

Courts in New York, Arizona, and Washington have maintained that metadata is subject to disclosure under their state public records’ laws (Beckett, 2011). In February 2010, the Appellate Court in New York held, in Irwin v. Onondaga County Resource Recovery Agency that “system metadata,” which the court defined as automatically created metadata that identifies the file name, sizes, creation dates, and modification dates of electronically stored documents, is a public record and therefore subject to the state’s freedom of information law (New York Department of State, n.d.). The court asserted that the metadata in question is, at its core, the digital proportionate of “notes in a file folder.”

In the 2009 ruling of Lake v. City of Phoenix, the Arizona Supreme Court held that not only are electronic records subject to the state’s public records law, but the embedded data within an electronic record is also disclosable (K&L Gates, 2009). Finally, the Supreme Court of Washington held that metadata within a public record is a public record under the Public Records Act in O’Neill v. City of Shoreline (2010). The court found that when the record itself is a public record, there is “no doubt” that its implanted metadata is moreover an open record and must be divulged.

Conclusions and recommendations

In this paper, we explored and delved into the legal system, focusing on the burgeoning use of metadata in civil cases. Although research, discussions, and the literature on metadata abound, our paper is the first to tackle the often neglected area of its use and application in the legal system and present a compelling argument for why it needs more attention. The need for works such as ours is even more critical. Because, we live in the digital age where metadata is generated, by default, through ubiquitous devices citizens use in their everyday lives and activities. There has never been a time when citizens need to be cognizant of the fact that metadata they generate everyday could potentially be used as evidence in a civil case.

Per Hansen and Pratt (2017), metadata’s most prominent parts in a civil case or other types of cases may be to question
the veracity of an opponent’s proof and hypothesis of the case. Lawyers and their clients ought to be aware that any record made digitally implies that it, too, can have trace elements of possibly pertinent permissible evidence that will test the fidelity of the parties’ assertions and evidentiary documentation. Although, per Griffin (2019), many lawyers are not yet well-versed in the use of metadata and are “therefore unable to take advantage of an exhibit’s metadata during offensive and defensive depositions” [20]. Metadata has a potentially powerful impact on all types of civil cases. The richness of data that metadata provides needs to be assessed by knowledgeable professionals in order for its benefits to outweigh the risks. Otherwise, “opening metadata to civil suits will allow the private information of citizens to be exposed to the public and to anyone with a vendetta” [21]. For example, social media can be used to bolster a custody case, erroneously asserting implications that one spouse was involved in unsavory activities (Cooper, 2017; Tienda v. State, 2012).

What makes the impact more acute is that, currently, there is no particular strategy for verifying each piece of digital data; the authentication of the data will depend on the facts of the case (Guerrero, 2015). However the metadata mining is utilized, it gives one great pause. They say “actions speak louder than words”, but, going forward, the combination of actions, words, pictures, videos, and all embedded metadata will speak the loudest, particularly when it comes to their use in civil cases in the United States.

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Notes

5. Ibid.
References


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