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Accounting, actor-networks and water supply: a city corporation in the 1880s

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ABSTRACT

Access to water has long posed financial and political challenges for urban centres, yet the historical role of accounting in governing and managing water supply remains underexplored. Focusing on nineteenth-century Cork, during a period of urbanisation, industrialisation, and increasing pressure on municipal water supplies, this study examines how accounting operated as a key actor in water governance, management, and conservation. Using actor-network theory (ANT), it examines the relationships between human and non-human actors to show how accounting both shaped and was shaped by evolving networks of water provision. Based on archival records from the 1880s, the analysis reveals accounting not as a passive tool of financial control, but as an active agent in shaping water-related practices and policies. In doing so, the study contributes to accounting history by illuminating the complex actor-networks behind public utility provision, thereby demonstrating the value of applying ANT in historical research. While grounded in history, the findings offer reflections on the ongoing tensions between financial oversight and public resource management.

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Introduction

Access to water is often taken for granted in contemporary society. However, many regions continue to struggle with securing and maintaining an adequate water supply. While contemporary water governance has been studied to some extent, the historical role of governance, management, and accounting for water supply remains significantly underexplored. Examining historical perspectives brings to light the enduring challenges of securing and managing this vital resource.

Water provision has long presented financial and political challenges for cities and states. In the nineteenth century, urbanisation and industrialisation placed increasing demands on municipal water supplies, necessitating governance structures, technical interventions, and financial oversight to ensure efficiency and conservation (Shaw

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1889). Given the financial complexities involved, accounting played a crucial role in managing costs, investments, and resource allocation. Despite this, historical research on how accounting shaped and mediated water governance and infrastructure investment remains limited. Hoekstra (2009) has expressed surprise at the lack of attention given to water as a component of natural capital, while Christ and Burritt (2017) note that corporate water governance has only recently gained traction in research.

In the accounting literature, studies on water governance and management remain limited, even though water supply represents a significant financial cost to cities and towns. Egan (2014) argues that aligning water sustainability with financial costs could improve long-term water management. Jollands and Quinn (2017) examines how the Irish government mobilised accounting concepts to introduce domestic water billing, finding that financial 'cost' was perceived not as a sustainability measure but as an economic burden on householders. While these studies focus on contemporary water governance, they highlight the importance of accounting in the governance and management of water.

The interplay between accounting, water governance, and management is not solely a modern concern. From a historical perspective, Giorgino and Barnabè (2024) examine water governance and the role of accounting in achieving sustainable water management in mediaeval times. Their study highlights how accounting principles were applied in premodern societies to regulate water distribution and resource use. While their work provides valuable insights into mediaeval practices, the role of accounting in nineteenth-century water governance, management, and conservation remains largely unexplored. Jack and Napier (2023) specifically call for further research into the accounting history of government interventions in water supply. This gap becomes even more significant when considering the actor-networks involved.

Thus, the objective of this study is to utilise actor-network theory (ANT) to investigate accounting's role as a key actor in governing, managing, and conserving water supplies within the Irish city of Cork during the mid- to late-nineteenth century. Specifically, it examines interactions among human and non-human actors; that is, accounting, elected officials, engineers, water infrastructure, and regulatory frameworks, to understand how these relationships influenced the governance, management, and conservation practices surrounding water supply. By tracing the translation processes through which accounting mediated these interactions, this research illuminates how accounting practices influenced and were shaped by the evolving water management network, thereby contributing to a deeper understanding of the historical interplay between accounting, urban water governance, and water infrastructure. Although this study centres on an Irish local government context, its analytical insights are of broader relevance. We contend that our interpretive framework and findings can be meaningfully applied to examine similar practices in other international settings and across diverse areas of public service provision, such as housing.

This study makes several contributions to the accounting history and water accounting literatures. First, it demonstrates the active role of accounting within the nineteenth-century water governance network, moving beyond a passive view of accounting as a mere financial tool. Second, it provides a nuanced understanding of historical water governance by revealing the dynamic interactions between diverse actors, including accounting, in shaping water supply and conservation policies. Third, it applies ANT to historical water governance, offering a novel methodological approach for analysing the evolution

of public service water infrastructure. Finally, it responds to calls for further research on the historical role of water governance in public resource management, contributing to the growing body of literature on accounting, water governance, and conservation.

The remainder of our study is structured as follows. The next section provides a review of relevant literature, followed by an overview of local government in Ireland in the 1880s, including details on the archival sources and the methodology used. Then, details from the archival records are recounted. The final section discusses our findings, limitations of the study, and outlines opportunities for future research.

Literature review and theoretical framework

Exploring water through an accounting lens: a brief literature review

Prior research on the water sector, generally and specifically, water quality, availability, and sustainability contribute significantly to our understanding of water management and sustainability (see Kurland and Zell 2010; Egan 2015; Jollands and Quinn 2017; Ahmed et al. 2018; He et al. 2021; Cahill, Hoolohan, and Browne 2024; Quinn and Feeney 2024). Much of this research identifies water utility companies as crucial stakeholders in ensuring sustainable water provision (Harvey and Schaefer 2001; Lennox, Proctor, and Russell 2011; Quinn et al. 2016). Accounting concepts have had a significant impact on water management strategies and practices. Through concepts like water accounting, organisations can effectively track, measure, and report water usage, contributing to informed decision making and resource allocation (Chalmers, Godfrey, and Lynch 2012; Godfrey and Chalmers 2012). User-pays pricing mechanisms, influenced by equity considerations, affect water consumption patterns and revenue generation, thereby shaping conservation efforts (Hunt, Staunton, and Dunstan 2013). Privatisation introduced new management structures and cultures focused on efficiency and profitability, affecting service delivery and investment priorities (Ogden and Anderson 1999). Governance issues highlighted by accounting, such as transparency and accountability, are crucial for effective water management, ensuring responsible stewardship of this vital resource (Cashman 2011), something evident within Irish Water, the Irish state water utility, as highlighted by Jollands and Quinn (2017). Indeed, Bresnihan (2016) examines the establishment of Irish Water, observing that the principles linked with financialisation are embedded within the company, despite its formation being driven primarily by the State. Further studies include that of Tello, Hazelton, and Cummings (2016), which explores the consequences of adopting financial accounting techniques to prepare water accounting reports, while Passetti and Rinaldi (2020) investigate how the combination of accounting and moral principles might develop the moral legitimacy of water sustainability practices.

Much of the existing research explores accounting within contemporary municipal water services, yet historical examinations of accounting's role in the supply of water remain limited (Jack and Napier 2023; Giorgino and Barnabè 2024). While prior literature has adopted a historical approach to analyse everyday practices of water use (Shove 2003; Anderson 2016), historical studies explicitly focused on the role of accounting in this context are notably absent. Indeed, Giorgino and Barnabè (2024, 4) observe that 'the interest of accounting history scholars in water has mainly referred to the strand of

research focused on the "exploitation" of natural resources'; however, their historical analysis provides an exception by exploring from an accounting perspective the sustainability of a mediaeval water supply system in Siena, Italy. Drawing on thirteenth-century accounting books that recorded transactions using a charge-and-discharge system, they classify water-related transactions according to economic, environmental, and social accounting dimensions. Giorgino and Barnabè (2024) argue that these three accounting dimensions collectively supported the sustainability of the water supply, with the economic (financial) dimension underpinning the other two. Their findings provide valuable historical support for contemporary discussions on sustainable water management.

Our study complements other research to further illuminate accounting's critical role as an actor in shaping the governance, efficiency, and conservation of water resources in cities, thereby addressing existing gaps in the literature by linking water management and accounting. As Elias (1992, 135) metaphorically argues, just as modern high-rise living obfuscates past experiences of ground-level dwelling, contemporary water governance issues should be understood as products of 'generations of interwoven interdependency networks' (Newton 2001, 468). This perspective naturally aligns with the theoretical framing of this study, ANT, which emphasises networks of interdependent actors shaping outcomes over time.

Actor-network theory (ANT)

ANT provides a framework for exploring the historical role of accounting in urban water governance. It recognises accounting not merely as a passive recording practice, but as an active actor capable of shaping relationships and outcomes within complex sociotechnical networks (Latour 1987, 2005; Callon 1986). Unlike other theoretical approaches that privilege human agency, ANT places human and non-human actors, including accounting, infrastructure, and regulatory frameworks, on equal analytical footing. This perspective allows for an investigation of how accounting practices actively mediated interactions, influenced decision making, and shaped water governance, management, and conservation practices in the city of Cork during the mid- to late-nineteenth century. By emphasising relational dynamics through the concepts of translation and networks of interdependent actors, ANT facilitates deeper historical insight into the interconnected roles of accounting, infrastructure, and municipal governance.

One of the foundational principles of ANT is that humans and non-humans (that is, animals, technologies, etc.) are treated/referred alike as actors or actants to avoid the human connotation of the word 'actor' (Greimas and Courtés 1982). ANT suggests that all entities in an actor-network can and should be described in the same terms, a deliberate departure from traditional sociology, which tends to attribute special agency and supremacy to human actors.

ANT rethinks how agencies emerge from actant relationships. The present study specifically employs the concept of translation (Callon and Latour 1981), which, taken literally, means moving something from one place to another; that is, movements of different forms of technology, knowledge, and cultural practices (Czarniawska 2016). Furthermore, the mover known as the 'translator' also changes along with the thing which is moved (Czarniawska 2016). Translation is the process that allows actor-networks to be represented. Actor-networks are not stable structures, but they are constantly changing

entities. They are the effect of the interactions between actors; they are constantly being performed and are also not inherently bound to a spatial dimension; they can be localised in one spot or spread across vast distances (and time). The stability and shape of an actor-network are determined by the strength of the associations between the actors within it (Latour 2005).

The translation process involves four stages – problematisation (defining the nature of the problem so that it is understandable to the involved parties), interessement (locking other actors into the roles that were proposed for them in the actor's programme for resolving the identified problem), enrolment (defining and interrelating the various roles), and mobilisation (ensuring that supposed allies are indeed committed to the cause) (Callon 1986). Through this process, actors seek to turn other entities into allies and link them into an actor-network to serve their agenda. The concept of translation was further developed by Mouritsen, Hansen, and Hansen (2009), who argued that accounting calculations could mediate between cost control and profitability. The calculative spaces concept in ANT (Callon and Muniesa 2005) involves harnessing the performative role of non-human actors (Latour 2005), such as accounting, and exploring how they are utilised to achieve specific goals (Robson 1992; Law 1996). Calculation in an ANT sense is more than numeric calculation and is within the translation process. Creating a calculative space involves deciding what is included and, consequently, what is excluded. Essentially, it is about determining what qualifies to be part of a calculation and what does not. Hence, 'all calculation builds itself with and against noncalculation—and vice versa' (Callon and Law 2005, 718). This implies that assembling entities within a calculative space for calculation purposes necessitates the suppression of other potential counter-calculations by creating noncalculative spaces. ANT's application in examining the mobilisation of accounting calculations is well established and specifically, in accounting for water (see Egan 2014; Jollands and Quinn 2017). Furthermore, ANT rejects the notion of inherent macro-structures. Instead, it argues that such structures are merely the result of a series of interactions and associations between actors. The latter is known as the flat ontology of ANT, wherein all entities are on the same ontological level. No 'social context' exists in which interactions happen; rather, what we perceive as the social is the result of the interactions.

The perspective on power in ANT is also unique. Power is not something that actors possess and wield over others. Instead, it is an effect of the interactions within an actor-network. An actor's power is determined by the ability to form and maintain associations in the actor-network (Latour 2005). Latour (1987, 31) distinguishes three power types: 'anybodies' are actors on the fringe of the actor-network who have little influence or consequence; 'somebodies' are actors in possession of a reputation who others pay attention to; and 'manybodies' are reputed actors that individuals might mobilise to support their arguments. Thus, power is not fixed but is a variable that can change depending on the state of the actor's connections.

ANT can illustrate how accounting practices emerge, evolve, and shape socio-technical networks; thus, it can be useful in exploring events over time and periods of history. Its focus on agency, power dynamics, and materiality enriches historical analysis, revealing complex relationships within accounting systems. The review by Persson and Napier (2014) of the work of Australian accounting theorist R.J. Chambers examines accounting research in terms of the material context in which the research takes place. In a sense, their study, and Chambers's work generally, promotes the benefits of opportunistic

research, that is, studying a time and place because the information is available, searching out insights and teachings in detailed, accurate accounts of full events. Responding a decade later to the call from Booth and Rowlinson (2006) for an intensified exploration of the study of accounting history, Corrigan (2016) uses ANT to examine municipal budget-making practices in Africville, an African Canadian village in Nova Scotia. Corrigan's work combines history and critical theory to bring a critical attitude to historical narratives. Justesen and Mouritsen (2011) specifically explore how Latour's ANT has influenced accounting research. Latour's ideas of translation, inscriptions, and centres of calculation have a particular resonance in analyses of accounting change, often in the context of historical processes when 'heterogeneous actors are brought together in particular and fragile accounting constellations' (Justesen and Mouritsen 2011, 184). In this vein, Verhoef and Samkin (2017) adopt ANT to examine, over a 120-year period, how the relationship between the accounting profession, the state, universities, and academics in South Africa hindered the development of meaningful academic discourse. Specifically, their study uses ANT combined with Callon's (1986) four phases (or moments) – 'problematisation', 'interessement', 'enrolment', and 'mobilisation' – to explain how various human and non-human actors brought about South African academic disengagement within the accounting discipline. Indeed, ANT has been applied in a number of historical analyses that trace the development of different accounting phenomena in a wide variety of contexts, including discounted cash flow (DCF) procedures in the UK in the 1960s (Miller 1991), as well as government intervention in Navajo livestock herds in the southwestern USA in the 1930s (Preston 2006). Gunatilake, Lord, and Dixon (2024) use ANT to draw out the socio-political nature of accounting in their examination of the partial privatisation of the monopoly telecommunications organisation in Sri Lanka. They challenge 'taken for granted history' (2024, 31) and critically evaluate accounting in the context in which it operates. Quattrone (2009) explores the diffusion of accounting in historical and contemporary settings by examining how accounting as a performable technique adapts across economies and societies. He uses ANT to draw out how accounting is 'homogeneous enough to be recognised as autonomous and heterogeneous enough to attract diversity and create difference' (2009, 85). Similarly, Cooper, Ezzamel, and Qu (2017) draw on ANT to explore how the Balanced Scorecard (BSC) was developed and marketed as a general management practice. Their historical analysis helps us to understand how features of the BSC were translated and transformed, that is, shaped and solidified.

Our research examines the interactions among human and non-human actors and how these influenced the governance, management, and conservation practices surrounding water supply. It highlights accounting's role via accounting concepts such as 'cost', 'measurement', and 'accountability' as a mediating force in the interactions between actors. Drawing on ANT, this study probes into 'who' and 'what' were able to 'transform, translate, distort and modify the meaning' (Latour 2005, 39) of water governance, management, and conservation in 1880s Cork.

Context and method

Before describing the archival sources and the methods used to collect and analyse data therefrom, it is useful to outline the historical context of local government in Ireland.

Context

Currently, the Minister for Housing, Local Government and Heritage oversees all county and city councils (jointly known as local authorities) in Ireland and is held accountable by the national government for their performance. The primary function of these local authorities, both historically and in contemporary times, is to provide public services, including water supply, wastewater treatment, fire services, and waste collection. The foundational structures of today's local government in Ireland were established in the nineteenth century, as noted by Haslam (2003) and Forde (2005), making a brief review of their historical development until the late 1800s insightful here.

For the entire nineteenth century, the island of Ireland was part of the United Kingdom of Great Britain and Ireland. The Act of Union in 1801 abolished the Irish Parliament, providing for direct rule from London (see Coakley et al. 2010). At the local level, unelected city and borough councils were in place. It was not until the Local Government (Ireland) Act 1898 that members of such councils were elected. Webb's work from 1918 serves as a pertinent reference for the period discussed in this study. Webb (1918) critically describes the local government in Ireland before 1840 as a period marked by widespread mismanagement, corruption, nepotism, and intolerance, attributing these flaws to negative influences from the Stuart era (1603–1714). The enactment of the Municipal Corporations (Ireland) Act 1840[1] dramatically transformed Irish municipal governance. It replaced the old corporations with new municipal structures that are largely similar to those existing today (Webb 1918). The 1840 Act was an extensive piece of legislation, which, for example, clearly set out town and county boundaries, specified procedures for elections, defined the conduct of meetings, and enacted provisions for the appointment, duties, and accountability of town clerks, treasurers, and other officers. In the case of the city of Cork, under the 1840 Act, it was deemed a Corporation, hence Cork Corporation, as known today, was formed. As a 'Corporation', the 1840 Act subjected the city of Cork to 'do and suffer all Acts which such Bodies Corporate lawfully may do and suffer' (Section XII). That is, it could make decisions independently and engage in activities such as revenue generation, infrastructure investment, and borrowing. According to Haslam (2003), the first significant legislation after independence was the Local Government Act of 1925. While this act introduced some changes to local governance, the geographical layout of local authorities remained mostly unchanged. The 1840 Act maintained the status of the 10 principal towns and cities but mandated that corporate powers be wielded by councils elected through popular vote, a practice that persists (Webb 1918). Webb (1918) and Haslam (2003) both note the significance of the Public Health (Ireland) Act 1878 in the evolution of local government. This legislation imposed a legal duty on urban authorities to provide essential sanitation services, such as clean water. It also imposed penalties and obligations related to public health for failures in service provision and permitted municipalities to incur debts to finance these services.

During the time period of this study (1880–1891), cities and towns financed their expenses mainly through rates, supplemented by income from water services, tolls, and rent. Rates, levied on all properties (residential and commercial) based on their rateable value, were the principal source of revenue. Essentially, the rates charged were meant to cover the anticipated budget deficit for the year. For example, in Cork city in 1888, the rate was 6s 7½d (33.125 pence in decimal) per pound of property valuation.

Therefore, for a property valued at £10, the rates due would be £3 6s 3d. While the underlying principles remain, today only commercial properties are subject to rates.

Data sources and method

The primary data source is the Cork City and County Archives Service, located in Cork, Ireland. As a public archive, full access to all records is possible by appointment. The authors consulted the bound volumes of Cork Corporation Reports (references CP/RP(p)/01 to CP/RP(p)/09) covering a period from 1880 to 1891, that is, before the Local Government (Ireland) Act 1898. These volumes contain reports such as annual and periodic financial statements, reports of the Corporation's Subcommittees, and any reports requested by the Corporation's council on an issue under discussion. Each bound volume contains an index. Given the study objectives, the indices were manually inspected to access the content on water supply, revealing regular reports by the Waterworks Committee of Cork Corporation, as well as summary accounts for the city's Waterworks. The reports of the Waterworks Committee convey information to the city's elected representatives and also report on outcomes of decisions taken at corporation level. The Waterworks Committee reports were deemed an appropriate data source, while the chosen time period reflects the availability of records. Moreover, in 1880, a Filter Tunnel was unable to meet Cork city's water supply demands, implying that action was needed to improve the water supply. All relevant documents were photographed using Microsoft Lens and converted to a PDF format. The documents analysed were in printed form, enabling easier conversion to digital format and ease of reading. To supplement the archival sources, newspapers were consulted through the online Irish Newspaper Archives database, and legislation was referred to as required. Primary and secondary sources are listed in the References.

As outlined earlier, this study draws on ANT and, in particular, its concepts of actants and translation to examine historical water governance, management, and conservation practices. Using documentary sources, primarily the Waterworks Committee reports, we identify key actors and actor-networks and trace the translation processes, paying close attention to the roles played by accounting and related concepts such as costs in shaping efforts to improve water supply. Our goal is not to develop or extend existing theory directly; rather, we seek to contribute to ongoing academic conversations, enhancing contemporary understandings of historical water management and the mediating role of accounting practices within these processes.

Findings

1868 Legislative framework for water governance and management

The Cork Improvement Act 1868 consolidated prior legislation on the upkeep of Cork city and thus was varied and extensive. We outline four parts of the Act to place the Corporation's water governance and management efforts in context. Sections 43, 62, 63, and 65 of the Act are most relevant, and extracts are shown in Table 1. Section 43 outlines how the Corporation could create and enforce regulations for those who use its water supply to prevent waste, misuse, excessive consumption, or contamination of its water.

Table 1. Extracts from The Cork Improvement Act (1868).

Section	Extract from full text
43	For preventing Waste, Misuse, undue Consumption, or Contamination of the Water of the Corporation, the Corporation may from Time to Time make Regulations to be observed by Persons supplied with Water by the Corporation; and until such Regulations are made, or in default of any such Regulations, the Provisions herein-after contained shall apply and be read as if the same were herein-after contained shall apply and be read as if the same were "Regulations for the Time being in force in the Borough."
62	If any Person supplied with Water by the Corporation neglect to pay any Rate or Sum of Money payable by him, or wilfully do or cause or permit to be done anything in contravention of any of the Provisions of this Act or the Acts incorporated herewith, or the recited Acts, or wilfully fail to do anything which under any of these Provisions ought to be done for the prevention of Waste, Misuser, undue Consumption, or Contamination of the Water supplied by the Corporation, or refuse any Officer of the Corporation Admittance to or prevent him from entering any House or Premises to which such Officer shall for the Time being be authorised to enter, the Corporation may cut off any of the Pipes by means of or through which Water is supplied to him, or on his Responsibility or Liability, and may cease to supply Water to him or on his Responsibility or Liability, so long as the Cause of Injury or Complaint remains and is not remedied, and may also recover from him, together with full Costs of Suit, in any Court of competent Jurisdiction, the Amount of any Loss, Damage, or Injury which the Corporation may sustain by reason of any such Act or wilful Failure. Corporation allowed to cut off the supply.
63	If any Owner or Occupier of any Building supplied with Water by the Corporation supplies to any other Person or wilfully permits him to take any such Water from any Cistern or Pipe in such Building, unless for the Purpose of extinguishing Fire, or unless he is a Person supplied with Water by the Corporation, and the Pipes belonging to him are, without his Default, out of repair, he shall be liable to a Penalty not exceeding Five Pounds, and the Existence of any Communication Pipe or other Apparatus suited for such Supply or Permission shall be prima facie Evidence of such Supply or Permission. Penalties for waste of water.
65	Every Person supplied with Water by the Corporation who wilfully or negligently suffers any Pipe, Valve, Cock, Cistern, Water-closet, or other Apparatus to be out of repair, or so used as that Water supplied by the Corporation is wasted or misused, or so as to allow the Return of foul Air or other noisome or impure Matter into the Pipes belonging to or connected with the Mains or Pipes of the Corporation, shall for every such Offence forfeit to the Corporation any Sum not exceeding Five Pounds.

Source: https://www.legislation.gov.uk/ukla/Vict/31-32/33/contents/enacted.

Section 62 outlines that if a person fails to pay for water supplied by the Corporation, violates any related provisions, or obstructs corporation officials from accessing properties for inspections, the Corporation has the right to disconnect the water supply and cease further service until the issues are resolved. Additionally, the Corporation can legally recover costs for any losses or damages incurred due to these violations or failures. Section 63 explains that if an owner or occupier of a building provided with water by the Corporation allows another person to use this water, except for firefighting, they may be fined. No unauthorised use of water is permitted. Section 65 notes how anyone who negligently or intentionally allows any part of their water system, such as pipes, valves, or cisterns, to fall into disrepair, resulting in the wastage or misuse of water supplied by the Corporation, or causes contamination to return to the main water system, would be fined up to five pounds for each offense. These regulations and penalties highlight the importance placed on maintaining the water infrastructure, which required substantial investment during this period.

Water supply investment costs – early 1880s to 1883

In August 1880, it emerged that Cork city's Filter Tunnel[2] could not meet the city's water demand (CP/RP(p)/03, 104[3]). In response, the Corporation's Waterworks Committee engaged its Resident Engineer in June 1881 to devise a plan to enhance the Tunnel's capacity (CP/RP(p)/03,104). The Resident Engineer proposed a solution in July 1881, although the decision was deferred pending further review (see Figure 1).

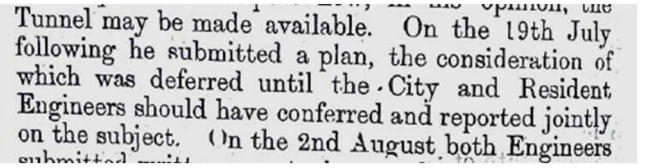

Tunnel may be made available. On the 19th July following he submitted a plan, the consideration of which was deferred until the City and Resident Engineers should have conferred and reported jointly on the subject. On the 2nd August both Engineers

Figure 1. Extract of Report of the Waterworks Committee.

Source: Cork Corporation Report 1883 (CP/RP(p)/03,104). Further reproductions of this material are expressly prohibited. Used with permission of Cork City and County Archives Service.

By 2 August 1881, after both engineers had submitted their assessments, the Waterworks Committee approved a trial costing £25 to test the proposed Tunnel's water efficiency improvement (CP/RP(p)/03,104). Following the trial's reported efficiency success on 20 June 1882, of a significant increase of 500,000 gallons per day in water output, the Resident Engineer recommended a further investment of £175 to fully implement the solution (CP/RP(p)/03,105). This recommendation also saw the Resident Engineer advocating for the Waterworks Committee to expand staff by hiring six additional workers (at an undetermined cost), a recommendation approved on 7 July 1882 (CP/RP(p)/03,105). This project was completed at the end of September 1882 with a total expenditure of £214 18s 1d, which enhanced both the quantity and quality of water for Cork city (CP/RP(p)/03,105). Based on the income and expenditure accounts reported by the Waterworks Committee, the average cost of providing water to the city stood at £1000–£2000 per quarter – about £103,000–£206,000 in 2024 values.[4] By 31 December 1883, the water supply status was declared satisfactory.

Dealing with water shortages and wastage (1883-1885)

On 14 July 1884, the Resident Engineer reported to the Waterworks Committee that a severe three-month drought had led to an inconsistent water supply across Cork city, despite 470 million gallons being pumped into its reservoirs during the month (CP/RP(p)/04, 122). In response, the Waterworks Committee imposed water usage restrictions for non-manufacturing activities between 6 am and 8 pm for several weeks to conserve water. This directive did not result in any significant public inconvenience or backlash. Furthermore, the Waterworks Committee sought to improve efficiency by deliberating on the adoption of a Patent Fuel Economiser to reduce coal consumption in water pumping. The Committee consulted with the Corporation's Resident Engineer and accepted a bid from Messrs Edward Green & Son of Manchester for the purchase of a Patent Fuel Economiser for £235 10s. The Waterworks Committee noted in a report dated 13 October 1884 that 'this improvement will cost £640, an outlay which will be more than amply compensated for by the large annual saving in coal.' (CP/RP(p)/04, 124).

In addition, during 1884, the implementation of house-to-house inspections (CP/RP(p)/04, 53) for water wastage and subsequent repairs was conducted. These inspections, detailed in the Resident Engineer's reports, were not merely routine checks, but part of a broader strategy to engage and mobilise householders in water conservation efforts. The Inspectors were powerful new allies (Egan 2014) of the Waterworks Committee,

instructing how any deliberate waste due to faulty fixtures or other reasons would lead to legal action (see Table 1). The inspection strategy was explicit in outlining how the city would not suffer for one individual's negligent use of water usage, that is, everyone was accountable for their own use of water. The Water Inspectors' work clearly had a financial cost, but the records available do not detail this cost.

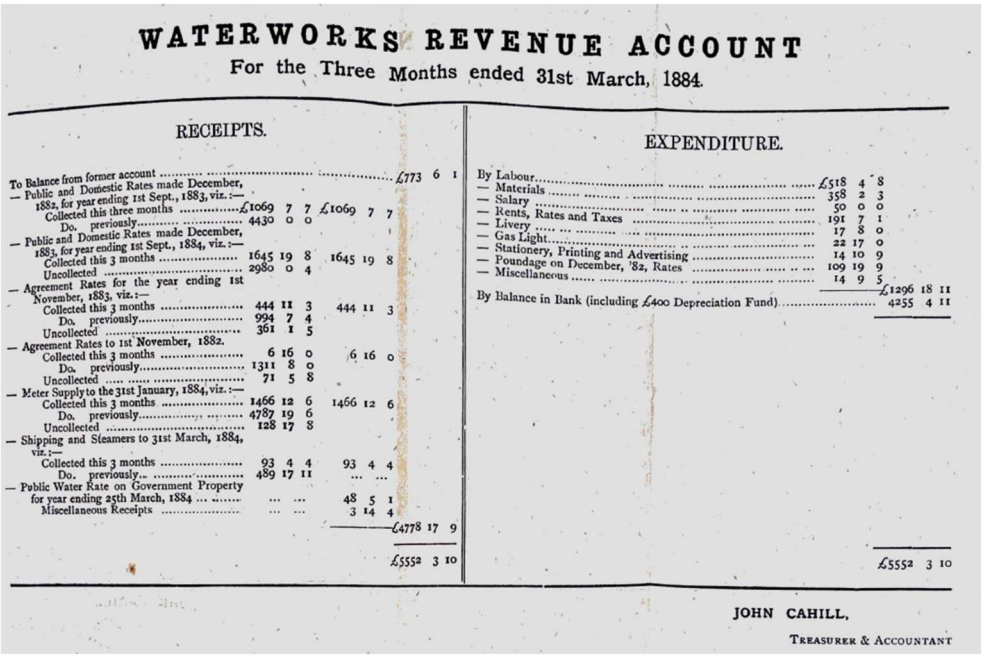
Prompt repairs also carried a cost and were carried out by most homeowners upon receiving notifications. These repairs were conducted swiftly by homeowners without the need for suspending water supply. This swift response not only mitigated the need for more severe interventions, such as cutting off supply, but also stabilised the water network by reducing inefficiencies and water wastage. Each successful repair and the avoidance of water supply suspension contributed to the overall efficiency of the water distribution system.

On 31 December 1884, the Waterworks Committee announced that the volume of water pumped in the quarter amounted to 492,000,000 gallons (equivalent to 54 gallons per person per day), including industrial and manufacturing usage (CP/RP(p)/04, 4). This figure was approximately 4,000,000 gallons lower than the same quarter in 1883. This reduction of water pumping continued. On 31 March 1885, it was reported that during the quarter, the amount of water pumped into the reservoirs was 422,000,000 gallons, which was over 20,000,000 gallons less than the same quarter for the previous year (CP/RP(p)/04, 53). The Waterworks Committee attributed this decrease largely, if not entirely, to the measures taken in 1884 to monitor and reduce water wastage in the city.

Financial challenges and enforcement of payment compliance

During 1883 and 1884, despite the aforementioned efforts to conserve water and improve supply, unpaid water rates in Cork city were substantial. A report of the Waterworks Committee on 31 December 1883 noted that 'the large arrears due on foot of Agreement Water Rates at the time of the Committee's appointment, viz., for the years 1880,'81,'82 have now been cleared off, save £78 ls, 8d., which will be immediately dealt with' (CP/RP(p)/04, 3). A subsequent Waterworks Revenue Account for the quarter ended 31 March 1886 revealed an uncollected amount of £3540 (CP/RP(p)/05). This amount represented unpaid amounts for the 1883 calendar year and to 31 March 1884 and equated to over one quarter's expenditure in maintaining the city's water supply (see Figure 2).

Given the clearing of all previously owed amounts, this substantial amount owing was noted as an issue of concern by the Waterworks Committee, bringing financial management into sharp focus and highlighting the accounting and economic dimensions of water supply. This financial dimension threatened the stability and efficiency of the water supply system, demanding immediate and effective solutions. Therefore, in 1885, the Waterworks Committee issued a mandate, threatening to disconnect the water supply if unpaid rates were not settled within a specified timeframe. By clearly stating the consequences of non-payment, the Waterworks Committee sought to ensure compliance and engagement from all stakeholders. For commercial entities like hotels, clubs, and bottling stores, metered rates were applied when consumption exceeded fixed rate agreement levels.



WATERWORKS REVENUE ACCOUNT

For the Three Months ended 31st March, 1884.

RECEIPTS.

To Balance from former account					£773	6 1
— Public and Domestic Rates made December, 1882, for year ending 1st Sept., 1883, viz.:—						
Collected this three months	£1069	7 7	£1069	7 7		
Do. previously	4430	0 0				
— Public and Domestic Rates made December, 1883, for year ending 1st Sept., 1884, viz.:—						
Collected this 3 months	1645	19 8	1645	19 8		
Uncollected	2980	0 4				
— Agreement Rates for the year ending 1st November, 1883, viz.:—						
Collected this 3 months	444	11 3	444	11 3		
Do. previously	994	7 4				
Uncollected	361	1 5				
— Agreement Rates to 1st November, 1882.						
Collected this 3 months	6	16 0	6	16 0		
Do. previously	1311	8 0				
Uncollected	71	5 8				
— Meter Supply to the 31st January, 1884, viz.:—						
Collected this 3 months	1466	12 6	1466	12 6		
Do. previously	4787	19 6				
Uncollected	128	17 8				
— Shipping and Steamers to 31st March, 1884, viz.:—						
Collected this 3 months	93	4 4	93	4 4		
Do. previously	489	17 11	...	...		
— Public Water Rate on Government Property for year ending 25th March, 1884	...	...	48	5 1		
Miscellaneous Receipts	...	...	3	14 4		
					£4778	17 9
					£5552	3 10

EXPENDITURE.

By Labour	£518	4 8
— Materials	358	2 3
— Salary	50	0 0
— Rents, Rates and Taxes	191	7 1
— Livery	17	8 0
— Gas Light	22	17 0
— Stationery, Printing and Advertising	14	10 9
— Poundage on December, '82, Rates	109	19 9
— Miscellaneous	14	9 5
	£1296	18 11
By Balance in Bank (including £400 Depreciation Fund)	4255	4 11
	£5552	3 10

JOHN CAHILL,

TREASURER & ACCOUNTANT

Figure 2. Reproduction of Waterworks Account, 31 March 1884.

Source: Cork Corporation Report 1884 (CP/RP(p)/04, 57–58). Further reproductions of this material are strictly prohibited. Used with permission of Cork City and County Archives Service.

Table 2 summarises the revenue and expenditure (on a cash basis) as reported by the Waterworks Committee for 1884 (CP/RP(p)/03 and 04). The Waterworks Committee reports note the overall debt on Waterworks at £81,994 as of June 1884 – equating to about £8.53 million in 2024 values. The average quarterly expenditure is about £2500, with an annual cost of £10,159. The equivalent annual cost for 1883 was similar at £10,719, with income at £11,831. This suggests that the efforts to reduce water

Table 2. Summary of Waterworks Account, 1884 (in pounds sterling).

Waterworks Account Expense	Q1 £	Q2 £	Q3 £	Q4 £	£ Total
Labour	518	548	597	524	2187
Material	358	743	852	889	2842
Salary	50	50	50	50	200
Compensation to W.L Perrier		100		50	150
Rent, rates, and taxes	192	141			333
Livery	17				17
Gas light,	23				23
Stationery, printing, and advertising	14				14
Poundage on rates	110	95	99		304
Miscellaneous	14	9		120	143
Interest on bonds		1465	8	2473	3946
Total Expenditure	1296	3151	1606	4106	10,159
Income	4779	4929	2223	2057	13,988
Excess for year					3829

Source: Cork Corporation Report 1884 (CP/RP(p)/03 and 04). Reproduced from data at Cork City and County Archives Service.

wastage noted previously yielded a higher income level with a similar cost base. However, with an uncollected amount of £3540 for 1884 and a transfer to a sinking fund (for repayments of bonds) of about £2000 annually, the numbers per Table 2 paint a less favourable financial situation.

1885–1891 Expanded monitoring and investment innovations

From 1885 onwards, the Waterworks Committee intensified the monitoring of water wastage. In June 1885, water inspectors were deployed to conduct both day and night water usage inspections. By increasing inspections, the Waterworks Committee sought to align the behaviours of the city's residents with the goal of reducing water wastage. This strategy involved not only identifying technical problems, such as malfunctioning fittings, but also monitoring usage patterns to highlight wasteful practices.

For instance, the quick repair of 36 malfunctioning fittings within the first 10 weeks of the first quarter of 1885 demonstrated effective monitoring and rectification. Furthermore, the assignment of inspectors to night shifts and the subsequent documentation of 82 instances of water wastage illustrated more rigorous enforcement measures. However, a challenge of acquiring legally admissible evidence to confirm cases of deliberate wastage illuminated limits and tensions within these monitoring practices. Despite strong presumptions of wasteful behaviour, the legal framework required clear, indisputable proof, introducing a layer of complexity towards achieving efficiency. Also from 1885, while no specific householders were named, the local press, that is, *The Cork Examiner*, regularly reported on the progress of the water inspections.[5] A report in *The Cork Examiner* from 4 March 1885 notes 'water inspectors visited 326 houses, reported 41 cases of water-fittings out of order (*Cork Examiner* 1885, 2); a similar report from 13 August 1886 notes visits to '552 houses, with 28 fittings out of order' (*Cork Examiner* 1886, 2). Such press articles, while not personalised, may have assisted the Water Inspectors in their efforts to reduce wastage and faults through increased awareness of householders of the problem at hand. In cases where inspections revealed optimal conditions yet continued high usage, the scenario pointed to behavioural factors as a significant contributor to wastage.

Furthermore, a Resident Engineer's report in May 1885 highlighted the aging infrastructure of the city's water machinery. The report indicated the necessity to renew or repair various engines within the next five to six years to extend their operational lifespan by 12 to 20 years. The Engineer pinpointed a systemic risk to the consistency of water supply and suggested the installation of two additional turbines to reduce coal consumption and operational costs, while harnessing underutilised waterpower. The Engineer's report aimed to align the Waterworks Committee's interests with a new capital investment project. However, before proceeding with the implementation, the Waterworks Committee consulted external experts, Professor Jack from Queen's College, along with Mr. Lane, Mr. Shaw, and Mr. Stewart. This step was crucial in gathering diverse perspectives and expertise, ensuring the decisions made were well-informed and technically sound.

Over a nine-month period (from May 1885 to early 1886), a series of conferences with these experts led to a rich exchange of ideas and proposals. The endorsement by Mr. Shaw and Mr. Stewart of enhanced turbine power and Mr. Lane's alternative proposal

requiring a higher initial investment cost of between £11,000 and £20,000 (but promising greater productivity and economic value) represented different trajectories for achieving efficient supply of water. Eventually, the Resident Engineer's original plan to add two turbines was adopted. The two turbines arrived[6] in December 1888 achieving an estimated efficiency improvement of 73 per cent.

In 1890, a notification was distributed to the residents of Cork city, cautioning them about the penalties associated with deliberately misusing water. It highlighted the illogicality and ineffectiveness of various common practices of water use, which were erroneously believed to enhance health and cleanliness, despite evidence to the contrary. This practice attracted the interest of various external parties, including the Palatine Engineering Company of Liverpool. This company owned the Deacon Patent Waste Water Meter, a device esteemed for its effectiveness in minimising waste of water. A representative from the Palatine Engineering Company met with the Waterworks Committee and presented compelling evidence of the meter's effectiveness. This meeting was crucial in aligning the interests of the Waterworks Committee with the technological solutions offered by Palatine Engineering. Palatine Engineering offered to install one of its wastewater meters in a selected district of Cork city for a two-month trial at no cost. The College Road district was chosen for its representativeness of the city's average conditions. Palatine Engineering also provided a skilled technician to oversee the trial and demonstrate the meter's utility in detecting wastage. The trial results provided in early 1890 were promising, with water consumption reduced from 29 gallons per capita per day to 13.5 gallons, highlighting the meter's potential to significantly affect water management efforts. The trial's success validated the meter's utility. The quantified results, showing a potential annual saving of 250–300 tons of coal (for water pumping), would yield a substantial financial saving of approximately £240 to £290 annually at the prevailing coal prices. This economic benefit played a crucial role in justifying future investments. The subsequent decision to acquire a minimum of five Deacon Meters, along with the necessary equipment, represented a considerable initial cost investment of £212 14s 6d. However, the anticipated savings were expected to offset this expenditure within the first year, according to a Waterworks Committee report for the quarter to 30 June 1890. Following the installation, the meters provided detailed insights into water consumption and/or misuse in four specifically chosen districts, characterised primarily by domestic usage. By identifying patterns of misuse or excessive consumption, the Waterworks Committee could target interventions more accurately and efficiently, tailoring their strategies to the specific needs and behaviours observed in these districts. As residents became aware of the scrutiny and the data collection regarding their water usage, they were indirectly encouraged to adjust their behaviours to align with the city's water governance and management goals; that is, they became accountable.

From the data in Table 3, the quantity of water used or wasted during the hours when the householders should have been asleep was almost as great in every instance. In the case of the No. 2 district, consumption was greater at night-time than daytime. This was deemed a deliberate waste of water, and the Waterworks Committee considered it their duty to issue the householders of No.2 district a notice threatening to cut off supply at night (see Figure 3).

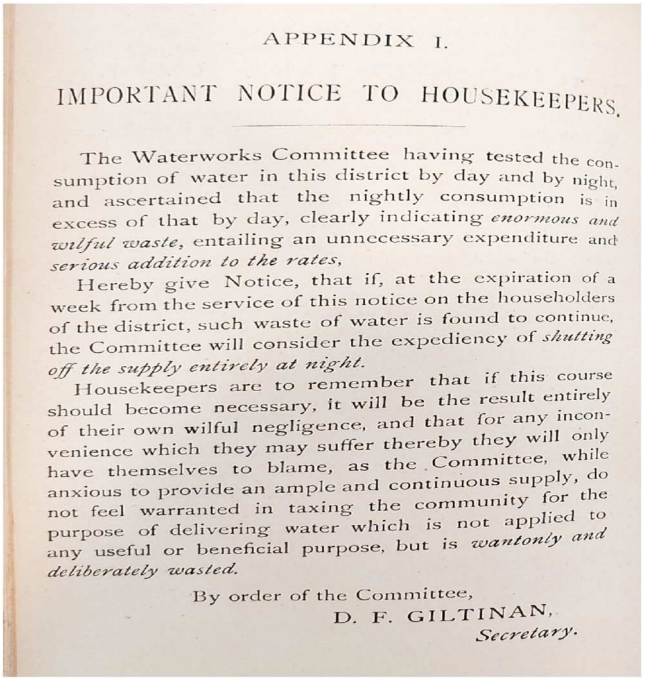
Recognising the potential impact of such issues on the water network's efficiency and conservation, the Committee sought to continue to address these inefficiencies directly

Table 3. Quarter to 30 June 1891 water consumption per head (gallons).

District	Day	Night	Total	Per Head
No. 1	113	101	214	43
No. 2	122	128	250	50
No. 3	124	106	230	46
No. 4	91	87	178	35

Source: Cork Corporation Report 1891 (CP/RP(p)/07). Reproduced from data at Cork City and County Archives Service.

by engaging an expert who could assess and verify the condition of the water infrastructure. The Waterworks Committee contracted Joseph Constantine, a certified plumber endorsed by the Munster District Council, to conduct a detailed evaluation of the water fittings within No. 2 district. Constantine's findings in September 1891 not only validated the Committee's concerns about substandard water fittings, but they also highlighted the inadequate sanitary conditions in many residences. His report mobilised further actions by revealing critical insights that extended beyond water wastage to encompass broader public health issues. The observations made by Constantine in late 1890 prompted deliberations between the Public Health Committee and the Waterworks Committee. This interaction led to a consensus on the necessity of integrating a permanent certified plumber role within the Corporation at a cost. Before formalising the recommendation for a permanent plumber role, the two Committees, during the first six months of 1891, also undertook a comparative analysis of practices across other municipal bodies.



APPENDIX I.

IMPORTANT NOTICE TO HOUSEKEEPERS.

The Waterworks Committee having tested the consumption of water in this district by day and by night, and ascertained that the nightly consumption is in excess of that by day, clearly indicating *enormous and wilful waste*, entailing an unnecessary expenditure and *serious addition to the rates*,

Hereby give Notice, that if, at the expiration of a week from the service of this notice on the householders of the district, such waste of water is found to continue, the Committee will consider the expediency of *shutting off the supply entirely at night.*

Housekeepers are to remember that if this course should become necessary, it will be the result entirely of their own wilful negligence, and that for any inconvenience which they may suffer thereby they will only have themselves to blame, as the Committee, while anxious to provide an ample and continuous supply, do not feel warranted in taxing the community for the purpose of delivering water which is not applied to any useful or beneficial purpose, but is *wantonly and deliberately wasted.*

By order of the Committee,
D. F. GILTINAN,
Secretary.

Figure 3. Extract of June 1891 notice to householders of No. 2 district.

Source: Cork Corporation Report 1891 (CP/RP(p)/09, 68). Further reproductions of this material are expressly prohibited. Used with permission of Cork City and County Archives Service.

A closer examination of the Waterworks income and expenditure is useful at this point to highlight incomes and costs associated with the initiatives discussed earlier. Table 4 presents a summary of the income and expenditure (on a cash basis) for 1885, and 1889–1891 (only partial data are available for the intervening years 1886–1888), and the total debt, where available. Table 2 depicts relatively stable income and expenditure. The detailed expenditure behind Table 2 shows an increased expenditure on materials, reflecting to some extent the aforementioned saving measures. The Waterworks Committee reports for 1889–1891 noted average daily consumption per head remained static at about 32 gallons across the city as a whole (see also Table 3). This suggests the incurred costs (and other measures) resulted in a relatively stable and efficient water supply for Cork city.

Discussion

By analysing the findings through the framework of ANT, the objective of the study has been to investigate accounting's role as a key actor in governing, managing, and conserving water supplies within an Irish city during the mid- to late-nineteenth century. ANT, as articulated by Callon (1986) and Latour (1987, 2005), offers a valuable approach that treats human and non-human entities symmetrically in tracing the assemblages and negotiations constituting socio-technical networks. Within this framework, and particularly through Callon's (1986) four phases of translation – problematisation, interessement, enrolment, and mobilisation – how accounting operated as a mediating and performative actor within a broader infrastructure of urban water governance, management, and conservation is apparent. Building on ANT-informed accounting literature (Miller 1991; Robson 1992; Ogden and Anderson 1999; Justesen and Mouritsen 2011; Hunt, Staunton, and Dunstan 2013; Corrigan 2016), we examined historical inscriptions, calculations, and translations through which accounting helped construct a durable water governance, management, and conservation network.

Problematisation, as the first phase of translation, is the phase in which a central actor defines a problem and positions itself (and others) as necessary to a resolution of the problem (Callon 1986). In Cork, the Waterworks Committee and Resident Engineer problematised the growing urban population, deteriorating infrastructure, and unchecked water usage as crises requiring coordinated intervention. The Cork Improvement Act (1868) provided legal and institutional scaffolding, but it was accounting that translated abstract concerns into actionable representations. Accounting reports made water supply issues visible, enabling the Waterworks Committee to highlight operational inefficiencies

Table 4. Summary of Waterworks income, expenditure and debt: 1885, 1889–1891 (in pounds sterling).

	1885 £	1889 £	1890 £	1891 £
Income	14,447	12,406	12,279	13,881
Expenditure	11,426	13,127	12,474	10,094
Debt	Unavailable	77,176	75,110	79,216

Notes: (1) the 1885 income includes £1,887 arrears collected; (2) the 1891 income and expenditure figures are extrapolations based on data from the first three quarters of that year.

Sources: Cork Corporation Reports (CP/RP(p)/04 and 07 and 08 and 09). Reproduced from data at Cork City and County Archives Service.

and broader governance challenges. The repetitive appearance of matters, such as the cost of infrastructure upgrades in accounting reports and arrears in water rates, positioned accounting as an actor capable of defining the water issue in economic and managerial terms (Ogden and Anderson 1999). This role of accounting as a problem-defining technology aligns with the work of Miller (1991) and Robson (1992) which view numbers as means of action at a distance. Accounting enabled the Waterworks Committee to anticipate future deficits, justify infrastructural investments, and forecast the fiscal consequences of inaction. Through such inscriptions, accounting framed water governance, management, and conservation, not merely as an engineering problem, but as a problem of financial management and public accountability.

Interessement, the second phase of translation, involves strategies used to stabilise other actors' identities and convince them to join the proposed solution pathway. In the case of Cork, the Waterworks Committee employed accounting-based rationalities to garner support for infrastructure reforms and water conservation initiatives. Accounting played a persuasive role, constructing compelling economic narratives around interventions such as the Filter Tunnel renovation, the use of the Patent Fuel Economiser, and the trial of Deacon Waste Water Meters. The success of these projects depended not only on technical feasibility, but also on their articulation within cost-benefit frameworks. The Deacon Meter trial, for example, presented measurable reductions in coal usage and water consumption, translating technical efficiency into financial legitimacy (Latour 1987; Robson 1992). Moreover, the use of accounting inscriptions in newspaper reports and Committee minutes of Cork City council expanded interessement to the public. By framing excessive usage and arrears as threats to communal services, accounting helped constitute householders as responsible citizens within the network (Hunt, Staunton, and Dunstan 2013). This aligns with the emphasis of Justesen and Mouritsen (2011) on the performative and rhetorical roles of accounting in shaping organisational narratives and public expectations.

Once actors are interested, enrolment (the third phase of translation) entails stabilising their roles and responsibilities (Callon 1986). As Latour (1987, 31) highlights, actor power is determined by the ability to form and maintain associations, distinguishing actors as 'anybodies' (peripheral actors), 'somebodies' (actors with reputation and credibility), or 'manybodies' (reputed actors mobilised by others). In Cork's water governance, accounting initially functioned as an 'anybody', that is, a peripheral tool, but progressively gained significance as it formalised the work of inspectors, engineers, citizens, and private contractors, becoming a recognised 'somebody'. Ultimately, accounting's role evolved into that of a 'manybody', frequently mobilised by multiple actors to legitimise decisions and interventions. Accounting facilitated the enrolment of physical infrastructure (such as filter tunnels, meters, and turbines) as active participants whose condition and efficiency were quantified and subjected to budgetary logic. These devices, through inclusion in investment projections, became actants within the governance assemblage (Robson 1992). Accounting also enabled the participation of external expertise. Reports from Professor Jack and Palatine Engineering, as outlined earlier, were legitimised through accounting-supported evidence of technological effectiveness and cost reduction. These dynamics support the view of accounting as a constitutive, rather than reflective, force in network-building (Justesen and Mouritsen 2011).

Mobilisation, the fourth phase of translation, refers to how enrolled actors are rendered durable and capable of representing the network more broadly. In Cork, financial statements and public disclosures worked as mobile inscriptions (Latour 1987), allowing information and rationales to circulate between the Waterworks Committee, the press, and the wider public. This created shared responsibility and collective accountability. Press articles citing inspection statistics and arrears reminded the public of ongoing oversight and the consequences of wasteful practices. A statistic made visible is a claim made durable as it recruits allies (the public), sustains translation (from paper to social pressure), and stabilises the network of control (Latour 2005). Furthermore, the introduction of the certified municipal plumber, which was a new role created in response to recurring technical deficiencies, echoes Preston's (2006) observation that accounting systems, far from being neutral tools, actively participate in fabricating new roles and structures.

In summary, throughout each phase of translation, accounting functioned as a mediating and translational force, allowing diverse actors and technologies to align, communicate, and produce co-ordinated action. As Robson (1992) notes, accounting inscriptions enable action by making phenomena visible and combinable, and this consequence is apparent in our account of the water governance at Cork city.

Concluding comments

This study examines the governance, management, and conservation of urban water supply in nineteenth-century Cork through the lens of ANT, with a particular focus on accounting as an active and influential participant in the actor network. Utilising Callon's (1986) four phases of translation, we trace how accounting inscriptions, calculations and representations were central to articulating water-related challenges and aligning diverse actors.

The findings challenge the conventional perception of accounting in public service history as a passive or retrospective tool. Instead, accounting is shown to operate as a mediating and performative force capable of framing problems, enabling decisions, and facilitating the co-ordination of both human and non-human actors within the water governance, management and conservation network. In doing so, our research contributes to the accounting history literature by demonstrating how accounting practices and reports were central to the socio-material construction of urban infrastructure and public resource management and conservation.

This study also makes an important contribution to the literature on historical water governance by offering a detailed account of how diverse actors, that is, engineers, public officials, inspectors, householders, technologies, legislative frameworks, and accounting reports combined to manage the city's water resources. Accounting provided a shared language and calculative framework through which these actors could communicate, justify interventions, and institutionalise reforms. The historical detail reveals not only how accounting shaped individual decisions, but also how it contributed to long-term institutional change, such as the creation of new roles and the implementation of monitoring and conservation technologies.

Methodologically, this study demonstrates the value of applying ANT to historical settings, particularly to the study of public infrastructure and resource governance. ANT's

focus on the materiality of inscriptions and the agency of non-human actors offers a productive framework for analysing how governance, management, and conservation practices emerge from the alignment and mobilisation of heterogeneous elements. In this regard, this research responds to calls within the accounting literature for additional studies that explore how accounting participates in the formation and maintenance of governance networks (Justesen and Mouritsen 2011).

Finally, by focusing on the governance, management and conservation of water, an essential yet often overlooked public resource, this study adds to a growing body of research that considers the environmental dimensions of accounting and public management. It highlights the historical relevance of accounting practices in how governance practices around natural resources have evolved over time. As contemporary societies continue to face complex challenges related to climate change, infrastructure, and sustainability, historical insights such as these can help inform debates about the role that accounting plays in managing public goods. Taken together, these contributions illuminate the potential of interdisciplinary and historically grounded research to enrich our understanding of accounting's role in shaping public policy, infrastructure, and governance.

Our research is not without limitations. First, it relies primarily on archival reports, which may not fully capture the intentions of all actors involved. Nevertheless, we are confident that the analysis presented provides a plausible interpretation of water governance, management, and conservation, and the associated actor-networks in Cork city during the 1880s based on the archival data available. A second limitation is that the story is detailed only to 1891. Future research could expand on this period and, as this study is specific to a specific space and time, studies in similar and longer time periods and different regions could be carried out. As noted earlier, Giorgino and Barnabè (2024) appears to be the only prior research on the intersection of accounting history and water. We hope that our findings complement their own and encourage future research in this area.

Notes

1. The full text of the Act can be found here https://books.google.co.uk/books?id=xJZFAAAAcAAJ&pg=PA599&redir_esc=y#v=onepage&q&f=false.
2. The filter tunnel dated from 1876 and used gravel to filter water from the River Lee so that it was free from organic matter.
3. This reference is to the original source file. References are similarly given throughout the findings.
4. Estimates calculated using https://www.bankofengland.co.uk/monetary–policy/inflation/inflation–calculator.
5. A search of the *Cork Examiner* title and national titles in the Irish Newspaper Archives for 'water inspector' reveals no matches relevant to Cork before 1885.
6. The cost is not available in the archival data.

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Disclosure statement

No potential conflict of interest was reported by the authors .

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