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Article

Water Property Models as Sovereignty Prerogatives: European Legal Perspectives in Comparison

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Abstract: Water resources in European legal systems have always been vested in sovereign power, regardless of their legal nature as goods vested in State property or as *res communes omnium* not subject to ownership. The common legal foundation of sovereign power over water resources departed once civil law jurisdictions leveled the demesne on ownership model, by introducing public ownership in the French codification of 1804, while common law jurisdiction developed a broader legal concept of property that includes even the rights to use *res communes*. The models led respectively to the establishment of administrative systems of water rights and markets of water rights. According to the first, public authorities' power to manage and preserve water resources is grounded in a derogatory regime, whereby water rights, grounded on licenses or concessions, are neither transferable nor tradeable. On the contrary, environmental and social concerns in water market schemes must be enforced by means of regulation, thus limiting private property rights on water, in compliance with the constitutional and common law constraints set out to protect the minimum content of property as a fundamental human right.

Keywords: public domain; water rights; concession; water markets

1. From the Roman *Res Communes* Model to Public Destination as a Fiscal Drag

A comparison among the different water resources property regimes is necessarily affected by the notion of "property" itself, along with its legal discipline within each legal system considered. The

huge differences in designing the legal situations of appurtenance among national legal systems across the world are summarized by the notion of "property" in Western legal tradition [1-4]. With this in mind, we decided to limit our analysis to the legal models of allocation of water resources developed in some European countries. Furthermore, a worldwide comparative analysis would require a distinction between customary law enforced before colonization and national legal systems resulting from the influences of Western legal traditions through the imposition of the latter, thus exceeding the purpose of this contribution. Moreover, this paper deals only with non-marine water resources property framework, leaving aside their relevant environmental law protection discipline.

Little is known of the water legal framework in ancient cultures. The first complete legal discipline over water resources of which we have adequate knowledge is the Roman water law. According to the practical approach of Roman law, perennial flowing water was open to free public as long as the latter would not hinder its public target of navigation and irrigation. As new forms of water use emerged, the conflicts on water resource allocation were settled mainly by private law on neighbors' relations (developing the Roman concept of servitude), thus assigning individual property rights over water as far as these rights did not hamper the rights of public use [5].

Afterwards, in the *Istitutiones* of Justinian, perennial flowing water was expressly defined as a *res communes omnium* (along with air, seashore and sea), not subject to individual or private property but belonging to mankind, and thus, open to free individual use. The public destination to use for navigation and irrigation represented the only limit to open and free public use of perennial flowing water. In order to assess the consistency of the destination of public water resources with other alternative individual uses, the latter started to be more and more subject to previous regulation by means of imperial concession. All torrential watercourses, on the other hand, could be privately owned by the persons whose land they crossed. Consequently, the right to divert water belonged to the owner of the land. The conflicts between incompatible uses by riparian owners were subject to land law: existing uses usually had priority over later uses, and the latter had not to hinder the former or harm the appurtenant land property. Moreover, Roman law recognized easements (servitudes) whereby the owner of the land may grant third parties the right to lay pipes across his land to access the watercourse and draw out water [6].

During the Middle Ages, the distinction between public watercourses (perennial flowing water suitable for navigation and timber floating) and private property water resources (water resources not suitable for public open use) became established. In continental Europe, public watercourses were considered vested in the sovereignty power—whether of the Emperor, of the King or of city-states that did not recognize any superior power. This was in order to protect their public destination as transport lines, and above all to be able to charge duties (*regalia*) for their use. Only water resources that were not suitable for public use—due to the technological know-how available at that time—were regulated under private laws and therefore object of individual property rights. The actual recognition of rights of common over watercourses (e.g., common of piscary) as personal rights, from which benefits could be drawn from another's or common goods claimed by immemorial usage and prescription, did not affect the property models of the water resources [7]. In the following centuries the two main models of property rights of water startedto differentiate.

2. State Ownership over Water and the Spread of Administrative Systems in Continental Europe

In continental Europe, the civil law approach led to watercourses State ownership. The Roman legal model of *res communes*, defined as open to free use as a natural right belonging to every citizen, was progressively abandoned in favor of a state ownership model, whereby every use that potentially interferes with the public destination of the watercourses has to be expressly granted by public authorities.

By means of the first French legislation on *domain public* in 1790, the French State enjoyed property rights over watercourses suitable for navigation or timber floating, which were considered part of the public demesne of the newborn State [8,9]. Following the French model, other European countries, like Italy [10,11] and Spain [12], expressly included some water resources suitable for public destination (not only navigation or timber floating, but also hydropower use or irrigation) in the public demesne vested in the State. Furthermore, in Germany, watercourses suitable for navigation or timber floating were considered vested in the public demesne, according to the ancient traditional feudal customary rule [10].

However, in all of the abovementioned national legal systems, public water resources still coexisted with private ones, which were subject to private law discipline and were object of property rights of riparian owners. In principle, the owner was entitled to use the water flowing through his land at his pleasure, and had only to restore the ordinary course of water—with regard to both quantity and path—at the boundaries of his field. Springs originating from a field were privately owned by the proprietor of the land. The proprietor's right to use was limited only by pre-existing water rights over the same spring or of the watercourse gushing out from it, and acquired either by title or by prescription (as was the case when the spring supplied water to villages). The regulation of property rights over non-public water resources was settled in the civil codes as part of the land law (servitudes), while specific water laws were issued to regulate water rights over public watercourses [13,14].

The issuing of water laws explicitly stating the public ownership over water resources suitable for public destination during the 19th century raised some interpretative doubts insofar as some scholars still followed the Roman law approach and thus considered those watercourses as *res communes* open to free public use as far as the latter were consistent with their relevant public destination.

At first, the right to use water resources vested in public ownership did not entail a previous grant of concession. Water resources vested in public ownership were open to public and free use of the citizens (for watering, driving cattle to water, washing, fishing and other domestic uses) as far as such uses did not hamper the public destination (navigation, timber floating, irrigation or other industrial or productive uses) assigned to the public water resources. When new ways of water use became possible, thanks to technological innovation, water-power became scarce and contended. Thus, the private law framework of regulation proved to be unsuitable for an efficient allocation of water rights.

In the early 20th century, the water-powered and steam-powered industrial sectors, together with the hydroelectric destination of water, grew; striving for an alternative to carbon-based economy. The forced industrialization of some formerly agricultural European continental economies required an increasingly heavy State intervention. The category of water resources vested in public ownership increased, and little (*i.e.*, groundwater and less important wells and springs) remained outside the State property framework. Consequently, any use of water other than for strictly domestic properties, had to

be permitted by means of licenses or concessions issued by a public authority (a so-called administrative system of water rights).

Public ownership (or demesne) in European civil law systems is subject to critical rules in comparison to ordinary private property: goods under this regime are neither transferable nor tradeable. Therefore, the use of such goods must be in compliance with its destination (that only public authorities can modify), are subject to a temporary administrative regulation (permit, license or concession), and entail the payment of fees or rents to the public owner in return. The administrative permit cannot be transferred, and subsequently circulate on the market, without the grantor's consent.

In Italy, every water resource was declared as vested in State ownership in 1994 (law number 36/1994) and any use of water—apart from domestic use—must be permitted by means of a concession issued by the Regions that are entrusted by the State with the task of manage public waters (art. 144, Leg. Decree number 152/2006). The concession to divert water is granted by Regions after due consideration of potential environmental consequences and in compliance with the water supply needs of the territorial community involved. In France, only the watercourses included in the comprehensive list of public goods—due to their suitability for public destination—are vested in State ownership as "*domaine public*". Any exclusive use (like the case of water diversion) of public goods needs a permit or concession by public authorities in return for the payment of a fee by the user (*Code général de la propriété des personnes publiques*, art. L2122-1 et seq.) [8,9]. In Spain, surface and underground water resources are vested in the *dominio público* of the State (*Ley de aguas*, art. 1–2 as amended in 2003 and 2005) and their use is allowed only after a license is obtained, in case of non conflicting uses, or a concession when the use is exclusive, *i.e.*, not compatible with other concurrent uses [12,15-18].

The license or the concession which grants water rights precisely defines the content of these rights (quantity, purpose, conditions of use). The grantor has the power of public authority to revoke the grant whenever the concessionaire does not fulfill his or her duties or the use is not consistent with the limitations settled in the grant. The award of a concession of public good falls outside the scope of the European Union (EU) law on public contracts, but is subject to EU Treaties principles [19,20]. However, competition for the market is not always guaranteed. For example, in France, Italy or Spain, water rights are not awarded by means of a public auction or a competitive procedure.

It follows that water rights enter the market on the public administration's decision and cannot be transferred on the market without the latter's consent, which must be in compliance with the initial requirement set out for the original grant. Moreover, the transfer is not a trade because it cannot be for pecuniary interest: the newcomer will take over the diversion assets from the incumbent together with the latter's obligations, payment of fees or rents included. The final establishment of an administrative system of water rights in most of civil law jurisdictions of continental Europe proved to be useful even for planning the environmental protection and the management of water resources in a period of increasing scarcity and purification costs for water supply provision.

3. Undecided Property Model and Water Rights Doctrines in Common Law

The common law perspective blended Roman water law principles based on land law and servitudes with feudal customary rules, and paid less attention to property structure of water rights compared to the actual awarding of water rights. In the UK, according to later Roman water law principles such as

codified in the *Istitutiones* of Justinian, water resources are not endowed with a property regime as long as they are incapable of exclusive appropriation: flowing water is a *res communes* open to public use that cannot be practically possessed, hence its legal discipline ends in the regulation of its use [7,21].

The economic explanations of the developments of common law doctrines on water rights, mainly based on the influences engendered by the industrial and productive changes—use of hydro- and then steam-power; large-scale and intensive farming—in England [22,23], are not universally accepted since it was pointed out that the different doctrines on water rights have been coexisting until the 19th century [7]. Early common law theories developed within the conceptual framework of two potentially conflicting ideas of Roman law: on one hand, water rights of riparian owners were protected as land appurtenances by nuisance forms of action which emphasized their predial nature in compliance with a wide interpretation of early Roman law of servitudes [7] but, on the other hand, a natural-right (sometimes depicted as a right of common, derived from the Roman principle of free and open use of *res communes*) of every person to draw water was increasingly recognized by case-law.

Therefore, according to the early *riparian rights doctrine*, each riparian owner on a surface waterbody was entitled to have the water flow across the land in its natural condition without alteration by others. The legal title whereby to draw water was then defined in terms of natural-right conceptually distinct from servitude. Blackstone's description of riparian doctrine underlines that prior appropriation of water means title, according to a natural principle defending occupation and in compliance with the belief that "competitive appropriation of the resources required regulation through private titles" [7]. The increasing conflicts among competitive uses raise the tension between the preservation of the *status quo* (settled uses of water, often unproductive or for mere amusement) and the boost to technological innovation and, later, industrialization (due to the raise of woolen and cotton manufacturing sectors) of water uses. The prohibition of altering the natural flow of water, as settled by the appropriations or uses actually in force, hampered, and sometimes prevented, a modification of the *status quo* unrelated to land purchase [22,24-26].

French codification [27,28] and English doctrines influenced the U.S. approach to water rights. Mainly in Western territories, where the federal government owned the majority of land and where there were plenty of valuable natural resources to exploit [19], a version of *prior appropriation doctrine* took root for supporting and urging western settlements. In California and Colorado [16], it legitimated the diversion and transport of water for miles to serve mining and farming: thus anyone could use, divert and transport water as long as he did not deprive "prior appropriators" of their pre-existing right. There were no limits to the quantity of water that might have been diverted or drawn since only a seniority system provided ranking of rights in compliance with a "first in time, first in right" principle. The doctrine was later codified in several U.S. national systems and, unlike the administrative system developed in European civil law jurisdictions, it allowed for full transferability and market circulation of such water rights [20,29-31].

The indefinite content of the water rights appurtenant to land, which was often parameterized to the actual possession of the level used in the past, could not stand the challenge of innovation and led to a fine-tuning of those theories in the U.S. and then in England [7]. Therefore, the content and limits of water rights became subject to a principle of reasonableness according to which "each riparian owner may exercise a *reasonable use* of flowing water at any time, in any way, and in any quantity, provided

that he does not cause damage to the other owners whose rights are equal, regardless of how much land is owned" [32,33]. Following the new doctrine, later users were allowed to maximize the economic value of water rights, regardless of the fact that previous users might incur increasing costs or inconveniences. The cost of breaking-up pre-existing use should be considered in the cost-and-benefit analysis of the new user in order to boost industrial exploitation of water resources to a certain reasonable extent.

None of the abovementioned theories proved to be fit to quantify or exactly define the content of the right to water since the latter basically coincides with the extent of its effective and actual use as a matter of fact (actual possession) rather than as of legal entitlement [7,34]. At the end of 19th century, in England, the common law's suitability to govern water entitlements proved to be inadequate and a period of statutory allocation of water rights ended in the Water Resources Act of 1963 that forbid any person to abstract water from any source except in pursuance of—and in accordance with—the provisions of a license granted by the river authority.

In the U.S., notwithstanding the huge differences among national legal systems, the traditional common law doctrines prove to unsatisfactorily define the precise content of water rights, hence discouraging investment in water-power exploitation as well as jeopardizing the optimal allocation of water rights to higher valued uses [35] Moreover, these doctrines are sometimes considered inconsistent with a rational planning of water use in times of scarcity and contended rights of access to water [33,36,37, 38] and hindering water resources environmental protection efforts [14,18,30,37-38]. Following the UK's experience, administrative systems of water rights were established in many U.S. national legislations [32,33].

As an alternative to the establishment of administrative system of water rights, some U.S. national jurisdictions introduced forms of water markets, whereby the holder of a permit or license could sell his legal title: efficient allocation of water rights is considered a natural outcome of water rights trade in a competitive market. Most scholars considered the promotion of water rights trading a forced step in the U.S., so as to escape the strictness and the inefficient outcomes of riparian doctrine and prior appropriation principle [29,41-49]. Market-driven solutions are meant to introduce the flexibility needed in the management of water [28,29] to guarantee efficient allocation and exploitation of water resources. Environmental considerations are taken into account by imposing legal limitations to water right transfer, e.g., including externalities in water pricing and expiration dates for traded rights [18]. Nonetheless, water market schemes have been criticized due to the difficulties in foreseeing and considering every environmental and social consequence of water trades through the imposition of external limits to individual property enforced by regulation [42-43,50]. Furthermore, legal limits to water rights transferability could prove to be weaker and less effective constraints compared to prior administrative authorization or license.

4. Closing Remarks

Since Roman law, which strongly influenced later Western legal tradition [51], water resources have been constantly vested in sovereign power and thus considered as public, state-owned or common goods not subject to private or individual ownership but open to free individual use. However, this common legal framework leads to two very different water rights models. In the civil law model, water rights are designed as property rights over water, therefore water resources are vested in public domain

and open to individual use only by means of a license, permit or concession granted by the public owner. In the common law model, water rights, like property rights, are not defined within physical belonging but rather as rights to use water [4,52]: the need of defining the property regime over water resources never raised or soon disappeared. Attention was paid only to the allocation of the rights to access and use water.

It is worth mentioning that in European legal systems, since Roman law, water resources—a category that widened over the centuries up to the inclusion of every surface and all underground waters in the last century—have always been subject to sovereign prerogatives that took different legal shapes, which melted with the idea of property only after French codification. During the Middle Ages, the legal concept of demesne (*demanio, dominio, domaine*), derived from the Roman word *dominium,* was developed to describe the sovereign power exerted over goods serving as essential means to the existence of the territorial community. It was a completely different legal category compared to ordinary (individual) property; the only similarity being the content of the faculties of enjoyment which paved the way for the overlap and confusion of the two legal concepts [17]. The main characteristic of *res communes* was that they were *extra commercium, i.e.*, insusceptible to economic evaluation and thus not, in legal terms, "goods" that could circulate on the market.

As long as water was considered *res communes* open to free and public use, sovereign power regulated the use that potentially hindered navigation or timber floating, being fiscal consideration not secondary. Civil law models definitely departed from the common law model introduced by the French codification of 1804 and from its notion of public ownership as a derogatory regime compared to private ownership. As a reaction to the ancient regime, water was then vested in the State as it is presently in France, Italy and Spain (and in Germany, the main difference being the federal form of State). This choice necessarily led to the establishment of administrative systems of water rights, whereby private property rights on water are debarred and public authorities enjoy the exclusive power of water allocation through temporary and revocable permits. On the other hand, common law systems, uninterruptedly developing Roman legal concept of *res communes* and refusing the two-fold regime of property, entrusted judiciary power with the exclusive task of allocating water uses, only recently converging towards statutory (private bills) and then administrative (license) systems of water rights.

A common legal foundation of sovereign prerogatives over water resources can be found behind both water law models and was initially shaped as a public power set up against the idea of property (the early clear-cut Roman distinction among *imperium, dominium* and ownership vanished [53]). Both in civil law jurisdictions, through the definition of public ownership regime, and in common law jurisdictions, by developing a unique system of property rights focused on the use rather than the things subject to use, this sovereign prerogative flattens on the idea of individual property, whether of the State or of private persons.

The difficulties in defining water regime in pure terms of individual property become more and more clear in both legal models, also thanks to the health, environmental and social considerations underpinned. In continental jurisdictions, the legal foundation of public authorities' power to regulate water resources lies in the special regime of public demesne, as defined by civil codes, and not in the ordinary proprietary prerogatives. Within water rights administrative systems, the holding of a permit, license or concession is a precondition of access and use of water, which must therefore comply with the conditions laid down by the permit, license or concession [15]. In this respect, private ownership of

physical water is therefore admitted only over water abstracted by individuals according to the permit. The efficiency of such systems requires a prior detailed and adequate planning of both the requirements and the criteria for concessions' awarding, in order to achieve satisfactory levels of both productive sustainable exploitation and environmental protection. Any change in the water management or protection layout can be easily and locally enforced by amending or revoking the license or while renewing it after it has expired. The introduction of water markets through the legal provision of the transferability of water licenses, permits or concessions falls outside the scope of EU law protecting the internal market and is therefore a national choice that is prevented by the inclusion of water resources in public demesne, which is neither transferable nor tradeable.

Where water is still considered *res communes*—the situation is debated in England after the Water Resources Act of 1963 [7]—any public regulation limiting water use or trade turns out to be a limitation of private property as a fundamental human right. Therefore, such limitations cannot go beyond the minimum content of the right of property without becoming takings, which imply indemnities. The enforcement of such regulations protecting social and environmental aspects of water management may be costly and constitutionally contested, as they do not have a further legal foundation beyond the legislative power with its constitutional or common law limits [54].

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