WATER-CULTURES PROJECT – The Water Cultures of Italy, 1500-1900 - ERC-2018-Advanced Grant – 833834 - P.I. Prof. DAVID GENTILCORE

The Water Cultures concept and its objectives

What would a history of a society look like with water placed at its core? The Water Cultures concept creates a new holistic approach to the study of human interactions with water over time. It enables us *to write the history and culture of a given society*, the construction of its identities and forms of self-representation, based on its changing relationships with water: the ways of controlling, using and conceiving it; the religious, symbolic and knowledge dimensions it assumes, and the forms of cultural production it leads to. By 'water cultures', I mean both material aspects (such as hydraulic engineering, water capture techniques, legislation, and management) and non-material features (symbolic responses, beliefs and practices, changing knowledge). What I have in mind would include all of the human-water interactions that take place from the source of the water (whether a spring, river, aqueduct, cistern, etc.) through to its final use and consumption (whether drinking, bathing, industry, worship, etc), considering all of the different human actors, know-how, expertise, beliefs and material objects that come into play along the way.

The project's hypothesis is that human-water interactions offer a unique key to understanding society and that by interweaving an understanding of these separate subject areas, themes and scholarly disciplines into a single unitary approach, they will not only shed light on one another, but enter into a transformative, multi-strand dialogue. This will influence the ways in which each of them is investigated and interpreted, creating an entirely new approach. Water Cultures will be able to ask questions and provide answers that separate investigations would not consider. This will transform how human-water interactions are studied in historical situations and, in the process, enable us to envision and write a new history of a given society.

The Water Cultures concept as developed in this project is intended to be applicable to the study of a wide range of different times and places. This is possible for two reasons. First, because of water's vital importance to all societies. On a biological level, we need water to survive. On a cultural level, water represents the strongest and most evident point of intersection between the history of nature and the history of humankind. 'Water is not merely a physical resource: in every cultural context it is densely encoded with social, spiritual, political and environmental meanings' (Strang 2004). Water is at the foundation of all society; as a result, its use and the meanings given it provide the key lens through which to understand any society. 'The history of water is a story of how people have drawn meanings, ideas, representations and powers from water'; a story conditioned by forces such as climate, season and geomorphology (Linton 2010).

Secondly (and a crucial feature of the Water Cultures concept), is the fact that these different aspects of human-water interactions have hitherto not been brought together into a single vision of the past. Rather, they tend to be investigated separately, by different disciplines: engineering history, architectural history, environmental history, archaeology and the history of science. Each of these has its own (quite legitimate) scholarly traditions, methodologies and approaches, and problems to solve, but likewise have much to teach social and cultural historians. Moreover, some of the most intriguing insights in recent years have come from non-historical disciplines, such as cultural anthropology, political ecology and human geography.

What happens when we braid all these fields and approaches together? We discover that water, omnipresent in religion and belief, is also of central importance in the history of science, technology, medicine and commerce. Studied together, the changing science and perception of water sheds light on shifting devotional practices; the circulation of both hydrological knowledge and personnel can help us understand urban water management strategies in particular times and places; changing attitudes to disease transmission can help explain the burgeoning trade in certain waters; human understanding of the hydraulic landscape can shed light on water and socialisation, such as disputes over access. What emerges is a history of a given society and culture as seen through the vital prism of water and its uses. The Water Cultures concept develops and advances an epistemological method of structuring, analysing and presenting the diverse range of findings and approaches into a new subject area.

The focus: Italy. The Water Cultures concept has been developed as a model for understanding changing human-water interactions in a given society. The project will focus on Italy, a choice motivated by three key factors. The first of these is the unparalleled wealth and variety of Italy's *archival resources*—a subject of study in their own right (De Vivo 2012-16)—combined with Italy's rich print history, including the numerous surveys and investigations undertaken by the nascent Italian State. These resources can effectively document the ways in which the history of water is a story of political authority and conflict, social hierarchy and material realities, changing medical and scientific knowledge and technological expertise, and religious beliefs and practices.

Secondly, ranging from the high Alps in the North, with their abundant rainfall, to the parched islands of the Mediterranean in the South, the Italian peninsula and islands offer a range of sharp *geographic and climatic contrasts*—and millennia of human responses to the diverse challenges they pose. Many of the interventions, structures and systems that resulted from this shaped our period. The third factor is the *range of political forms* evident in Italy's patchwork of different independent and semi-independent States—from monarchy and theocracy, to republic and duchy—that provide a sort of early modern Europe in microcosm; as do the stresses and strains caused by Italy's Unification, from 1861, and the attempts to forge a new

political and social entity. This allows, indeed encourages, a comparative approach—ambitious in itself, given the generally local and regional approach to Italian history.

The chronology: 1500-1900. An extended periodisation, to perceive deep social processes and structures—the *longue durée* approach—is particularly suited to the Water Cultures project. It will allow the project to track changes and continuities, local variations and regional patterns. Because of a dense cluster of developments in Italy, it makes sense to *begin* with the 16th century (Gaston 2016). Physicians and natural philosophers actively debated the relationship between human health and water consumption; architects, engineers and artists assumed roles requiring knowledge of the provision of waters; new vast infrastructure projects were undertaken by popes, princes, dukes and imperial viceroys alike, creating, in cities, functional access to water and elaborate displays, and in agricultural areas, land drainage and irrigation; and new bureaucracies and legal systems were put in place to maximise and manage water use, such as Venice's Magistrato alle Acque, founded in 1501—and each Italian State had something similar.

A real change in water cultures—in fact a paradigm shift—only happened during the 19th century (Hamlin 2000). The arrival of Asiatic cholera in Europe in the 1830s, and successive epidemics, eventually brought about a complete shift in medical and scientific ideas about water, which for the first time became perceived as a carrier of disease. This culminated in the complete reconstruction of the hydraulic infrastructures of most of Europe's major cities by the end of the 19th century, the logical *end date* for the project. The team will be able to articulate how the history of human-water interactions in Italy, from the Renaissance to the end of the 19th century, is a story of political authority and conflict, social hierarchy and material realities, changing medical and scientific knowledge and technological expertise, and religious beliefs and practices.

Research design

The Water Cultures concept consists of five inter-related *Streams*, each of which is sub-divided into *Themes.* These are outlined in the five tables below. They have been chosen because: a) they represent the most important elements, approaches and ways of understanding Water Cultures; b) they can inform and shape one another, as they are taken forward; and c) they constitute innovative subject areas in their own right and fill wide knowledge gaps, where the team can make significant contributions both to the individual Themes and towards the broader Water Cultures concept.

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The project team. Based on required expertise, each Theme is assigned to a different member of the Water Cultures team, which consists of three PhDs and three Post-doctoral research assistants (PDRAs). As PI, I will be leading from the front, contributing to each of the Streams and guiding the work of the project team.

(Note for PhD applicants: You will find three suggested PhD topics embedded in the description of the five research Streams (below), focusing around the history of thermal springs, mineral waters and rural insfrastructures, respectively. These proposed topics are intentionally kept fairly broad; it is hoped that you will have your own particular research focus, either in terms of the proposed geographical and/or chronological coverage or perhaps in terms of the methodologies, approaches and sources to be used in your own research. It is not expected that each PhD topic will aim to cover all of Italy or indeed the entire extended period of the overall Water Cultures project. Nor are the proposed topics prescriptive: PhD proposals on other topics, related to areas covered by the overall *Water Cultures* project, will also be considered.)

Università Ca'Foscari Venezia
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Stream 1. Springs: from sacred waters to bottled waters

Focusing on water sources such as springs, this Stream explores the complex overlap between the sacred, the medical and the commercial. It links closely to Stream 2, as well as the hydraulic cultures to be explored in Stream 4.

Theme	***Objectives, to investigate:***	***Key sources and methodologies***
Healing shrines **PI (yr 1)**	- the spread and role of miraculous springs throughout extended period - the effects of key developments, e.g. Counter-Reformation, 19th -century secularism	Folklore studies. Qualitative methodology (=*QlM*). Miracle narratives. *QlM*. Recourse to Marian shrines. Mixed quantitative and qualitative methodology (=*MM*).
Thermal springs **PhD 1 (yrs 2-5)**	- religious and medical influences in the development of spas - social and cultural change over time, especially in-between the more-studied Renaissance and 19th -century periods	Travel accounts, diaries, correspondence and medical case-books. *QlM*. Archival records of individual spas and associated institutions, such as hospitals. *MM*. Medical treatises on individual spas. *QlM*.
Mineral waters **PhD 2 (yrs 2-5)**	- medicalisation and commercialisation of mineral waters over the extended period - role played by the 'century of cholera' in their success To provide an Italian history of mineral waters	Local guidebooks, economic, topographical and medical surveys. Quantitative methodology (=*QtM*). Medical consultations and case-books. *MM*. Chemical analyses of mineral waters. *QlM*. Company archives of bottled water manufacturers. *MM*.

Stream 2. The science and health of water

This Stream explores how the science and medicine of water changed over the full period, how this affected water use and consumption, and how both responded to Asiatic cholera. It informs all the other Streams.

Themes	***Objectives, to investigate:***	***Key sources and methodologies***
Drinking water **PI (yr 2)**	- attitudes to water and the social practices of consuming it - measures taken by Italian States to ensure access to it	'Books of secrets' and recipe collections (*ricettari*). *QlM* Medical regimens and health guides from across the extended period. Builds on Proof of Concept Study 1. *QlM*.

	- changing medical ideas about water, from the Galenic revival of the Renaissance to 19th-century bacteriology	Public health legislation. *QlM*. Chemical analyses (as used in Stream 1). *QlM*.
The epidemiology of water	- factors determining the uneven pace of modernisation of water and sanitation systems in Italian towns - social impact on notions of hygiene and water use, linking to other Streams	Municipal archives and published Parliamentary inquiries. *MM*. A representative sample of Italian cities and or towns will be selected, with access to relevant archival resources. *MM*.
PDRA 1	To prepare a monographic, comparative exploration of the Italian experience of cholera	

Stream 3. Supplying Italian Cities: Large-Scale Hydrological Infrastructure and Water Management

The capacity to deliver water made the city possible, as did the ability to discharge waste. This Stream focuses on the city of Naples, in close comparison to other Italian cities, and on the competing demands put on the urban water supply. It braids with Stream 4, on rural areas, and Stream 5, on occupations.

Themes	***Objectives, to investigate:***	***Key sources and methodologies***
Naples and the typology of Italian water systems **PI (yr 3)**	- how Naples, Italy's largest city, managed its water supplies, throughout the extended period - compare this to other Italian cities, formulating a typology of urban water systems - relate forms of water management to different political systems	Records of the Tribunale delle Fortificazioni, Acqua e Mattonata (Municipal Archives, Naples). Builds on Proof of Concept Study 2. *MM* Printed local histories, guide-books and travel literature. *QlM*. Secondary studies for other Italian cities (e.g. Rinne 2010; Ferretti 2016), supplemented by focused local archival research. *QlM*.
Underground Naples and Venice HGIS **PDRA 2**	- map the complex underground network of early and late modern Naples and Venice, Italy's two most populous cities - prompt new questions about water management, particularly in terms of spatial association and temporal relationships	A range of subterranean data, from 17th-century manuscript maps (Municipal and State Archives) to the work of contemporary speleologists and architects and town planners Historical Geographic Information System software and methodology

Hydro- logical hierarchies **PI (yr 3)**	- how access to water was regulated and to what extend it reflected the social hierarchy - how water use was shared out among very different users, from mills and ornamental fountains to domestic uses - process of socialisation at the communal well/fountain/cistern (links to Stream 4)	Records of water magistracies of Italian States (and, later, Italian provincial authorities). *MM* Water use maps, such *catasti* (cadasters), for the early modern period, and the post-Unification *Carta idrografica del Regno d'Italia* (MAIC 1881-96). *QtM*. Artistic and literary representations of water use. *QlM*. Criminal and civil trials involving water access disputes (Municipal archives). *QlM*

Stream 4. The hydraulic landscape: irrigation, land reclamation and rural water management

Rural Italy, the subject of this Stream, comprised markedly different hydraulic landscapes, which gave rise to a wide variety of mitigation strategies. This extended to small towns, forced to make the most of the water resources available, often with little assistance on the part of the State. It links with Streams 1, 3 and 5.

Themes	***Objectives, to investigate***	***Key sources and methodologies***
Rural infrastructures **PhD 3** **(yrs 2-5)**	- how water was managed in rural Italy and how these systems evolved over the extended period - the social values associated with the different water use systems - the impact made by governments	Agronomical treatises. *QlM*. Land surveys (which describe the nature of each water resource). *MM*. Stefano Jacini's Parliamentary Inquiry into rural conditions, 1881-90. *QlM*.
ALTERNATIVE TOPIC: ***The water supply of small towns***	How small towns managed their water supply The differences in water management between regions, with the large cities, and over time response to disease and epidemics	Town council minutes. Data from a sample of small towns will be quantified, including coding of topics discussed and decisions reached and/or responses taken. *QtM*. Confraternity, tax, parish and diocesan records. *QlM*. Local histories. *QlM*.

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Stream 5. The occupations of water: skills, status and interactions

This Stream focuses on the range of actors involved in supplying and utilising water and their social and cultural worlds: how they learnt, how they practised and earned a living, how knowledge and skills circulated. It interweaves with Streams 2, on the science of water, and 3 and 4, on urban and rural water systems, respectively.

Themes	***Objectives, to investigate***	***Key sources and methodologies***
The technicians of water	- the occupations involved in providing and maintaining the water supply: how they learnt, practised and were organised	Records of urban authorities responsible for water management. *Actor-centred approach*.
		Wills and probate inventories. *MM*.
	- how evolving technological knowledge, expertise and personnel circulated	Records of learned academies and hydrology and hydraulically-informed treatises. *QlM*.
PI (yr 5)		
Water-dependent occupations	- the locations of different mill types	Maps, *catasti* and land surveys. *MM*.
	- the social worlds of these different water-dependent occupations	Guild records and the municipal licensing of pedlars and other practitioners. *QlM*.
	- their varying roles, structures and interactions with local society	Municipal statues and records of urban authorities responsible for water management. *QlM*.
PI (yr 5)		

Information on the project contents and related objectives are available also in the website of the Ca' Foscari University of Venice – Department of Humanities:

- in ENG: section "Research Projects" - https://www.unive.it/pag/27711/
- in IT: section "Progetti di Ricerca > Scienze Storiche - https://www.unive.it/data/16326/