A Study of Roman Water Law,
with Specific Reference to Water Allocations and Prior Appropriation

Alewyn Burger

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Water Research Commission

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Amended and abbreviated by Dr Heather Mackay on behalf of the Water Research Commission

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Quaedam naturali jure communia sunt omnium, quaedam universitatis, quaedam nullius, pleraque singulorum, quae variis ex causis acquiruntur. Et quidem naturali jure omnium communia sunt illa: aer, aqua profluens, et mare, et per hoc littora maris.

[Marcian, Dig.1.8.2]

Some of the things are common to all men by *jus naturale*, some of the things belong to a community, some of the things are common, some of the things belong to individuals who have acquired them for various reasons. And indeed by *jus naturale* these things are common to all men: flowing water, the sea, and the shores of the sea.

[Translation by D N MacCormick]

EXECUTIVE SUMMARY

In view of the common law of South Africa being Roman-Dutch and Roman law, the question was asked: Can the Roman law provide some guidance for water law and water allocations in South Africa in as much as the Roman law represents principles developed and successfully applied for almost a thousand years.

The principles of Roman law were developed over a very long period in the vast Roman Empire, which covered a number of different countries with widely different climates. The final version of the Roman law is contained in the *Corpus Juris Civilis* compiled under the direction of the Emperor Justinian around 534 AD. The law of all European, and many other countries grew out of Roman law. It is, with Roman-Dutch, the common law of South Africa. That part of the Roman law constituting the principles of the water law is set out in this article.

Because flowing water in Roman law could not be the subject of rights of ownership, a system of interdicts was developed by the praetors to enforce rights to perennial flowing water. This study traces the development of the prior appropriation principle by means of the interdicts in Roman law. The problems arising when the source of perennial flowing water becomes fully used are identified, and the Roman solutions to the problems are described. The rules regarding non-flowing water, underground water and stored water are also discussed.

Before a law has withstood the test of years of practice, one cannot say whether it is a successful law or not. The Roman interdicts offer practical, tested guidance for resolving conflicts arising in water-stressed situations typical of arid and semi-arid areas. This makes the body of Roman water law worthy of attention and further study for application in South Africa, particularly as we approach full-scale implementation of the National Water Act.

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BACKGROUND TO SOUTH AFRICAN WATER LAW BEFORE 1998

1.1 Scope of this study

This study concerns water law where irrigation is important. Due to the variation in climatic conditions the dominant use of water differs from country to country, as well as within countries. In the United States of America, as in Australia, each state has its own water law. Where there are large navigable rivers the dominant law deals with navigation, where there are rivers with plenty of fall available, the water law concentrates on using the fall for hydropower generation, as in England in the eighteenth century. If the climate is so dry that irrigation is the dominant use, the applicable law generally concentrates on the allocation of the stream water for irrigation.

Because of its dry climate the law applicable to water in South Africa concentrates on use for irrigation and consumptive uses. This study concentrates on the Roman water law developed for the dry conditions similar to those existing in South Africa.

1.2 Early legal systems applicable in South Africa from 1652.

According to Hall, at the time of the early settlement at the Cape, the authorities assumed that they were master of the river, *dominus fluminis.*[1] One has difficulty with this assumption: Does a Government own or possess the perennial flowing water? That would be contrary to the Roman law principle that no one can possess flowing water. There is an alternative principle, i.e. the first user acquiring a prior right. It may be that the authorities used this as a guiding legal principle, but Hall has never considered this alternative.

After the British occupation of the Cape in 1806, the Cape judges applied their interpretation of Voet 8.3.6 as a guiding principle. According to this principle, every landowner is owner of the water arising on his own land, *erumpens in suo*.[2] Because of the doubt expressed by the Privy Council[3] as to the correctness of this principle, the Cape judges, particularly Bell J, searched for a better principle. This search led to the subsequent adoption of the riparian principle, as described in the following section.

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[1] *Hall Water Rights in South Africa* 3rd ed. p. 2; Hall C G, Waterregte in die Kaap tydens die Hollandse Bestuur (1938) *THR-HR* 306-309.
[2] *Hall Water Rights in South Africa* 3rd ed. p.3.
[3] *Silberbauer v van Breda* 16 Moore's P.P.C. N. S. 319. Hall *Water Rights in South Africa* 3rd ed. p.4.

1.3 The Riparian Principle adopted.

The riparian principle originated in the Eastern States of America. Before 1826, the established law in America dealt only with the rights of various riparian owners using water for driving hydraulic mills[4]. This was a non-consumptive use. The American courts were progressively faced with the problem of how to allocate perennially flowing water for irrigation,[5] a consumptive use. This difficulty was at the heart of the dispute, reported as *Tyler v Wilkinson,*[6] in respect of the Pawtucket River between Rhode Island and Massachusetts, eastern states of the American Union. Justice Story resolved the conflict by deciding that all riparian owners had an equal right to the water in the river, but he qualified this rule by saying that each riparian owner is entitled to consume and use a limited quantity of water that causes no more than a reasonable diminishment of the flow. This 'reasonable diminishment of flow' developed into the concept that every riparian owner is entitled to use a reasonable share of the water in the stream. This principle, as formulated in *Tyler v Wilkinson*, became the basis for Chancellor Kent's statement of the common law in regard to flowing water[7] that influenced courts and lawyers throughout the nineteenth century. It became known as the riparian principle, or doctrine, for allocating the water of a perennial river.

There was a parallel development in England, where the principles of the riparian doctrine applying in England were first laid down in the decision of *Mason v Hill*[8] in 1833.

Bell J in his decision *Retief v Louw* [9] in 1856, considered whether there was a guiding principle in Roman water law prescribing water allocations. He searched the Roman law for such a principle but could find no guidance. He mentioned the interdict set out in Dig.43.20.1 (this was the interdict which gave the prior appropriator user a protection against subsequent appropriators and thus established the principle of prior appropriation) but he did not establish its relevance. After citing a large number of

[4] Tarlock , *Law of Water Rights and Resources (* 1989) sect. 3.02.2.a p. 3-.6.
[5] Tarlock, *Law of Water Rights and Resources* (1989) p. 3-6.
[6] 24 Fed. Cases 472 (1827).
[7] III Kent, *Commentaries* 353-55 (1st ed. 1928).
[8] *Mason v Hill* (1833) 110 E.R. 692.
[9] Retief v Louw. Reported in 1874 although decision given in 1856, 4 Buch 165.

cases and authors, he eventually concluded that the riparian principle was the only suitable legal principle. Hall[10] says that Bell J was largely influenced by the work of the American writer, Angell on *Law of Watercourses*.

In 1874, when Lord De Villiers was faced with a dispute over the rights of successive owners over the water in a stream, *Hough v Van der Merwe*,[11] he also adopted the riparian principle. Hall is of the opinion that De Villiers JP followed Bell J without Lord De Villiers acknowledging Bell J's researches as recorded in *Retief v Louw*. These two decisions were responsible for the introducing and establishing of the riparian principle in South Africa. This principle dominated the South African water law until 1998.

The decisions of Bell J and Lord De Villiers of the Cape Court, mentioned above, became incorporated in the Cape Act No 32 of 1906 and confirmed the riparian principle in spite of the serious criticism of that principle by Ham Hall[12] and Sir William Willcocks.[13] Both were international water law experts appointed to report and advise on a water law for South Africa. It is significant that they both independently recommended adoption of the prior appropriation principle, and condemned the riparian principle in very strong terms.

In terms of the legislation in 1906[14] the water of perennial rivers had to be apportioned according to the riparian principle. A river that had no perennial flow, was classified as an intermittent stream.[15] A riparian owner on an intermittent stream could in effect take whatever water he needed.[16] Because the perennial streams also contained non-perennial water that required storage in order to be useful, the classification into perennial and intermittent streams was not a success. In 1912 the classification of perennial and intermittent streams was abandoned and the water in a river was divided into *surplus water* and *normal flow*.[17] A reasonable share of the normal flow was to be allocated to all riparian owners. Any riparian owner of an

[10] *Hall Water Rights in South Africa* p. 4.
[11] (1874) 4 Buch. 148.
[12] Lewis, *Water Law* p. 103.
[13] Lewis, *Water Law* p. 59.
[14] Cape Act 32 0f 1906.
[15] Cape Act no 32 of 1906, sect.1.
[16] Van Heerden v Wiese 1 Buch A C 5.
[17] Act 8 of 1912 sect. 1.

original farm was entitled to store and use so much of the surplus flow as he could reasonably use. If there were more than one riparian owner of an original farm, each owner was then entitled to a reasonable share of that water to which the whole farm was entitled.

The riparian principle was the basic principle behind the water law in South Africa from 1874 until 1998 – a period of 124 years. It is surprising, that, in view of the early rejection of the riparian principle in Colorado and several Western states,[18] and ultimate rejection by the Californian court in U*nited States v State Water Control Board*[19] *in 1*928, that South Africa clung to the riparian principle until 1998.

1.4 Weaknesses of the Riparian Principle

The riparian principle, in all three versions (the English, American and South African) has three basic shortcomings:

1. All riparian owners could claim at any time, according to this principle, a reasonable share of the water of the stream. As a result a complete newcomer can, at any time, commence irrigating and all prior irrigators must reduce their existing undertaking to give the newcomer his reasonable share. This leads to insecurity of rights to use of water. Trelease,[20] quoting with approval from another document, said:

   > 'This document identifies uncertainty as one of the major problems in contemporary California water rights law . . . and it discloses that [unexercised] riparian rights are a principal source of uncertainty. Uncertainty concerning the rights of water users has pernicious effects. Initially, it inhibits long range planning and investment for development and use of waters in a stream system…Thus with respect to dormant riparian rights one authority has observed: 'These rights constitute the main threat to non-riparian and out-of-watershed development, they are the principal cause of insecurity of

[18] Moses *Historical Development of Colorado Water Law*, Tradition Innovation and Conflict published by the National Resources Center (1986) pp. 25-29.
[19] 182 Cal. App. Cases 3d 82, at 129-130; 227 Cal. Rptr. 161 (1986) at p. 187-8.
[20] Frank J Trelease and George A. Gould *Water Law Cases and Materials* 4th ed. 367-8.

existing riparian uses, and their presence adds greatly to the cost of obtaining firm water rights under the riparian system. …Uncertainty also fosters recurrent, costly and piecemeal litigation."

2. The riparian principle has another defect; inherent in the riparian principle is the limitation to riparian land, referred to in the above quotation as out-of-watershed development. With the modern development in pumps it becomes considerably easier to irrigate non-riparian land for instance where the quality of the non-riparian soil is far superior to the riparian soil. Where the riparian principle is accepted as the basis for the allocation of water, it is in practice very difficult to get permission from all the riparian owners to irrigate non-riparian land. Riparian owners are thus able to block expansion to non-riparian land without themselves utilizing the available water.

3. The third defect was the practical impossibility of division and allocation of water according to the riparian principle on a long river.

These difficulties, inherent in the riparian principle, led to the development in Colorado of an alternative basis of allocating water for irrigation amongst users – the prior appropriation principle. It was first formulated in *Coffin v Left Hand Ditch Co.*[21] in 1882. According to this principle the first person, in time, to divert and use the water from a stream, became entitled to a preferent right to water against all later users. A subsequent user could only take water left over after the first user, and further subsequent users had likewise to respect the earlier users – the principle was summarized as '*first in time, first in right*', and became known as the prior appropriation principle. The learned judge, in the case cited, relied on no authorities, but said that the riparian principle is not suited for a dry climate. Presumably the judge had in mind the fact, that according to the riparian doctrine, any riparian owner could later claim his reasonable share, and that in the meantime the water would flow unused.

[21] *Coffin v Left Hand Ditch Co* Supreme Court of Colorado (1882) 6 Colo 443.

1.5 Weaknesses of the Prior Appropriation Principle

The prior appropriation principle has two main weaknesses. First the harshness towards the most junior users in case of a drought, who have to curtail their entire use during these times whereas the senior users make no sacrifice. Maas and Zoble[22] commenting on this, quote from Wiel:

> "The harshness of the prior appropriation doctrine as applied to well-settled streams repelled Wiel. *[Wiel, Theories of Water Law, 27 Harv. L. Rev. 530,535, (1914)]* He believed "that the exclusiveness of a prior right should be recognized only to a certain degree and that priorities should not be enforced when to do so, would be 'unreasonable' to water users upon the same stream, though subsequent to time of use."*[Wiel, Priority in Western Law, 18 Yale L.J. 189, 190 (1909)]* Appropriation, he felt, accomplishes " a substitution of inequality in place of equality among the common users of the same source."[*Wiel, Natural Communism:Air,Water, Oil, Sea, and Seashore, 47 Harv. L. Rev. 425,435(1934)]* He expounded, instead, a rule . . . "

The other disadvantage of the prior appropriation principle is the complicated system of priorities in respect of the watercourse and hence significant difficulties in the administration of water distribution.

Unknown to the Americans, the Romans had an answer to these two weaknesses of the prior appropriation principle, and this answer was set out in Dig. 8.3.17. The Romans only developed this solution after several centuries of practice. This solution will be discussed below in dealing with Dig. 8.3.17.

From 1876 to 1998 the South African Department of Water Affairs struggled, like California, to adapt the riparian principle, without success. In the process there were numerous amendments both to the acts of 1912 and of 1956. Because the authorities lacked a guiding principle, the Roman water law solution then being unknown, they resorted in certain cases to legislation authorizing permits at the discretion of the

[22] Maas and Zoble *Anglo-American Law: Who appropriated the Riparian Doctrine?* Public Policy Journal 109 (1960) 109 at p. 148.

Minister,[23] a stratagem often employed by governments whenever they lack clear legal principles. This method is attractive to an executive because it enhances the latter's authority but it could potentially result in opportunities for the exercise of undue influence and for corruption. It also potentially enables a Minister, because of political considerations, to favour some people over others and thus lead to inequities in access to water. Indeed, the mere suspicion of corruption or undue preference in relation to a vital commodity such as water might lead to serious public discontent and conflict, to the detriment of the State.

There is another criticism of the permit system. The owner of land, who undertakes to build a storage project, or any other irrigation work, or undertakes to establish a vineyard, does so at his risk. If the venture fails, he suffers the loss. Whether the venture succeeds or not depends, often, on certain personal considerations. Why is it necessary for the Minister or a state official to say whether the risk should be taken or not? How can the Minister or a state official decide, in view of the personal factors, whether the venture is justified?

1.6 The need for assurance of continued water supply.

Unless the title of the owner of a farm is permanent and secure, he would not risk building a house or any other permanent structure. The whole idea of ownership is that the owner and his successors, would permanently enjoy the improvements the original owner made or as Grotius[24] says:

> . . . since nature itself teaches us that everyone works for himself before he works for others . . . Experience also taught that the nature, circumstance and inclinations of men being very different, and one needing more than another, common ownership could bring nothing but discontent and dissension.

Any farm requires continual renewal of its improvements and re-investment. If the assurance of his title is limited in time, the trust is gone and with it, the will to renew and re-invest. Trust is vital for future investment of funds and also for providing a platform for future planning.

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[23] Act 54 of 1956 sects. 59 and 62.
[24] Hugo Grotius *Jurisprudence of Holland* II.iii. 2 as translated by Lee pp. 79, 81.

For an irrigation farm the assurance that the owner would continuously be able to enjoy the use of water for this purpose is as important as his security of title to the land concerned. If this assurance is absent, the owner of an irrigation farm would not plan, far less invest, in the construction of irrigation works, canals or dams etc. He would not plant orchards or vineyards or any long-term crop. Throughout the ages uncertainty in regard to water rights and allocations has seriously inhibited irrigation development. Even in modern California it has inhibited development:

> "This document identifies uncertainty as one of the major problems in contemporary California water rights law, and it discloses that [unexercised] riparian rights are a principal source of uncertainty. Uncertainty concerning the rights of water users has pernicious effects. Initially, it inhibits long range planning and investment for development and use of waters in a stream system . . . Thus with respect to dormant riparian rights one authority has observed: 'These rights constitute the main threat to non-riparian and out-of-watershed development, they are the principal cause of insecurity of existing riparian uses, and their presence adds greatly to the cost of obtaining firm water rights under the riparian system . . . Uncertainty also fosters recurrent, costly and piecemeal litigation".[25]

As irrigation farming plays a vital role in advancing the economy and thus the welfare of the people, any government should, as far as funds permit, encourage irrigation and try to reduce uncertainty in regard to the access to water.

1.7 Revision of 1956 Water Act, leading to National Water Act of 1998

In 1994, when the Minister of Water Affairs, Prof Kader Asmal, called for revision of the Water Act No 54 of 1956, the riparian principle was the guiding principle of this Act. The difficulties experienced with the riparian principle, as discussed in the preceding paragraphs, had become ever more intense with the passage of time. Before 1998 the previous government dealt with the problems occasioned by the riparian principle through legislative amendments to the said Act. In terms of some of these

[25] Frank J Trelease and George A. Gould *Water Law Cases and Materials* 4th ed. Pp. 367-8.

amendments the Minister was empowered, by sections 59 and 62, in his discretion to issue permits authorizing water use.

In 1998 Minister Asmal took a courageous step in totally abandoning the riparian principle. Unfortunately the Minister had no clear principle at hand at that time that could serve as a substitute. It was recognised that parts of the prior appropriation doctrine could help, but no expert consulted by the Minister had apparently proffered a sound overall principle. He, therefore, adopted and extended the existing permit system set out in Act 54 of 1956 and made it applicable not only to some users, but to all water users.

This extension of the permit system, if not accompanied by sound and transparent administration, could increase the potential for undue influencing and corruption, alluded to above, and increased the risk of discriminatory action or action perceived as discriminatory. In this author's view, this system is also constitutionally unsound. According to the South African Constitution No 108 of 1996 the central government is divided into three parts: legislative, executive and judicial. When the use of water is authorized solely, or largely, by permits issued at the discretion of the Minister, instead of a legal principle laid down in an act of parliament, such authorisation in effect bypasses Parliament and seriously curtails the functions of the courts. This is exactly the problem that the threefold division of functions in the Constitution is designed to avoid.

CHAPTER 2 ROMAN WATER LAW

2.1 Merits of Roman Law generally.

Mommsen, Krueger and Watson state that the compilation of Roman law in the *Corpus Juris Civilis,* "has been without doubt the most important and influential collection of secular legal materials that the world has ever known. … All later Western systems borrowed extensively from it. But even more significantly, that strand of the Western tradition encompassing the so-called civil law systems—the law of Western continental Europe, Latin America, the parts of Africa and other continents which were former colonies of continental European powers, and to some extent Scotland, Quebec, Louisiana, Sri Lanka, and South Africa – derives its concepts, approaches, structure and systematics of private law primarily from the long centuries of the theoretical study and putting in practice of the *Corpus Juris Civilis*."[26]

In the introduction of their translation of the *Corpus Juris Civilis*, the translators, Spruit, Feenstra and Wubbe, expressed the opinion that after all it is the Roman jurisprudence, and in particular the later Justinian version, that is the basis of the formation of the modern private law in most European countries, and that represents the jurisprudence of all independent states participating internationally. The long enduring process of reception of Roman jurisprudential norms, as set out in the *Corpus Civilis*, has led to hundreds of millions of people around the world presently living under a Roman jurisprudential system of law.[27]

2.2 Roman Dutch and Roman Law as the Common Law of South Africa.

The common law of South Africa is Roman Dutch law supplemented by the Roman law. When Roman Dutch law was developed in the Netherlands that country had such an abundance of water that the aspects of Roman water law applicable to arid countries and climates received scant attention. So for instance Voet does not mention several important texts of Roman water law: there is no mention of Dig. 8.3.17 (when a river or source is fully used and no more is available from the perennial flow, the water is proportionately divided amongst the existing users), and

[26] Mommsen, Krueger and Watson The Digest of Justinian English Translation by Watson Preface p. xi.
[27] Spruit, Feenstra en Wubbe. *Corpus Juris Civilis* Tekst en Vertaling Inleiding p. ix.

only a brief mention of the interdict protecting existing use set out in Dig. 43.20.1.[28] Groenewegen says that these texts Dig. 43.20.1 and Dig.8.3.17 were not applicable in the Netherlands.[29] Gane in his translation of Voet *ad* Dig. 43.20.1[30] quotes in a footnote a South African case,[31] where the judge said that he could find nothing dealing with the Dutch practice to support the contention that the praetor's edict, *de aqua quotidiana* [Dig. 43. 20.1], obtained in Holland.

As South Africa is an arid country, it would be appropriate to look to relevant Roman law, and not Roman Dutch law, to ascertain the principles of the common law of South Africa pertaining to water. That the Roman law still constitutes the basis of the common law of South Africa is confirmed by the judgment in *Burgereit and another v Transvaal Canoe Union and another*.[32]

2.3 Principles of Roman water law.

The principles of the Roman water law can be summarised as:

1. While all perennial water in a source is not appropriated, perennial flowing water can be appropriated provided the appropriator did not appropriate water already appropriated by someone else.
2. When all the perennial water from a public river is appropriated, that water is divided amongst the properties in proportion to the extent of their irrigated lands.
3. Water from springs and water from wells, fishponds and lakes were divided according to priorities in time, except private springs or rights fixed by agreement.
4. Non-perennial water, while on his land, could be appropriated by the owner of the land.
5. The right to draw perennial water for irrigation was always coupled to the owner of land.

[28] Voet 43.20.1 Gane's Translation Vol. 6 p. 506.
[29] Groenewegen: *De Legibus Abrogatis* Ad Dig. 8.3.17 says that because of the abundance of water in the Netherlands this lex is not applicable. In commenting on De Groot 2.35.14(17) Groenwegen writes with reference to C.11.43, *De Aqua ductu*, that there was no shortage of water but an overabundance.
[30] Vide Importance of Dig. 43.20.1.
[31] Voet 43.20.1 Gane's Translation Vol. 6 p. 506.
[32] 1988 (1) S A 759 (A).

6. The Roman farmers always had a permanent and assured right to water while they were using that water.
7. Anyone drawing water from a scheme had to have the permission of the owner of the scheme.
8. Users of flowing water, other than irrigation, ranked in priority in the same order as the users for irrigation.

2.4 Roman approach to providing assurance of continued supply: No right of ownership in flowing water.

In Roman times, the farmer or owner of the land to be irrigated could not own flowing water. Indeed nobody could. A Roman farmer could abstract or divert flowing water but there was no assurance that next time he abstracted or diverted, there would be flowing water available.

In Roman law the air and flowing water are by natural law common to all, *aer et aqua profluens naturali jure communia omnium sunt.*[33] Water being common to all, everyone was entitled to draw, take or use water whenever he could obtain lawful access. The right to divert or draw flowing water is to be found in a number of texts, mainly in the Digest and to a limited extent in the Institutes and the Codex. The basic texts are in the Inst.2.1.1[34] and Inst.2.1.2[35] and the Dig.1.8.2.1.[36] According to these texts flowing water was classified as *res communis* and all people who had access to flowing water could use it.

The right of a member of the public to draw flowing water from a public river is set out in Dig.43.12.2. This text reads:

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[33] Dig.1.8.2. Translation by Prof. D N MacCormick, of Mommsen. Krueger and Watson.

[34] Instit. 2.1.1 *Et quidem naturali jure communia omnium haec: aer et aqua profluens et mare et per hoc littora maris*. [And indeed by natural law all things are common: air and flowing water and the sea and the seashore.]

[35] Instit. 2.1.2 *Flumina autem omnia et portus publica sunt: ideoque jus piscandi omnibus commune est in portibus fluminibusque*. [But all rivers and harbours are public: likewise the right of fishing in public rivers and in harbours is common to all.]

[36] Dig. 1.8.2: (Marcian) *Quaedam naturali jure communia sunt omnium, quaedam universitatis, quaedam nullius, pleraque singulorum, quae variis ex causis acquiruntur. Et quidem naturali jure omnium communia sunt illa: aer, aqua profluens, et mare, et per hoc littora maris.* [Some of the things are common to all men by *jus naturale,* some of the things belong to a community, some of the things are common, some of the things belong to individuals who have acquired them for various reasons. And indeed by *jus naturale* these things are common to all men: flowing water, the sea, and the shores of the sea.] [Translation by D N MacCormick, of Mommsen. Krueger and Watson.]

> *Pomponius libro trigensimo quarto ad Sabinum. Quominus ex publico flumine ducatur aqua, nihil impedit (nisi imperator aut senatus uetet), si modo ea aqua in usu publico non erit: sed si aut navigabile est aut ex eo aliquid aliud navigabile fit, non permittitur id facere.*[37]
>
> [Nothing prevents water from being drawn off from a public river (unless the emperor or the senate forbids it), provided that it will not be water in public use. But if a river is navigable or another river derives its navigability from it, it is not permissible to do this.][38]

It is to be noted that according to Dig. 1.8.4 "almost" all rivers are said to be public:

> *Nemo igitur ad litus maris accedere prohibetur piscandi causa, dum tamen villis et aedificiis et et monumentis abstineatur, quia non sunt juris gentium sicut et mare: idque et divus Pius piscatoribus Forminianis et Capenatis rescripsit. Sed flumina paene omnia et portus publica sunt.*[39]
>
> [No one, therefore, is prohibited from going on to the seashore to fish, provided he keeps clear of houses, buildings, or monuments, since these are not, as the sea is certainly, subject to the *jus gentium*. So it was laid down by the deified Pius in a rescript to the fishermen of Formiae and Capena. But almost all rivers are public property.][40]

Although any member of the public could draw or divert or use flowing water, no one could have a right to possess or own flowing water whilst flowing because the shape of flowing water is ever changing and ever moving. It is incapable of being possessed or owned. If one attempts to impound flowing water and succeeds, then it is no longer flowing. Because possession or ownership was not possible, the Romans considered flowing water, like the air, and the sea, as *res omnium communis* and incapable of being owned. Stagnant water is different: one can possess or own it and in large bodies of stagnant water it acquires the same characteristic of the land on which it is

[37] Translation by Tom Braun of Mommsen, Krueger and Watson.
[38] Translation by Tom Braun of Mommsen Krueger and Watson.
[39] Dig.1.8.4. Translation by D N MacCormick of Mommsen, Krueger and Watson.
[40] Dig.1.8.4. Translation by D N MacCormick, of Mommsen. Krueger and Watson.

situated. This is the reasoning behind Dig.1.8.2 and there is no reason to qualify this text. As one could not own perennial flowing water, a mechanism had to be created which gave the irrigator the assurance of continued supply. This mechanism was the series of interdicts, described in detail in Chapter 3 and subsequent chapters.

2.5 Has Roman Water Law been successfully applied?

It may be that the Roman law is a great system of law, but the question may well be asked whether the Roman water law has been successfully applied in practice for an extended period? Was it applied in arid circumstances where irrigation was necessary?

The fully developed system of law covering aqueducts and the associated servitudes is evidence of an extensive irrigation practice in the Roman Empire. This vast Empire lasting for many centuries was obviously built on the daily supply of food for the people. White[41] quotes an assertion that what broke the Roman Empire in the West was the inability of the primary producer, to maintain his vital role in the economy in the face of continuing increases in taxation, and that this inability was in turn due to low productivity and technical stagnation in agriculture. Agriculture was vital for producing the necessary food both in the Western Empire and in the East. Although one can produce food without irrigation; irrigation is and was, essential for increased production, particularly in the Eastern Empire with its drier climate. White[42] cites several examples of irrigation schemes. Bonfante[43] stresses the adaptation of Dig.39.3 to accommodate irrigation practices.

From the work edited by Finley[44] it is quite clear that there was a vast farming population throughout the Empire each possessing farms in varying sizes, farms to which they had a secure title. In the more arid areas irrigation was essential. The same author mentions an area, Lamasba, where the land register of 218/220 B C reflects that "the nature of the measure was the water-entitlement, being 78 units agricultural land". One can infer that there was a register of entitlement to water for irrigation.[45]

[41] White K D *Roman Farming (*1970) p.12.
[42] White K D *Roman Farming* pp. 147, 151, 170-171.
[43] Bonfante P. *Romeinsche Recht voor Nederland* verwerkt door J Hamburger (1919) p.323.
[44] Finley, M I *Studies in Roman Property* (1976).
[45] Finley M I op. cit. p. 16.

One cannot have widespread irrigation without a water law regulating the rights to taking or appropriation of water for irrigation and other uses. A sophisticated and superior legal system, which the Roman system undoubtedly was, must have evolved principles regulating the use of water to support the extensive irrigation in many countries and for the many centuries during which the Roman Empire lasted. It is these principles, and their relevance to irrigation in South Africa today, that are discussed in later sections.

CHAPTER 3 INTERDICTS IN ROMAN LAW

3.1 Interdicts in general.

The problem facing the praetors in the early classical period, from about 150 B.C., was that the farmers could not farm without the assurance of a continued supply of flowing water. Yet no one had a right of ownership or possession of flowing water. The praetors found an answer to this problem in extending the practice of granting interdicts to the use of flowing water. A short review of this development follows.

The earliest period in the growth of the Roman law was the period prior to the last 150 years of the republic. The most notable event in that period is the acceptance of the Code, known as the XII Tables, in about 451 – 450 B.C.[46] By their different kinds of advice the pontiffs were able to influence the law. But equally important in this period was the shaping of the law by means of the *legis actiones*, or forms used to bring a claim before a court. Such claims had to follow closely the text of the law on which they were based, and they had to be exactly correct in every word.[47]

The next period lasting for about the last 150 years of the republic and the first century of the empire[48] began with the introduction of the formulary system of procedure.[49] The actual stages in this process were:

> 'When summoning his opponent the plaintiff had to make it clear to him what the claim was . . . When, on the appointed day, the parties came before the magistrate [*praetor*], a second *editio actionis* took place, in which plaintiff placed before his opponent and the magistrate the draft *formula,* drawn no doubt usually with the help of his legal adviser, on which he proposed that the case should be tried . . . . The defendant, also no doubt usually acting on professional advice, might declare himself satisfied with the draft or he might demand alterations, in particular the insertion of an *exceptio,* and the magistrate, who also had his legal advisers, would take part in the

[46] Jolowicz and Nicholas *Historical Introduction to the Study of Roman Law 3rd edit.* pp. 5-6.
[47] Jolowicz and Nicholas op. cit. p. 90.
[48] Jolowicz and Nicholas *op. cit.* pp 5-6.
[49] Jolowicz and Nicholas op. cit. pp. *199 - 200*; Thomas J A C *Textbook of Roman Law* pp. 83-5.

> proceedings by indicating what form of words he would allow. When once the form of words was arranged there remained the question of the *iudex.* It would usually be that after he [the *iudex]* had been chosen and his name inserted in the draft, that *litis contestatio* took place and the magistrate made his decree granting a trial. It is this decree which gives the *iudex* his authority, and it is the magistrate's power of refusing it which preserves in the last resort his complete control over litigation.[50]

With the introduction of the *cognitio*-procedure after the first century A.D. the formulary procedure gradually disappeared,[51] and in A.D. 392 it was abolished.[52]

3.2 Development of special interdicts.

The formulary system gave a new importance to the position of the magistrate or praetor. As no *formulae* were laid down by law and the particular formula to be used in each case needed his [the praetor's] authority to make it effective, he could consent to the use of a *formula* even if such *formula* had no basis in civil law; and, on the other hand, where a party sought to enforce a civil right, he could render such a right nugatory by refusing his concurrence to the *formula* proposed.[53]

In addition to the ordinary remedies, there were the praetorian remedies that lie outside the system of actions:

> The activity of the magistrate in the ordinary procedure leading to an action is a result of that part of his function known as *iurisdictio*, but with the remedies we now have to discuss the position is different. Here we have to deal with orders issued by the praetor as a holder of *imperium*. These orders are however issued for the purpose of the administration of justice: the rules which the praetor adopts with respect to their issue, or at least some indications of them, appear in the edict, and, as we shall see, the praetor generally avoids using

[50] Jolowicz and Nicholas op. cit. pp. 200-1; Thomas op. cit. *Law* p. 84.
[51] Thomas op.cit. p. 71,119; Jolowicz and Nicholas op. cit. pp 439-440.
[52] Thomas *Textbook of Roman Law* p 119, Buckland *A Text-book of Roman Law* p. 665. Note that both textbooks quote as one authority Codex 2.57.1, in the copy consulted the reference is to Codex 2.58.1.
[53] Jolowicz and Nicholas op.cit. p.201.

> direct means of enforcing obedience, so that any dispute concerning them will often lead to an action which has to be tried in the ordinary way.[54]

The praetor was not entitled to legislate and directly alter the civil law. But in practice he did so:

> The praetor was entitled to issue edicts and, in fact, these edicts were a very important source of law, but the praetor was not a legislator; he would not alter the law directly and openly . . . and his edict consequently did not take the same form as a statute. It consisted, on the contrary, chiefly of statements by the praetor of what he would do in certain circumstances, of the way in which he would carry out his jurisdiction, and it was the great freedom he had in this respect that made it possible for him to influence the law to such an enormous extent. He would say thus say that in such and such a case he would give an action (*indicium dabo),* i.e. if a man came to him with a complaint against another which did not, at civil law, give him any claim against that other for redress, the praetor might nevertheless allow him an action.[55] … How the civil and praetorian rules worked in with each other in practice is a matter for a detailed study in each instance, but one famous remark on their relationship may be explained. Papinian says that the function of the *jus honorarium* is to 'aid, supplement or correct' the civil law.[56]

It became the practice of each praetor, and the other jurisdictional magistrates, in each year when he entered upon his office, to put up in a conspicuous place in the forum a white wooden board, the *album*, with his edict in black letters setting out in advance what their ruling would be in certain cases.[57]

Each praetor had, in theory a perfectly free hand in the matter of his edict, but gradually, fixed guidelines for the drafting of the edict were set and an edict was

[54] Lolowicz and Nicholas op.cit. p.226.
[55] Jolowicz and Nicholas op. cit. pp. 98-99, 201.
[56] Jolowicz and Nicholas, op. cit. pp. 99-100.
[57] Jolowicz and Nicholas op. cit. 98; Spruit *Enchridium* 3rd Edit (1992) p. 66.

generally copied from praetor to praetor. The *edictum tralaticium* was handed down from praetor to praetor[58] until the jurist, Julian, during the reign of Hadrian (117 –138 A.D.),[59] finally revised it under the name of the *edictum perpetuum.* According to Jolowicz and Nicholas[60] there was an earlier reference to the *edictum perpetuum* in the *lex Cornelia* of 67 B.C. which forbade praetors to depart from their *edicta perpetua.*

The orders issued by the praetor were in a stereotyped form that is set out for each sort of case in the edict, and lead, where there is opposition, to a trial before a *judex* or *recuperatores.*[61] It should be noticed that in this connection that interdicts have to a certain extent a "policing" character; many are concerned with public ways and rivers.[62] The reference to the "policing" character of the interdict is a reference to the situation where two parties claim a right to divert flowing water, which, being *res communis,* could not be owned or possessed by either party.[63] Thus by invoking the interdict public order is maintained.

In spite of the disappearance of the formulary procedure the original form of the interdict was maintained in the Digest:

> "But the disappearance of the formulary procedure proper does not necessarily imply that the *formulae* ceased altogether to be used for judicial purposes. …It seems at any rate that in the succeeding century and a half (the period of the so-called vulgar law) the classical learning of actions was largely forgotten, or at least the old distinctions became confused … In Justinian's law, however, there is a return to the language of the classical law (in most cases) even though the names denote only the causes of action. In this classicising revival the *formulae,* like our own forms of action, can be seen to rule from the grave."[64]

[58] Jolowicz and Nicholas op. cit. p. 98.
[59] Tamm Ditlev *Roman Law and European Legal History* (1997) p.15.
[60] Jolowicz and Nicolas, op. cit. p. 98.
[61] Jolowicz and Nicholas op. cit. p. 230.
[62] Jolowicz and Nicholas op.cit. p. 232.
[63] Vide par. 2.3.3 below.
[64] Jolowicz and Nicholas op. cit. p. 440.

Buckland[65] relates how the old form of interdictal procedure came to be retained in the Digest. With the disappearance of the old procedure, the rights expressed in the *formulae* were still protected and the aggrieved person could bring an action where the issue raised was the same as that in the *formula* issued in the earlier days. The form of the interdict was retained for historical reasons.

Dannenbring in his translation of Kaser[66] refers to these interdicts as Special Praetorian remedies issued by way of fixed *formula*e that stated all the substantive requirements. He says that the special interdicts may be compared with the injunction or provisional order in the modern German law of civil procedure.[67] Unfortunately there is no comment in this work as to how these interdicts were incorporated into the Digest. Spruit[68] confirms this whole development.

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[65] Buckland *A Text-book of Roman Law* pp. 743-4.

[66] Dannenbring, Rolf *Roman Private Law* 2nd Edit. Translation of *Römisches Privatrecht p. 357.*

[67] Dannenbring op. cit. p. 358.

[68] Spruit *Canubula juris Elementen van het Romeinse Privaatrecht* (2001) par. 782, p.508. *Naast het process per formulas kende het Romeinse recht reeds in zijn vroegste ontwikkelingstfase nog een ander wijze van procederen: die per interdictum. In de periode van opbouw van het Edict zijn door opeenvolgende praetoren tientallen interdicten met eigen standaardformulier voor de meest uiteenlopende conflictsituaties in het leven geroepen. In Boek 43 van de Digesten worden er alleen al 33 behandeld. Interdicten zijn te omschrijven als geboden en verboden die de praetor op aanvraag van een particuliere persoon kan uitvaardigen, met als doel om aan die aanvraag te voldoen door te gelasten dat een bepaalde situatie wordt gerealiseerd. Binnen de ambiance van vooral het goederenrecht, maar ook daarbuiten, zijn interdicten van groot belang geweest, niet in de laatste plaats als gevolg van de brede scala van doeleinden die zij dienden. Om enkele te noemen: . . . het toelaten van reparaties van openbare of private wegen, het ongestoord gebruiken van erfdienstbaarheden van weg en overpad, het garanderen van toegang tot water en waterlopen en openbare wegen, … . . Waar de actie als eerste doel had de eisende partij bescherming te bieden tegen inbreuken op het door hem gepreteneerde subjectieve recht, haden de interdicten meer het signatuur van een administratieve of politierechtelijke en diende het in het interdict vervatte gebod of verbod mede om te voorkomen dat de openbare orde verstoorde zou worden als gevolg van controversen omtrent het bezit van zaken en de uitoefening van rechten*

[Alongside the process *per formulas* Roman law also had in the earliest development stages another form of procedure: the *per interdictum*. In the period when the Edict was being developed by successive praetors there were created very many interdicts, each with his own standard formula to cope with the most divergent conflict situations. In Book 43 of the Digest there are already 33 interdicts. Interdicts can be described as commands to do, or not to do, issued by the praetor on the application of a particular individual. The commands had as their purpose that a particular situation should be realised. Particularly in the area of the law of property, but also outside the law of property, interdicts were of great importance, not the least because of the broad basis of purposes that they served. To mention a few: . . . permission for the repair of public or private roads, the undisturbed use of servitudes of access and entry, the guarantee of access to water, watercourses and public roads, . . . Where the action had in the first place the object of protecting the complainant against a subjectively alleged right, the interdicts bore the mark of an administrative or police measure and served also the prevention of the public order being disturbed as a result of controversies in regard to the possession of things and the exercise of rights.]

Interdicts in the Digest deal with several uses of water, such as the interdicts governing navigation on public rivers as in Dig. 43.12.1, the generation of power as in Dig.43.15.1 and the consumptive use of perennial flowing water as in Dig.43.20.1 pr.

CHAPTER 4 THE SPECIAL INTERDICT CONCERNING PERENNIAL FLOWING WATER

4.1 Prior appropriator's right of use

The edict in Dig. 43.20.1.pr reads:

> *Ait preator: Uti hoc anno aquam, qua de agitur, non vi non clam non precario ab illo duxisti, quo minus ita ducas, vim fieri veto.*
>
> [The praetor says: In so far as you have this year drawn off the water, the subject of the dispute, not by force or stealth or *precarium*, I forbid force to be used to prevent you from continuing to draw the water in this manner.] (This translation follows the Dutch translation of Spruit, Feensta en Wubbe.)[69]

The provision set out in the text in Dig 43.20.1.5 makes it plain that this interdict deals with perennially flowing water. There is no requirement that it be the water of a public stream.

Although this interdict was not a final adjudication of the dispute, it had the effect of maintaining the *status quo*. The party in whose favour it had been given could continue the use and his opponent had to initiate proceedings to prove a better right, such as an authorisation by the emperor etc. If the person against whom an interdict was directed failed to initiate proceedings and prove a better right, the right of the original applicant was now entrenched. A further result of the interdict was that if there were others who were equally qualified, the grant of the interdict gave the applicant for the original interdict a preferent right to the use of the water.

Thus the prior appropriator's right of use is protected and confirmed. A subsequent appropriator is free to take any water left over after the first appropriation. The second appropriator is in turn protected against subsequent appropriators. Thus every appropriator in turn establishes a right preferent to any person appropriating after him

[69] Translation of Spruit, Feensta en Wubbe.: "*De Praetor zegt: 'Zoals u in dit jaar het water waarover het geschil gaat, niet met geweld, niet heimelijk en niet ter bede ten opzichte van de gedaagde hebt aangevoerd, verbied ik dat geweld wordt gebruikt dat erop gericht is dat u het water u niet langer op die manier kunt aanvoeren'*".

in respect of the water from that source.[70] In this regard one should bear in mind that the appropriation of water does not take place instantaneously but that the person appropriating has to build his canals and prepare his lands for irrigation. In the Roman system the irrigator had to establish his appropriation, before he could enjoy assurance of continued supply.

The establishment of a system of seniority with prior appropriation is in direct contrast to the riparian principle, developed in England and America more than a thousand years later, where all riparian owners on a stream, no matter the time of their first appropriation, have an equal right to divert his fair share. Under the riparian principle the result was that the user for many years had to share the available water in the stream with a complete newcomer.

Normally a farmer would not initially have his irrigation works and undertaking complete; usually the irrigation undertaking is gradually extended and consolidated. The benevolent attitude of the Roman government to appropriators is evident in the grant of more water than the owner could immediately use.[71]

4.2 Subsidiary interdict regulating use of water from a scheme.

The chapter Dig.43.20.1 had a subsidiary interdict in Dig. 43.20.1.38 dealing with the withdrawal of, or interference with, water from a scheme or water work such as a canal, conservation dam or a distribution tank. Obviously the person who constructed the work, or who owned the work, was the person able to confer authorisation for use

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[70] The right given by the praetor differs from the American prior appropriation doctrine in that the appropriator desiring protection had to give notice of his intention to use and had to use within a reasonable time. See: *Coffin v Left Hand Ditch Co*. as quoted in Trelease v Gould *Cases and Materials* 4th ed. p.75. For possible origin of the prior appropriation doctrine and its widespread adoption see Trelease and Gould 4th ed. p19 to p. 22. See also: Hans W. Bade *Springs Creeks and Groundwater in Nineteenth century German Roman Law Jurisprudence* Comparative and Private Interntional Law (1990) Dunker and Hamblot [Duncker und Humblot?]Berlin p. 61 to p. 255.
As a result of the writings of Blackstone the Courts in England recognised prior appropriation on the basis that the first person to occupy had a prior right. The analogy cited was the killing of a wild animal and thereby appropriating the carcass. Eventually the riparian doctrine was adopted and the prior appropriation theory, as proposed by Blackstone, abandoned largely as a result of the practice in England to generate power from the flow of a stream. See Joshua Getzler *A History of Water Rights at Common Law* Oxford University Press (2003) pp. 169 – 267. It is to be noted that the Roman prior appropriation theory rested on the Edict of the Praetor giving it a more permanent and surer footing than the Blackstone theory.

[71] Dig. 43.20.1.2.

of water or withdrawal of water from the work. This interdict is set out in Dig. 43.20.1.38:

> *Ait praetor: Quo ex castello illi aquam ducere ab eo, cui eius rei ius fuit, permissum est, quo minus ita uti permissum est ducat, uim fieri ueto.*
>
> [The praetor says: I forbid force to be used against a person to whom the right to lead water from a tank or distribution structure, has been given (by the emperor or owner of the work) to prevent him from leading water from that structure.][72]

It is to be noted that permission or authorization had to be obtained from the emperor or the owner of the work, presumably the person in control or owner of the work in question. In contrast thereto, no permission was required when a person drew water in terms of Dig. 43.12.2 or drew perennial flowing water.

De Wet[73] expressed the opinion that the text in Dig.43.20.1.38 constitutes proof that every user of water had to have a permit or authorization from the emperor. De Wet is of opinion that this was the system regulating all use of water. De Wet based his opinion on a mistaken interpretation of Dig. 43.20.1.37. This text deals with the permission required by a user who draws water from a *castellum* or other distribution point in a scheme. The owner of the scheme was the emperor where the scheme was constructed out of public funds. Instead of a *castellum* or distribution point, one could have had a subsidiary canal drawing water from the main canal or work. De Wet mistakenly extended the requirement for the need of the user to have permission from the owner of the scheme, to all users of water. Obviously the person taking water from such a scheme had to have permission of the owner of the works, but there would be no occasion for any other user to obtain permission if not drawing from such a joint or common work. Vos[74] adopted this mistaken view of De Wet.

[72] Translation by Tom Braun of Mommsen, Krueger and Watson.
[73] De Wet (1959) *Acta Juridica par. 18 p. 7; Opuscula Miscellanea* par.18 p. 7.
[74] Vos *Principles of S A Water Law* p.1.

It is to be noted that this interdict applies to water under control of the work, e.g. the artificial canal in which it flows or the *castellum* or distribution dam. Compare this with the flowing water dealt with in section 6.1 below.

De Wet was professor at Stellenbosch University and lectured on water law for many years. He also published several articles on water law. This author contends that de Wet's views on permits may have been responsible for the original introduction of the permit system into South African water law.

4.3 Water included in Main Interdict, Dig. 43.20.1.pr.

The Edict set out in Dig.43.20.1pr applied to all perennial water available for every day use. It included perennial waters in winter that were not used but available.[75] The Edict only applied to perennial water.[76] The Edict also applied to summer water as well as daily water.[77] There is no definition or fuller description of what constitutes perennial water, but it is submitted that it had to be a flow not necessarily present every day but permanent enough to support an irrigation enterprise. Thus hot spring water, if it could be used for irrigation, was included.[78] Rivers that sometimes dry up in summer but which normally flow perennially were nonetheless considered perennial.[79]

The instantaneous quantity of water or the portion of the stream flow drawn for direct irrigation would have varied considerably: shortly after planting the demand of water for irrigation is often very small but as the plants get older the use of water increases until the time of ripening, when the demand decreases sharply. The daily demand of water of both perennial and annual crops would also vary according to the atmospheric evaporation. It is for that reason that the quantity of water drawn was assessed on a yearly basis – *uti hoc anno.*

The interdict applied to all uses of water and not only irrigation:

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[75] Dig. 43.20.1.1and 2.
[76] Dig. 43.20.1.5. Voet in his commentary on the Digest 43.20.1 under the heading of Summer and Winter Water says the water had to be perennial but that neither summer or winter waters had to be perennial. Gane's Selective Voet vol. 6 p.506.
[77] Dig. 43.20.1.3
[78] Dig. 43.20.1.13.
[79] Dig 43.12.1.2.

Dig.43.20.1.11: Illud quaeritur, utrum ea tantum aqua his interdictis contineatur, quae ad agrum irrigandum pertinet, an vero omnis, etiam ea, quae ad usum quoque et commodum nostrum. et hoc iure utimur, ut haec quoque contineatur. propter quod etiam si in urbana praedia quis aquam ducere velit, hoc interdictum habere potest.

[It is asked whether only such water is included under the interdict as belongs to the irrigation of fields or also what is for our use and convenience. The law we follow is that these too are included. On account of this, even if someone wishes to draw off water for town properties, this interdict may apply.][80]

Dig.43.20.1.12: Praeterea Labeo scribit, etsi quidam ductus aquarum non sit fundi, quia quocumque duci possint, tamen ad hoc interdictum pertinere.

[Besides, Labeo writes that even if water is not drawn off for a farm, then because it may be drawn off at any place, the interdict still applies.][81]

4.4 Contrary Views of Ossig.

Ossig, writing in 1898, rejected the principle stated in Dig. 1.8.2[82] that *aqua profluens*, flowing water, is for all. He based his entire work, *RömischesWasserrecht,*[83]on the principle that all water, including water flowing on or over the land, belongs to the owner of the land, [84] and says that the reference to flowing water in Dig.1.8.2 was mistakenly included.[85] There are, in addition, several texts inconsistent with Ossig's views[86] as well as several authorities. [87]

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[80] Translation by Tom Braun of Mommsen, Krueger and Watson.
[81] Translation by Tom Braun of Mommsen, Krueger and Watson.
[82] Dig. 1.8.2: *Et quidem naturalia iure omnium communia sunt illa: aer, aqua profluens, et mare, et per hoc litora maris.* [And indeed by natural law these things are for all: the air, flowing water, and the sea and the sea shore.]
[83] Ossig A. *Römisches Wasserrecht.*
[84] Ossig A., op.cit. p.47.
[85] Ossig op.cit. pp. 72-73.
[86] Dig.43.12.2 Quoted in par. 2.3.5 above; Dig. 43.20.1pr; Dig. 39.3.11; Dig. 39.3.2.5 and Code 3.36;
[87] The view that flowing water cannot be possessed or owned appears in many arguments, and, formulated differently, appears in various works on water law: Thus Lauer (The Riparian right as Property, *Water Resources and the Law*140-43 (1958) p. 160) says: 'The stuff of which an automobile or even a tract of land is made does not alter from day to day. But a watercourse is composed of

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4.5 Contrary views of Emilio Costa.

In essence both Ossig and Costa commit the same mistake, albeit that their views are differently phrased. Emilio Costa in his book dealing with the rights to water,[88] in the opening statement of his book express the opinion that water flowing over the land belongs to the owner.[89] He admits that he has no direct authority for his statements and ignores the statement directly contrary in Dig.1.8.2 that flowing water is not owned but is common to all men.

constantly changing molecules of water, which flows from the highlands to the sea, passing successively over the lands of many persons. As the philosopher Heraclitus observed 25 centuries ago: "One cannot step into the same water twice". Watercourses consist of two constituent parts: a stable unchanging channel and ever-changing flowing water'. The same argument, occupying over a page, is set out in the judgment of Denman C J in Mason v Hill (110 E R 692 at 700)(1833)). The judgment adopts passages from Vinnius, and quotes with approval Blackstone and several English decisions to the same effect.

[88] Emilio Costa *Acque nel Diritto* (1918)

[89] Emilio Costa *Le Acque nel Diritto Romano* p. 1-2:

CHAPTER 5 INTERDICTS CONCERNING A FULLY DEVELOPED WATER SOURCE

5.1 The problems of intricacy, inefficiency and harshness towards junior users.

It should be appreciated that after a time the relative seniority of the various water appropriators on a public river in terms of Dig.43.20.1, would become complicated. For example, let us suppose that there were users A, B, C, D and E consecutively down the river: Let us further suppose that the order of seniority is A E, B, D and C. Suppose we start with A. When A is finished irrigating the water would have to run down to E, which involves the water running down a dry course with the consequent waste. Furthermore B would have to estimate exactly how much water should run to E before he can divert the water. In practice B would let the water run longer to be on the safe side, thus water would be wasted. When once the water in the stream becomes fully used, it becomes difficult in practice to meet the strict requirements of seniority. Any error of judgment would result in either short supply to a succeeding user, or a waste of water.

But, in Roman times and wherever the prior appropriation principle applied a more serious problem could occur. Over time, the water of the stream, or source, would become fully used. Then, in a dry spell, the most junior user, or the two most junior users, would not be entitled to take any water, whereas the senior users would be entitled to use their full entitlement to the maximum. This would result in the junior users not being able to carry on the farming operations for that dry year. Not only would the junior users be deprived of their income but their employees and families would suffer hardship. Any trees or vineyards that they planted would die.

A shortage would probably have occurred as a result of two factors, firstly a long dry spell and secondly the maximum use of his entitlement by a more senior user. In dealing with the long dry spell first, it should be remembered that the period specified in Dig.43.20.1 for a user to qualify as a new protected user was very short – a year or two at the most. It may well have been that when the most junior, or the newest user qualified there was more water available in the short term than the supply in a

subsequent dry spell. Certainly there would have been more water than was available during a prolonged drought of several years.

The second reason for a shortage occurring would be when the earlier owners, whose use was protected, did not, initially, use their entitlement fully. Hence there would have been unused water that a new user could take up. But, during the course of the years the earlier users may have gradually extended their actual use thus causing a shortage. In this respect the passage in Dig. 43 20.1.2[90] is significant:

> *Cottidiana autem aqua non illla est, quae cottidie ducitur, sed ea, qua quis cottidie possit uti, si uellet: quamquam cottidianam interdum hieme ducere non expediat, etsi posit duci.*
>
> [Daily water is not that water which is drawn off every day, but that which someone could use every day if he wished, including such water as it is not expedient to draw off every day even though it could be drawn off.][91]

When a shortage stretching over several years occurred, the authorities would try to solve the problem that a few, i.e. the most senior users, would, during a dry spell, have ample water while the most junior users could be ruined.[92]

5.2 Experience in America: Riparian principle and Prior appropriation.

In North America, starting with the case of *Tyler v Wilkinson*[93] in 1827, there developed the riparian principle according to which each riparian owner was entitled to use a reasonable share of the water in the adjoining river. One of the less favourable characteristics, among others, of the riparian principle was that whenever a newcomer claimed his proportionate share, the older established users had to curtail their use, to accommodate the newcomer. In the result there was no guarantee that the older users

[90] Mommsen, Krueger and Watson vol 4 pp. 594-5.
[91] Translation by Tom Braun of Mommsen, Krueger and Watson.
[92] In Colorado and other American states, where the principle of prior appropriation had been adopted, the rule is that the most junior users must, during a shortage, surrender their rights and, if need be, not irrigate at all. In America this method causes great hardship for the most junior users. It means that they must sacrifice their entire farming activity for the season when there is not enough water. Because the junior users may sometimes not have water, they are inhibited from planting orchards or permanent crops. Trelease and Gould *Water Law Cases and Materials* 4th ed. pp. 93-4.
[93] Tyler v Wilkinson 24 Fed. Cases 472 (1827).

would have a certain or established right to water. This was the reason that another system of water distribution, the prior appropriation system, was developed in the western States from about 1870 onwards. In this system there was also great harshness, however. During a dry spell the most junior users would suffer in that they would have no water whereas the senior users would not be required to make any sacrifice.

At that time an intense debate developed in the western States of America as to which system, riparian or prior appropriation, was superior to the other. In 1960 Arthur Maas and Hiller B. Zobel[94] reviewed the debate and commented on the articles written by a very eminent water lawyer, Wiel, and said:

> The harshness of the prior appropriation doctrine as applied to well-settled streams repelled Wiel. *[Wiel, Theories of Water Law, 27 Harv. L. Rev. 530,535, (1914)]* He believed "that the exclusiveness of a prior right should be recognized only to a certain degree and that priorities should not be enforced when to do so, would be 'unreasonable' to water users upon the same stream, though subsequent to time of use." *[Wiel, Priority in Western Law, 18 Yale L.J. 189, 190 (1909)]* [Prior] Appropriation, he felt, accomplishes " a substitution of inequality in place of equality among the common users of the same source." [*Wiel, Natural Communism: Air, Water, Oil, Sea, and Seashore, 47 Harv. L. Rev. 425,435(1934)]* He expounded, instead, a rule . . .[95]

It is submitted that in his time Wiel identified the same problem as the Roman lawyers before 161 A.D. viz. the harshness of prior appropriation caused in practice by the interdict in Dig. 43.20.1.pr. The Roman solution to this problem is contained in a rescript recorded in Dig.8.3.17, as described in the following section.

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[94] Arthur Maas and Hiller B. Zobel *Anglo-American Water Law: Who appropriated the Riparian Doctrine?* Public Policy Journal 109 (1960) p. 109 at p. 148:

[95] Maas and Zoble *Anglo-American Law: Who appropriated the Riparian Doctrine?* Public Policy Journal 109 (1960) 109 at p. 148.

5.3 Roman solution to complexity and deleterious effects of prior appropriation

This text of DIG. 8.3.17 reads:

> *PAPIRIUS JUSTUS libro primo de constitutionibus. Imperatores Antoninus et Verus Augusti rescripserunt aquam de flumine publico pro modo possessionum ad irrigandos agros dividi oportere, nisi proprio jure quis plus sibi datum ostenderit. item rescripserunt aquam ita demum permitti duci, si sine injuria alterius id fiat.* (The Emperors mentioned ruled together between 161-169 A.D.)[96]

Four standard translations were available: the Dutch translation of Spruit et al.; the translation of Mommsen, Krueger and Watson, Scott's translation and the German translation of Muller et al. None of these translations takes into account that there is only a need for a division of water amongst the various users, when there is a shortage of water. If there were a shortage of water, it would be illogical to bring other additional lands into production through irrigation. The more so, if there were no indication as to what land, as yet unirrigated or irrigable or irrigated from another source, should have been included. Hence it is likely that only the extent of lands irrigated from that source was to be included when the division took place.

Hence, it is suggested that a proper translation of Dig. 8.3.17 should be:

> PAPIRIUS JUSTUS, imperial Rulings, Book 1: The Emperors Antoninus Augustus and Verus Augustus laid down in a rescript that for the continued irrigation of lands, the water from a public river ought to be allocated in proportion to the size of the irrigated lands possessed by each, unless anyone can establish a special right that he should be allocated more than his share. They finally laid down that a man is only so permitted to lead water, if is done without injury to another.

It may be argued that the original text does not explicitly distinguish between irrigated and irrigable lands, but on a proper interpretation, the correct meaning would be "irrigated lands". It is to be noted that only the water used for irrigation has to be

[96] Carey *History of Rome* p. 784.

divided, since obviously water drawn for urban use cannot be curtailed. This will probably fall under 'a special right'. There is also a limit to change of use allowed in Dig.43.20.1.15:[97]

Hence in Roman times, when an area became fully developed and there was a shortage of water, the solution of dividing the available water in terms of Dig. 8.3.17 offered a far more equitable solution. It spreads the hardship caused by a shortage of water over all the users. Thus no user would ever be totally deprived of water and ruined. It also did away with the intricate system of priorities and consequent possible waste of water.

5.4 Relationship between Dig. 8.3.17 (sharing of water) and Dig. 43.20.1 (prior appropriation)

If one adopts the interpretation given to Dig. 8.3.17 in par. 2.5.2 above, there is no conflict between these two texts. Dig. 43.20.1 applied where water for new development was still available and a new comer could not intrude on the prior use. While Dig. 8.3.17.applied where the source was fully developed and no water for further development was available from that source, in that case all users shared.

It is to be noted that Dig. 8.3.17 contains an exception in the words: *nisi proprio juris quis plus sibi datum ostenderit* [unless anyone can establish that more should be awarded to him.] A special right could be where water was allocated by the emperor, or his deputy, for a municipal scheme or a special allocation by the emperor.

The words *proprio juris* suggests that there was a general right in terms of which water was used generally. This is consistent with Dig. 43.20.1 conferring a general right.

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[97] *Dig. 43.20.1.15 Illud tamen hic intellegendum est eodem modo praertorem duci aquam iussisse, quo ducta est hoc anno. proinde neque amplioris modi, neque alia permississe potest uideri. quare si alia aqua sit, quam quis uelit ducere, quam hoc anno duxit, uel eadem per aliam tamen regionem uelit ducere, impune ei uis fiat.* [But it is to be understood that the praetor ordered the water to be drawn off in the same manner as it was drawn this year. So he cannot be held to have permitted a fuller or different manner. So if it is some other water than that which somebody who drew it off this year wishes to draw off, or if it is the same water but he wishes to draw it off through another region then force be used against him with impunity.] (Translation by Tom Braun of Mommsen, Krueger and Watson).

5.5 Dig. 8.3.17 confined to public rivers.

Dig. 43.20.1.5 makes it clear that perennial water, whether flowing in a river or not, was included under the interdict. Why is Dig.8.3.17 confined to waters from public rivers only?

There appears to be a reason for this. Almost all rivers were public according to Dig.1.8.4. It is logical that any rivers falling outside the concept of public rivers would probably have been very small streams. Hence only the very small streams would not be covered by Dig 8.3.17 and it is probable that these very small streams would have only one user protected by Dig. 43.20.1. If there were only one user there would be no occasion for a division amongst users.

5.6 Dig. 8.3.17 not expressing the riparian principle.

Lord De Villiers in an early case[98] held that the riparian doctrine was part of the common law of South Africa and cited the English case *Magistrates of Linlithgow v Elphinstone* (3 Kames' Decisions p 331). He said:

> If, therefore, the upper proprietor, in the enjoyment of his ordinary use, deprives the lower proprietors of the ordinary use, he would not be liable to them in an action; but if an upper proprietor in the enjoyment of his extraordinary use deprives the lower proprietors of their extraordinary use, he would, according to the weight of this principle, be liable to them in an action.

He then continued:

> It is upon this principle that the Emperors . . . decided . . . that the water of a public river ought to be divided for the purposes of irrigation according to the measure of possession of the riparian owners . . . Dig. 8.3.17.[99] [Emphasis added]

It is noted that Lord De Villiers introduced the term "riparian owners". These words, 'riparian owner' or 'riparian land', do not appear in Dig. 8.3.17, not even by inference. In that text there is no mention of a limit to riparian land or exclusion of

[98] Hough v Van der Merwe (1874) 4 Buch A C 148.
[99] Hough v Van der Merwe (1874) 4 Buch A C 148 at p.148.at p. 154.

non-riparian land. ‘Riparian land’ is in any case a vague concept. Does it cover the catchment area? Or cover all the present irrigated land? Or further irrigable land?

It is submitted that the learned judge introduced the term “riparian land’ in an effort to hold that the Anglo-American riparian principle does not differ from the Roman law. This is certainly not the case. In terms of the earlier submission, when the stream was exhausted by appropriators in terms of Dig. 43.201.pr, then in an effort to distribute the water on an equitable basis, the emperors decided to divide the available water amongst all the land irrigated at that time. The introduction of additional land would have caused grave uncertainty among the users at that time and would in any event have been inequitable.

CHAPTER 6 INTERDICTS RELATING TO USE OF WATER FROM SPRINGS, LAKES, WELLS AND NON-PERENNIAL RIVERS

6.1 Use of water from springs.

Dig. 43.22.1 reads:

> *Praetor ait: 'Uti eo de fonte, quo de agitur, hoc anno aqua nec clam nec vi nec precario ab eo usus es, quo minus ita utaris, vim fieri veto. de lacu puteo piscina item interdicam.'*
>
> [The praetor says: In so far as you have used water from the spring in question this year not by force, stealth, or *precarium*, I forbid the use of force to prevent you using it in this manner. I will give the same interdict on lakes, wells and fishponds.'][100]

There is an elaboration to this interdict in Dig.43.22.1.4:

> *Hoc interdictum de cisterna non competit: nam cisterna non habet perpetuam causam nec uiuam aquam. ex eo apparet in his omnibus exigendum, ut uiua aqua sit: cisternae imbribus. concipiuntur denique constat interdictum cessare, si lacus piscina puteus vivam aquam non habeat.*

The translation of Tom Braun of Mommsen, Krueger and Watson renders *uiua aqua* as fresh water, which then leads to an absurdity that rain water is not fresh. Thus:

> "This interdict does not apply to cisterns. For a cistern does not have a perennial state or fresh water. From this it appears that a requirement in every case is that the water should be fresh, whereas cisterns are filled by rainwater. Hence it is settled that the interdict no longer applies, if a lake, fish-pond or well has no fresh water."[101]

The common feature of the class consisting of *lacus, puteus* or *piscina*, is that they all function as a source of flowing water. Once the water is raised to the surface from the well or released from the fish pond or a breach made into the wall of the *lacus* it would flow naturally. As explained earlier, this water then flowing naturally cannot

[100] Translation of Tom Braun of Mommsen, Krueger and Watson.
[101] Translation of Tom Braun of Mommsen Krueger and Watson.

be possessed or owned. It follows then that the interdict should apply to lakes (ponds or artificial lakes) wells and fish-ponds, these being sources of flowing water. It is therefore submitted that a better translation for this text would be:

> This interdict does not apply to cisterns. For a cistern is no enduring source nor does it yield flowing water. It is apparent from this that in every case there is a requirement of flowing water: cisterns are filled by rainwater. Hence it is settled that the interdict no longer applies if a pond, fishpond or well do not yield flowing water.[102]

The interdicts in Dig.43.20.1pr and Dig 43.22.1pr are very similar. The former relates to perennially flowing water from a river or source,[103] a natural source:

> *Dig. 43.20.1.6: Quamquam ad perennies aquas dixerimus hoc interdictum pertinere, eas tamen perennes sunt, duci tamen non possint. sed huiusmodi aquis, quae duci non possint, haustus servitus imponi potest. Haec interdicta de aqua, item de fonte ad eam aquam pertinere uidentur, quae a capite ducitur non aliunde: harum enim aquarum etiam seruitus iure civili constitui potest.*
>
> [Although we have said that this interdict applies to perennial waters, it applies to such perennial waters as can be draw off. There are others which though perennial cannot be drawn off, such as well waters and underground waters which could not flow above ground and be of use. But a servitude may be imposed for raising waters of this kind which cannot be drawn off.][104]

The flowing water dealt with in Dig.43.22 had an artificial source: *lacus, puteus or piscine* [pond or artificial lakes, fish pond and wells.] But once raised or artificially made to flow, the water flows naturally. Since no one can possess or own flowing water, the interdict is necessary in order to enable the first person using this water (from the *lacus, puteus* or *piscina*) to be protected against a subsequent appropriator of the same flowing water.

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[102] Translation by the author.
[103] Dig.43.20.1.5.
[104] Translation of Tom Braun of Mommsen, Krueger and Watson.

One should also differentiate the water under control of a work, canal or *castellum*, as in Dig 43.20.1.38, as against water mentioned in Dig. 43.22.The former water is under control while the latter is flowing freely.

6.2 Use of water from private springs.

Codex 3.34.6 provides:

> *Claudius a Prisco: Praeses provincie usu aquae ex fonte iuris tui profluere allegas, contra statutam consuetudinis formam carere te non permittet: cum sit durum, et crudelitati proximum, ex tuis praediis aquae agmen ortum,sitientibus agris tuis, ad aliorum usum vicinorum iniuria propagari PP . vii Kalend. Maij, Claudio A & Paterno Coss.*
>
> [The Emperor Claudius to Priscus. The Governor of the province will not permit you to be deprived of the use of water which flows from a spring which you allege belongs to you, contrary to a rule established by custom; as it would be hard, almost cruel, for a watercourse which arises on your premises to be unjustly used on those of your neighbours, when your own land has need of it. Given on the seventh of the Kalends of May, during the consulate of Claudius and Paternus, 270].[105]

This text is consistent with the rule that the owner can deal with the water rising on his land but that once it flows naturally, it is subject to the rule laid down in Dig, 43.22.1. and hence can be appropriated. Code 3.34.6 therefore provides an exception to the general rule.

6.3 Use of surface waters and non-perennial rivers

Thus far we have given attention to perennial flowing waters, as in Dig.43.20.1 and water from springs, wells, fish-ponds and artificial lakes, as in Dig. 43.22.1. It is to be noted that under perennial rivers are included some rivers which dry up in summer, sometimes or occasionally dry, but normally flowing perennially.[106] This classification does not include non-perennial water in dry rivers nor water flowing on

[105] Scott's Translation.
[106] Dig. 43.12.1.2 and Dig 43.12.1.3.

the surface after rain. It is suggested that the Roman principle regulating the use of all such waters was:

> The owner of a farm is entitled to use and store for future use all such waters as he could find on his property and also water that another owner would permit him so to use or store.[107]

The following texts support this conclusion:

a. Dig. 39.3.1.11: *Idem aiunt aquam pluviam in suo retinere vel superficientem ex vicini in suum deriuare, dum opus in alieno non fiat, omnibus ius esse (prodesse enim sibi uniusquisque, dum alii non nocet, non prohibetur) nec quemquam hoc nomine teneri.*
[The same authorities say that everyone has the right to retain rainwater on his own property and to channel surface rainwater from his neighbour's property onto his own, provided that no work is done on someone else's property, and that no one can be held liable on this account, since no person is forbidden to profit himself as long as he does not harm somebody else in so doing.][108]

b. Dig.39.3.1.12: *Denique Marcellus scribit cum eo, qui in suo fodiens uicini fontem auertit, nihil posse agi, de dolo actionem: et sane non debet habere, si animo on uicino nocendi, sed suum agrum meliorem faciendi id fecit.*
[Next, Marcellus writes that no action, not even an action for fraud, can be brought against person who, while digging on his own land, diverts his neighbours water supply.][109]

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[107] These provisions in regard to dry rivers and surface waters are substantially the same as the provisions in Act 8 of 1912 and of Act 54 of 1956 except that water from a dry stream had to be used on riparian land. Shortly after South Africa adopted the riparian doctrine it was realised that the riparian doctrine gave huge problems in regard to dry rivers. Hence, without realising that these are the principles of Roman law, out of practical necessity, the rule was adopted that an owner could use the water of a dry river or surface water provided he did not waste it. Cape Act 32 of 1906 sect. 7; Act 54 of 1956 sect 10.

[108] Translation of C J Tuplin in Mommsen, Krueger and Watson. See also Sitzia Francesco *Richerche in Tema Actio Aquae Pluviae Arcendae* (1977) p. .

[109] Translation of J C Turpin, in Mommsen, Krueger and Watson.

c. Dig. 39.3.1.24.3: *Lacus cum aut crescerent aut decrescerent , numquam neque accessionem neque decessionem in eos uicinis facere licet.*

[When lakes either increase or diminish in size, it is never permissible for the neighbours to do anything to them to increase or reduce the amount of water.][110]

The abovementioned provisions are all illustrative of the comment by Bonfante[111] that Justinian extended the provisions of Dig. 39.3 in the interests of agriculture. Bonfante adds that this extension was the forerunner of the modern approach (at the time when he lived), namely that non-perennial water in whatever form, be it rainwater, flowing water or water from a source, becomes the special property of whoever can use or store it for his own benefit.

In Roman law a clear distinction was made between perennial flowing water and non-perennial waters, including rain waters. The first-mentioned was governed by the interdict in Dig. 43.20.1pr, while non-perennial water was covered by the texts cited earlier in this section and to an extent by the interdict cited in Dig. 43.20.1.38. The reason for the distinction is clear. Non-perennial water needs storage works in order to render the water usable for irrigation. The construction of storage works presupposes a person spending funds and effort to build these works. According to the Roman law texts cited, such a person was given control over his storage works and the water so stored. In this way the Romans encouraged the utilisation of non-perennial waters.

[110] Translation of C J Tuplin in Mommsen Krueger and Watson.

[111] Grondbeginselen van de Romeinsche Recht verwerkt voor Nederland door mr J Hamberger A.Dz p.323: Hij *[Justinianus] heeft ene waterstaatsregeling vasgesteld, die, gegrond op de behoefte van den landbouw, de voorlopster is geweest van de moderne regeling . Het water, in welke vorm ook, hetzij het als regenwater op het land komt, hetzij het stroomend water of bronwater was, werd een speciaal eigendom , waarvan ieder kon gebruik maken tot haar eigen nut ophield .pp. 80, 205n 120, 226.*

CHAPTER 7 INTERDICTS RELATING TO UNDERGROUND WATER

The relevant Roman texts are:

> Dig. 39.3.1.12: *Denique Marcellus scribit cum eo, qui in suo fodiens uicini fontem auertit , nihil posse agi, nec de dolo actionem: et sane non debet habere, si non animo nocendi, sed suum agrum meliorem faciendi id fecit.*
>
> [Marcellus writes that no action, not even an action for fraud, can be brought against a person who, while digging on his own land and without the intention of injuring his neighbour but with the intention of improving his land; diverts his neighbour's water supply.][112 & 113]

> Dig 39.3.21: *IDEM libro trigensimo secundum ad Quintum Mucium. Si in meo aqua erumpat, quae ex tuo fundo uenas habeat , si eas venas incideris et ob id desierit ad mea aqua peruvinire, tu non uideris ui fecisse, si nulla servitus mihi eo nomine debita fuerit, nec interdicto quod ui aut clam teneris.*
>
> [If water surfaces on my farm from underground veins on your farm, and you cut those veins on your farm, with the result that the water no longer reaches my farm, you will not be considered to act with force, nor will you be liable to the interdict against force or stealth, provided no servitude is owed by you to me].[114]

Because of the uncertainty and lack of scientific knowledge regarding the flow of underground waters in Roman times, the rule was adopted that underground water belonged to the owner of the farm on which it surfaces. [115]

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[112] Translation of C J Tuplin in Mommsen, Krueger and Watson.
[113] But see Sitzia Francesco *Richerche in Tema Actio Aquae Pluviae Arcendae* pp. 205 n. 120, 226.
[114] Translation C J Tuplin of Mommsen, Krueger and Watson.
[115] Because of the lack of geological and engineering knowledge, it was extremely difficult to know for certain how underground water moved, hence the Romans and even in modern times it was and has been the rule that the owner of the land where the water surfaces or comes into view, is entitled to appropriate the water. With the greater knowledge of geology and hydrogeology this rule should be modified. But see Sitzia Francesco *Richerche in Tema Actio Aquae Pluviae Arcendae* p. 205 note 120.

CHAPTER 8 INTERDICTS RELATING TO STORAGE OF WATER AND CONSTRUCTION OF DAMS

Dig. 43.21.3.4 lays down:

> *Si aqua in unum lacum conducatur et inde per plures ductus ducatur, hoc interdictum utile erit uolenti reficere ipsum lacum.*
>
> [If water is led into a conservation dam and from thence through several ducts, this interdict applies for those who want to renovate or repair the dam.][116]

Note that the dam here referred to is not a distribution tank, or *castellum*, but a *lacus* or artificial lake. As appears from the comment in par. 2.5.1 above the Romans had conservation dams for the storage of winter water. As water was probably not used for irrigation in winter, or to a very much lesser extent, it is likely that water flowing perennially in winter and summer was used in winter for filling the dams. It is for that reason that the interdict Dig. 43.20.1 refers to summer water and water all the year round.

White[117] says that barrages and storage dams do not appear to have found a place in Roman times, but such schemes were to be found in the arid and semi-arid areas. The period of greatest prosperity in Roman North Africa coincides with the construction of solid masonry dams for water-control and soil-retention. White[118] also refers to an inscription found in Numidia (now Algeria). It consists of a large part dealing with the allocation of water between forty-three farmers. There were plots on two levels and the upper owners were allocated additional water, and thus the upper farmers must have had means to pump water to the upper level.

[116] Translation of Tom Braun of Mommsen, Krueger and Watson.
[117] White K D *Roman Farming* p. 171.
[118] White K D op. cit. p. 158.

CHAPTER 9 ROMAN WATER LAW IN SOUTH AFRICA

Roman law was the basis of the common law of South Africa: although South Africa had need of a set of legal principles regulating the allocation of water for irrigation, Roman water law was not applied in South Africa. Yet one would expect that the Roman water law would have been adopted from the outset. The reason for this apparent omission is explained in this chapter.

In a case in 1856 in the old Cape Supreme Court[119] the two judges, Bell and Cloete JJ had to decide the first water case in South Africa under the new system of Supreme Courts. Both judges overlooked the fact that Dig. 43.201 had the answer to their problem. Cloete J, a known Romanist, held that the water body in question was not a public stream in terms of Dig. 43.12 and therefore held that the upper owner was free to use all the water. He failed to apply the proper Roman principle. Probably Dig. 8.3.17 was applicable in this case. Bell J, after stating the facts, said:

> This makes it necessary to determine the broad general question I have before referred to in regard to the rights of respective proprietors of land situated relatively higher and lower upon the course of a running perennial stream as to the use of the water of the stream.[120]

Bell J then dealt with the text in Dig 39.3.13 and correctly found that this is not applicable to rights to water of a perennial stream, "but it cannot regulate the rights of parties in a stream – the perennial stream . . ."[121] After considering various arguments Bell J stresses the fact that all waters in a public river are public and then held:

> . . . and in Dig. 43.20 it is said that 'water does not of right belong to anyone. The water in the present case is "flowing water"; it does not rise in the defendant's land; it is not *erumpentem in suo* . . .[122]

[119] Retief v Louw op. cit. at p. 173.
[120] Retief v Louw op. cit. at p. 171.
[121] Retief v Louw op. cit. at p.174.
[122] Retief v Louw op. cit. at p 175.

After considering various other arguments the learned judge says that he can find no help in Roman law and he then turned to the English Common law and adopted the riparian doctrine. It is indeed a great pity that the learned judge ignored the principle contained in Dig.43.20.1pr. Had he done so, South Africa would have been spared 150 years of riparian doctrine and the difficulties associated with its implementation.

The decisions by Bell J and Lord De Villiers, dealt with in par. 2.4.5.above, resulted in the riparian doctrine being declared the common law of South Africa and excluded the Roman water law until the National Water Act, no 36 of 1998. In 1998, it was finally realized that the riparian doctrine, in spite of frequent legislative amendments, a number of water commissions and 150 years of wasted effort, was unworkable. In a courageous step, the then Minister of Water Affairs (Prof Kader Asmal) restored the Roman water law principle, albeit in a modified form.

CHAPTER 10 CONCLUSIONS

In the beginning of the evolution of Roman water law, the Roman praetors appreciated each problem and shaped a remedy accordingly. Each succeeding praetor being able to improve on the *formula* of his predecessor, the ultimate *formulae* became as near as perfect as the praetors could make them. Subsequently various jurists weighed the various statements of law contained in the *formulae* and if necessary amended them. This process continued over many centuries until it culminated in the Digest. The merit of the Roman law is that it presents a sound pattern. Over the ages the Roman law has, because of its inherent merit, provided the legal framework for all our law. While there is ample room for new concepts and new ideas to be grafted on the Roman framework, departure from the sound basic framework should not be lightly undertaken.

Roman law in general, but also the Roman water law, evolved into a superior and well-tested system of law. Roman water law appears to be superior to the riparian principle, which after 150 years has been discarded in South Africa, although other countries discarded it sooner. Roman water law also offers an improvement on the American prior appropriation principle, that has not yet been adopted in America.

Before a law has withstood the test of years of practice, one cannot say whether it is a successful law or not. The Roman interdicts offer practical, tested guidance in resolving conflicts arising in water-stressed situations typical of arid and semi-arid areas. This makes the body of Roman water law worthy of attention and further study for application in South Africa, particularly as we approach full-scale implementation of the National Water Act.