Quest Journals
Journal of Research in Humanities and Social Science
Volume 12 ~ Issue 8 (2024) pp: 384-391
ISSN(Online):2321-9467
www.questjournals.org



Research Paper

Corpus Juris Civilis: A Comprehensive Study of Its Legacy

Hritvi Sikri

Fahaheel Al-Watanieh Indian Private School Al-Ahmadi, Kuwait

ABSTRACT:

The Justinian Code, also known as Corpus Juris Civilis, compiled under the Byzantine Emperor Justinian I between 529 - 565 CE represents a foundational legal text which is globally championed as one of the most significant historic legal works. This paper explores the history, form, and influence of the Justinian code on contemporary legal systems, particularly on those in the west. It also emphasises how Justinian's reforms influenced the interpretation and codification of Roman law, as well as the impact of early Roman law on the Byzantine legal system. The Codex, the Digesta, the Institutiones, and the Novellae Constitutiones were among the improvements that resulted from this and also constitute the overall structure of the Corpus Juris Civilis. This study also examines how the fall of the Byzantine empire caused major setbacks to subsequent judicial systems. Despite these defeats, the Justinian Code's impact endured and underwent numerous interpretations especially by Renaissance-era scholars such as Irnerius, Francesco Accorso, Bartolus of Saxoferrato, Baldus de Ubaldis, and Jacques Cujas as well as been a source of inspiration for later civil codes such as the Napoleonic code and the German Civil Code.

Received 14 Aug., 2024; Revised 26 Aug., 2024; Accepted 29 Aug., 2024 © The author(s) 2024. Published with open access at www.questjournas.org

I. Introduction

Justinian I's reign over the Byzantine empire (527-565 CE) was a period marked by significant changes both within the empire as well as with other nations. Justinian I is labelled as one of the most pivotal legislators and codifiers of his time and known for his extensive knowledge in the field of legal studies. His legal works started in 528 CE, with the setting up of a commission led by the eminent legal scholar Tribonian, to formulate a comprehensive legal code that sought to rationalise and unify the rather complex and often contradictory legislation of the Roman Empire, including the Twelve Tables. Their primary task was to consolidate existing legal texts and formulate a cohesive legal code that would provide clarity and consistency across the empire. The extent of the amendments made remains largely undocumented and unknown due to the loss of most original records. During the period from 529 to 534, the text was primarily drafted and disseminated in Latin, which was the official language of the Byzantine administration at the time, even though a large proportion of the population spoke Greek, including Justinian himself (*McLean, n.d.*). The result of this monumental effort was the Corpus Juris Civilis, or the "Body of Civil Law," which remains a cornerstone of legal systems in many countries today. Justinian's devoted goal of protecting the rights of his citizens was fulfilled by his reforms to extirpate corruption and provide equitable access to justice which required a degree of administrative reorganisation. (*Hussey, 2024*)

1.1. Early Roman influence: Foundations of a Legal Empire

In 395 CE, the Roman Empire was fragmented into two separate entities: the Western Roman Empire, and the Eastern Roman Empire, which came to be known as the Byzantine Empire. The Western Roman Empire fell in 476 AD due to the majority of the territory being lost to Germanic invaders. Under Justinian I, the empire was successful in reconquering some of the Western territories such as Italy and parts of Spain. While this was a huge achievement, Justinian I faced the dilemma of unifying the diverse groups within the empire, and he sought to overcome this dilemma by implementing new and extensive legal frameworks. (*GW Law Library: Library Guides: Roman Law Research: Corpus Juris Civilis*, n.d.)

The early Roman empire had a system where the citizens were divided into two classes: patricians, the elite who dominated Roman society and plebeians, the common people. A key aspect of the patricians' elite status was that a group of patrician men known as pontiffs were responsible for making decisions and ruling on matters of customary law (*ius*). The pontiffs' legislation showed sheer bias towards their own class which led to social disparities between the two groups. The agitation of the plebeians led to the demand of the law to take a written form (*lex*), which formed the basis for the concept of constitutions in nearly every present day nation (*Roman Legal Tradition and the Compilation of Justinian - Berkeley Law*, 2022). Owing to these drawbacks in the jurisprudence of Roman society, Justinian I pursued a straightforward and inclusive approach to the formation of the Byzantine legal order.

1.2. Justinian I's reign: an overview

Justinian's rule was centred around making the empire stronger and bringing back its past glory. To achieve this, he relied on administrators and advisors who were not belonging to the aristocracy. His own humble beginnings and his choice of these officials caused tensions with the Byzantine nobility. This was made worse by Justinian's authoritarian and somewhat arbitrary approach to leadership, including his declaration that the emperor's will dictates the law (*Brooks*, 2009). In 532, Justinian chose to shift from a militant to a diplomatic approach. He negotiated an "Endless Peace" with the Persian king Khosrow, agreeing to a significant tribute in exchange. Justinian was now able to shift the empire's resources and funds to reconquering territories in the west owing to the newfound peace in the east (*Hussey*, 2024).

1.2.1. The Nika Riots of 532 CE: Rebellion and Reform in Constantinople

The Nika riots of 532 were a significant uprising in Constantinople, marking one of the most dramatic episodes of unrest during the reign of Byzantine Emperor Justinian I. The riots began during a chariot race at the Hippodrome, where supporters of two rival factions, the Blues and the Greens, united in opposition to the imperial government (*University of Chicago, n.d.*) It was initially believed that the two factions were split by differing political and religious views, which were expressed to the emperor during the races. The Blues and the Greens, initially angered by the harsh suppression of a previous disturbance by the urban prefect, united in their protest. These riots were a rare instance of the factions expressing political dissent against the imperial government. They first secured the release of their leaders from prison and then demanded that Emperor Justinian remove two of his most disliked officials: John of Cappadocia and Tribonian. During this time of upheaval, numerous key religious and imperial buildings were set ablaze, including the fourth-century Church of Hagia Sophia, Hagia Eirene, the Chalke, and the Baths of Zeuxippus in Constantinople (*Brooks*, 2009). Although Justinian agreed to these demands, the crowd remained unsatisfied, escalating their protest into a full-blown revolt and declaring a nephew of Anastasius as the new emperor. The rebellion was only quelled thanks to Empress Theodora's steadfast refusal to flee, which ultimately saved Justinian's reign. This uprising then led Justinian to make his rule stricter and more rigid than ever (*Teall & Nicol*, 2024).

II. Corpus Juris Civilis: The structure

The production of Corpus Juris Civilis was done by a team of ten legal experts and 39 scribes to compile a new legislative code. This task was indeed a frantic one as it involved going over 2000 books and 3 million lines of text of former laws and legislation and filtering out the ones that could actually be applied to their current societal conditions (*Cartwright & Raddato*, 2024). The Justinian Code has three components: 'Codex', 'Digesta', and 'Institutiones', which were all created individually over the span of 5 years (529-534 CE). The 'Novellae Constitutiones Post Codicem' was a later addition made by legal scholars in 556 CE (*Hussey*, 2024).

2.1. Codex

The Codex, published in 529 CE, was a collection of 12 books comprising 4,562 imperial laws from the time of Hadrian (117-138 CE) to that of Justinian I himself. It had a definite structure and was organised according to theme and accredited to their respective emperors along with the date of their formation (*Cartwright & Raddato*, 2024). The codex dealt with ecclesiastical topics and the majority of the laws were framed with the objective of administering liturgy as well as included numerous measures that solidified Christianity as the state religion of the empire, effectively merging the institutions of church and state. The codex also prohibited various pagan practices; for instance, anyone present at a pagan sacrifice could be prosecuted to the same extent as that for murder. Contrary to most assumptions, the Byzantine empire also played a major role in extending legal rights to women. This was largely influenced by Justinian's wife, Empress Theodora- one of the most prominent women of the Byzantine empire. These rights included protection of prostitutes from exploitation, heavy charges for rapists, and women convicted for major crimes must guard other women from sexual abuse (*McLean, n.d.*). The Codex was very ahead of its time and is perhaps more progressive for women than contemporary legal provisions.

2.2. Digesta

In 530 CE, a second commission was appointed to codify the works of Roman jurists- this came to be the Digesta, or *Pandectae*, a collection of fifty books, which was published in 533 CE. It included the writings of 39 eminent Roman jurists such as Ulpian, Paul, Papinian, Scevola, Gallus, and Gaius, ("From Antiquity to Posterity: Analyzing the Corpus Iuris Civilis and Its Lasting Impact on Roman Law,", Zilic, Jabucar, Kolic, 2024) along with other dictum dating back to the later days of the Roman Republic and the 3rd century CE (Vulgate Corpus Iuris Civilis "Metadata," n.d.). German legal historian Friedrich Bluhme conducted an in-depth analysis of the methods used by the compilers of the Digest. His research revealed that the compilation process involved the formation of three subcommittees, each tasked with extracting specific works. These subcommittees later met in a joint assembly to arrange the excerpts for each title (Stein, P. 2007, p. 44). During these sessions, the material was organised according to a codex system, similar to the praetorian edict. As a result, each title was led by the group that had provided the majority of relevant passages on the topic. The Digesta exists in numerous manuscripts, with each providing distinct perspectives on this legal system. The most renowned and most well-preserved of these is the Florentine manuscript, which has been held in Florence since 1406. Prior to this, it was located in Pisa, where it was referred to as the "littera Pisana" (Campopiano, M. 2009, p. 64).

2.3. Institutiones

The Institutiones was prepared and published in 533 CE with the purpose of acting as a handbook for those studying the law and served as the official introductory textbook for Roman private law and civil procedure (*Corpus Juris Civilis - Max-EuP 2012*, n.d.). Justinian assigned Tribonian the task of creating an educational textbook and a primer on Roman law for beginners with the assistance of Theophilus and Dorotheus. These educational resources, collectively called the "Institutions," were officially introduced through the constitution Imperitoriam ministate on November 21, 533 CE. The new text was to be modelled on the standard legal work of the period, Gaius's Institutes. The subcommittee retained much of Gaius's original structure, which consisted of four books addressing three main areas—persons, things, and actions—and organised these books into various titles (*Mayali & Johnston, 2015, p.29*) Although initially intended to be a form of study material, the Institutiones was given the status of a legal code and, at the same time as the Digest, became effective on December 30, 533 (*Romac, A. 1973, p. 100–103*).

2.4. Novellae Constitutiones

The Novellae Constitutiones, the last part of the Corpus Juris Civilis, was passed in 556 CE. Justinian sought to publish a set of the novellae in the western part of the empire between 534-554, which never occurred due to numerous factors, including the passing of Tribonian around the year 546. Eventually, the novellae were compiled by private scholars post Justinian's death. Though the previous components of this revolutionary code were written and published in Latin, most parts of the novellae were written in Greek, Constantinople's new predominant language ("From Antiquity to Posterity: Analyzing the Corpus Iuris Civilis and Its Lasting Impact on Roman Law,", Zilic, Jabucar, Kolic, 2024). Each novel started with a formal address specifying the recipient and their title, along with a declaration from the emperor issuing the document. This is followed by a preface (praefatio) explaining the rationale behind Justinian's decision to enact the law. The core content of the law follows, and the document concludes with an epilogue (epilogus/epilogo) that details how and to whom the law should be communicated and when it will take effect (The Corpus Juris Civilis: A guide to its history and use-Dingledy, 2016). While the Novellae were not formally codified, they illustrate a vital aspect of this legal progression and remain a focus of scholarly study and analysis in Roman law.

III. Countess Matilda of Tuscany: Trailblazer in Medieval Legal Education and Reviver of the Justinian Code



Source: Storicamente

Matilda (1046–1115), Countess of Tuscany from 1055 until her death in 1115, was the last prominent member of the noble House of Canossa following the deaths of her father in 1052 and her elder brother in 1055. Renowned as one of mediaeval Europe's most powerful women, Matilda is celebrated for her formidable military and political skills, her unwavering support for the Christian Church, and her staunch defence of Papal authority (*Griffith & Artist*, 2024). Her strategic acumen was evident in her numerous military campaigns, which played a critical role in the Investiture Controversy—a conflict between the Papacy and the Holy Roman Empire over the appointment of church officials.

In 1088, Matilda founded Europe's inaugural law school, which played a crucial role in the revival of the study of Justinian's code of Roman law. This development was instrumental in promoting legal reforms, including granting women the rights to own, manage, and inherit property (*Matilda of Tuscany, Order of Mediaeval women*, n.d.)

4. The Legacy of Justinian's Code in the Renaissance Era

During the Renaissance, the Justinian Code left a profound imprint on the revival and evolution of legal scholarship across Europe. This period saw a resurgence in the study of classical texts, and the Code was central to this intellectual revival. After a period of dormancy for five centuries, the revival of Roman law emerged in the eleventh century with the founding of the University of Bologna. Under Irnerius's guidance, this university became a leading institution for the study of law, marking a significant resurgence in legal scholarship (McSweeney & Spike, 2015). The Renaissance era reformers emphasised the authority of the Corpus Juris Civilis, partly as an alternative to canon law and as a stabilising force.

4.1. Irnerius



Source: University of Bologna

Irnerius (1050–1125) was a key scholar in the revival of Roman legal studies in Italy and the pioneering figure among a long line of renowned legal glossators and educators at the University of Bologna. At the instance of Countess Matilda of Tuscany, Irnerius turned his focus to the study of jurisprudence, using the Justinian Code as his primary reference. A large number of historians believe that Matilda acted as a patroness to Irnerius, and although a direct link between the two cannot be established, it is very likely that she knew him and may have sought his assistance in reviving the study of Emperor Justinian's legal works (*McSweeney & Spike, 2015*). Prior to this, the study of law had been largely neglected in the empire, so he relied heavily on independent research (*Ott, M. 1910*). Subsequently, his most reputed work was annotating the Corpus Juris Civilis, marking him one of the first to write such marginal notes or "glosses" on Roman law. (*Britannica, T. Editors of Encyclopaedia-Irnerius, 1998*) Additionally, his Summa Codicis stands as the first systematic exposition of Roman law created during the Middle Ages.

4.2. Bartolus de Saxoferrato



Source: Alamy: Bartolus de Saxoferrato

Bartolus de Saxoferrato used the Corpus Juris Civilis and the glossators' work on it, along with Roman civil law, to develop vast legal frameworks applicable to contemporary issues in 14th-century Europe. His writings included highly influential legal ideologies, especially concerning the governmental authority of city-states and the rights of individuals and corporate entities within them. These ideologies then became foundational to Italian common law and were also adopted in Spain, Portugal, and Germany. Bartolus's commentaries on the Corpus Juris Civilis were often regarded with authority comparable to that of the code itself (*Britannica*, *T. Editors of Encyclopaedia- Bartolus de Saxoferrato*, 1998).

4.3. Jacques Cujas



Source: Université Toulouse Capitole

Jacques Cujas introduced Renaissance humanism into the study of Roman law, specialising in creating the *Paratitla*, which were concise summaries of Justinian's Digest and Codex. In these summaries, he distilled complex legal principles into clear, straightforward statements. Unlike many of his predecessors, who relied heavily on the interpretations of commentators, Cujas focused on the original language of Justinian's texts. His *Paratitla* aimed to make the most intricate legal concepts more accessible. While his primary emphasis was on Justinian's works, his research also extended to legal texts up to his own era (*Briggs*, *n.d.*).

4.4. Franciscus Accursius



Source: Britannica

Franciscus Accursius (1182–1260) was a leading Italian legal scholar of the 13th century, recognized for his pivotal role in the revival of Roman law. As the last of the major glossators of Justinian's Code, he meticulously annotated and expanded upon the text, shaping its interpretation and application (*Britannica*, *T. Editors of Encyclopaedia- Franciscus Accursius*, 1998). He meticulously analysed and interpreted the Digesta, making the Roman legal system more accessible and influential in the Renaissance legal environment.

4.5. Baldus de Ubaldis



Source: Robert Hall Pictures

Baldus de Ubaldis (1327–1400) was a prominent Italian jurist and a leading authority on mediaeval Roman law. Although he is now celebrated for his influential works on evidence and procedural law, which set the standard for centuries, his reputation in his own time rested primarily on his expertise in the Corpus Juris Civilis. Baldus skillfully navigated the tension between the theoretical imperial rights enshrined in the Justinian Code and the practical absence of imperial authority in his contemporary world (*Pryor*, 1990). Baldus was famous for his engaging lectures on the Corpus Juris, which attracted both scholars and tourists (*Tarlton Law Library: The Lectures of Baldus De Ubaldis*, n.d.). He was a trailblazer in systematically organising and interpreting the Corpus Juris, focusing on the sections most relevant to the legal issues of his era.

IV. The Justinian Code's Influence on Modern Legal Codes

The French Napoleonic Code and the German Civil Code were significantly influenced by the legal provisions preserved in the Corpus Juris Civilis. The classifications of property and the divisions of contracts established by Justinian's code continue to underpin modern civil law systems (*Corpus Juris: Legal Concept*

DOI: 10.35629/9467-1208384391 www.questjournals.org 389 | Page

Explained, 2023). The Justinian code and its Roman laws have become the cornerstone of civil law systems globally, shaping legal philosophy, practice, and procedural norms. Fundamental principles derived from Roman precedents—such as concepts of property rights, contract formation, and obligations—are integral to contemporary civil codes and judicial processes. As a definitive representation of Roman jurisprudence, Justinian's Corpus Juris Civilis remains a foundational pillar of Western legal tradition, illustrating its enduring impact on legal systems worldwide.

5.1. The Napoleonic Code

The development of the Napoleonic Code was largely influenced by a range of local customs and inspired by Justinian's Corpus Juris Civilis and its first component, the Codex (*Li et al.*, 2023). Unlike the Codex, which was a compilation of edited extracts, the Napoleonic Code represented a thorough and systematic rewrite of legal principles. It not only integrated existing laws but also introduced a more rational and structured format. Furthermore, unlike Justinian's code, the Napoleonic Code excluded religious content and was written in the vernacular, making it more accessible to the general populace (*FDVN law firm*, 2019).

5.2. The German Civil Code

The German Civil Code, enacted in 1900, drew extensively from Roman legal foundations. Its structure and classification of legal concepts, such as property rights and contractual obligations, echo the organisational principles found in Justinian's Code. Scholars like Otto von Gierke highlighted and even criticised this connection, noting the impracticality of the Germans incorporating Roman legal doctrines into a modern context (*Britannica*, *T. Editors of Encyclopaedia- Otto von Gierke*, 2024). The German Civil Code was then amended to suit the imperialism-ridden society and its social conditions.

V. Conclusion

In conclusion, the analysis of Justinian's legal reforms, particularly the Corpus Juris Civilis, reveals the profound and enduring impact they had on the evolution of legal systems across many nations. The codification efforts of Justinian I not only preserved and systematised Roman legal principles but also set a benchmark for legal clarity and uniformity. Despite the events following the fall of the Byzantine Empire, the principles embedded in the Corpus Juris Civilis continued to be conceded through numerous centuries.

Modern civil codes, while distinct in their approach, owe much to the foundational work of Justinian's code, underscoring its role as a cornerstone of Western legal tradition. The legacy of Justinian's reforms demonstrates the enduring relevance of his legal vision, illustrating how historical legal frameworks can transcend time and geography to shape contemporary legal thought and practice.

REFERENCES

- [1]. McLean, A. P. J. (n.d.-a). The Justinian Code | Western Civilization. https://courses.lumenlearning.com/atd-herkimer-westerncivilization/chapter/the-justinian-code/
- [2]. Hussey, J. M. (2024a, August 12). Justinian I | Biography, Accomplishments, Facts, Religion, Hagia Sophia, & Wife. Encyclopedia Britannica. https://www.britannica.com/biography/Justinian-I/Internal-policy
- [3]. GW Law Library: Library Guides: Roman Law Research: Corpus Juris Civilis. (n.d.). https://law.gwu.libguides.com/romanlaw/corpusjuriscivilis
- [4]. Roman Legal Tradition and the Compilation of Justinian Berkeley Law. (2022, September 7). Berkeley Law. https://www.law.berkeley.edu/research/the-robbins-collection/exhibitions/roman-legal-tradition-compilation-justinian/
- [5]. Brooks, S.(2009, April). The Byzantine State under Justinian I (Justinian the Great). The Met's Heilbrunn Timeline of Art History. https://www.metmuseum.org/toah/hd/just/hd_just.htm#:~:text=The%20nearly%20forty%2Dyear%20reign,all%20levels%20of%20 Byzantine%20culture.
- [6]. The Nika riot. (n.d.). University of Chicago https://penelope.uchicago.edu/~grout/encyclopaedia_romana/circusmaximus/nika.html
- [7]. Teall, J. L., & Nicol, D. M. (2024, August 13). Byzantine Empire | History, Geography, Maps, & Facts. Encyclopedia Britannica. https://www.britannica.com/place/Byzantine-Empire/The-6th-century-from-East-Rome-to-Byzantium#ref255127
- [8]. Cartwright, M., & Raddato, C. (2024a). Corpus Juris Civilis. World History Encyclopedia. https://www.worldhistory.org/Corpus_Juris_Civilis/
- [9]. From Antiquity to Posterity: Analyzing the Corpus Iuris Civilis and Its Lasting Impact on Roman Law. (2024). Zilic, Jabucar, Kolic, 32(1). https://doi.org/10.54664/cwvk2037
- [10]. Vulgate Corpus Iuris Civilis "metadata." (n.d.). https://amesfoundation.law.harvard.edu/digital/CJCiv/CJCivMetadata.html
- [11]. Stein, P. 2007 Rimsko pravo i Europa: Povijest jedne pravne kulture. Golden Marketing Tehnička knjiga
- [12]. Campopiano, M. 2009 M. Campopiano. Construction of the Text, Construction of the Past.
- [13]. Corpus Juris Civilis Max-EuP 2012. (n.d.). https://max-eup2012.mpipriv.de/index.php/Corpus_Juris_Civilis
- [14]. Mayali, L., & Johnston, D. (2015). The Cambridge companion to Roman law /: edited by David Johnston, Faculty of Advocates, Edinburgh. Berkeley Law. https://lawcat.berkeley.edu/record/93299?ln=en
- [15]. Romac, A. 1973 Izvori rimskog prava Zagreb. Pravna Biblioteka, 1973, 129–279
- [16]. Dingledy, F. W. (2016). The Corpus Juris Civilis: A Guide to Its History and Use. William & Mary Law School Scholarship Repository.
- [17]. https://scholarship.law.wm.edu/libpubs/123/

- [18]. Griffith, M., & Artist, U. (2024). Matilda of Tuscany. World History Encyclopedia. https://www.worldhistory.org/Matilda_of_Tuscany/
- [19]. Matilda of Tuscany. (n.d.). Order of Medieval Women. https://www.medievalwomen.org/matilda-of-tuscany.html
- [20]. McSweeney, T. J., & Spike, M. K. (n.d.). The Significance of the Corpus Juris Civilis: Matilda of Canossa and the Revival of Roman Law. William & Mary Law School Scholarship Repository. https://scholarship.law.wm.edu/facpubs/1736/
- [21]. Ott, M. (1910). Irnerius. In The Catholic Encyclopedia. New York: Robert Appleton Company. http://www.newadvent.org/cathen/08168a.htm
- [22]. Irnerius | Legal Theorist, Jurist, Canonist. (1998, July 20). Encyclopedia Britannica. https://www.britannica.com/biography/Irnerius
- [23]. Bartolus of Saxoferrato | Medieval Law, Canon Law & Commentaries. (1998, July 20). Encyclopedia Britannica. https://www.britannica.com/biography/Bartolus-of-Saxoferrato
- [24]. Briggs, W. (n.d.). CUJAS, Jacques. Dbcs. https://dbcs.rutgers.edu/all-scholars/cujas-jacques
- [25]. Franciscus Accursius | Legal Commentator, Jurist, Jurisprudence. (1998, July 20). Encyclopedia Britannica. https://www.britannica.com/biography/Franciscus-Accursius
- [26]. Pryor, J. H. (1990). The political thought of Baldus de Ubaldis. Parergon, 8(1), 137–138. https://doi.org/10.1353/pgn.1990.0088
- [27]. Tarlton Law Library: The Lectures of Baldus de Ubaldis: Home. (n.d.). https://tarlton.law.utexas.edu/lectures-baldus-de-ubaldis
- [28]. Corpus Juris: Legal Concept Explained. (2023, December 28). https://getlegalbuddies.com/blog/corpus-juris-legal-concept-explained/
- [29]. Li, Z., Hernández, C., & Giubi, M. J. V. (2023). The Overemphasized Legacy of the Napoleonic Code. Journal of Student Research, 11(3). https://doi.org/10.47611/jsr.v11i3.1645
- [30]. Admin, FDVN Law firm (2019, November 19). Civil Code Napoleon. Luật Sư Đà Nẵng Luật Sư FDVN. https://fdvn.vn/civil-code-napoleon/
- [31]. Otto Friedrich von Gierke | Legal Historian, Jurist, Historian. (1998, July 20). Encyclopedia Britannica. https://www.britannica.com/biography/Otto-Friedrich-von-Gierke