CHAPTER 5

CONTEMPORARY SOUTH AFRICAN LAW CONCERNING ALLUVION

5.1 **Introduction**

The first book of Bartolus' *Tyberiadis* is concerned with a natural phenomenon whereby material, suspended in water, adheres to the banks of a river causing a gradual yet imperceptible increase in the extent of the river-bank (*alluvio*)[1]. In Roman as well as Roman-Dutch law, various legal rules were laid down to guarantee an equitable division of alluvion amongst various riparian owners. These legal rules were introduced into South African law via Roman-Dutch law, constituting South African common law on alluvion. This chapter aims to illustrate the nature of alluvion in contemporary South African law by examining its roots in Roman and Roman-Dutch law.

5.2 **Alluvion in Roman law**

In Roman law, alluvion only occurred when property was classified as *ager non limitatus*[2] and bordered by a public river, defined as a river with perennial flow[3] (Van der Merwe, 1979:151). Everyone had the right of use in public rivers, but the river-bed belonged to the owners of the property on both sides of the river[4], separated by an imaginary boundary line in the centre of the river (*ad medium filum fluminis*) (Buckland, 1963:212). When a river added to its bank by way of alluvion, such newly formed property was acquired *ipso iure* by the owner of that specific section of the river-bank.

Islands, which formed in the river, were divided amongst riparian owners in a similar fashion. According to the fundamental principles laid down in D 41 1 29[5], an island formed in the river belonged to various riparian owners on both sides *ad medium filum fluminis*[6]. The extent of each owner's riparian border determined his share in the division of the island (*pro modo latitudinis*). Bartolus applied the same principle read with D 41 1 7 1 to divide alluvion amongst various riparian owners (Astuti, 1964:x). This principle,

whereby alluvion is divided *pro modo latitudinis*, caused numerous problems when applied to irregular shapes of river-banks, altered river-beds, islands and estuaries.[7] Bartolus' solution to this seemingly insurmountable problem was to utilise the principles of Euclidean geometry to ensure an equitable division of alluvion. [8]

5.3 **The place of alluvion in contemporary South African law**

In South African law, the law of property is a component of private law which deals with the rights and obligations of individual legal subjects, usually without the intervention of the state (Hall, 1971:1; Silberberg-Schoeman, 1993:1; Van der Merwe, 1979:1; Van der Walt & Pienaar, 1997: 15). The law of property is therefore frequently defined as that branch of private law, dealing with the nature, content, establishment, protection, transfer or dissolution of the different proprietary relationships between a legal subject and his property (*res*) as well as the rights, obligations, remedies and competencies arising from it (Olivier *et al.*, 1992:9; Van der Walt & Pienaar, 1997:1). Ownership of *res* is defined as the most complete proprietary right that a legal subject may exercise over it, but limitations imposed by neighbour law as well as the state, exist. In South African law, a broad distinction is drawn between original modes of acquisition of ownership and derivative modes. Original acquisition of ownership does not require a predecessor in law and is not dependent upon the ownership of the predecessor (Carey Miller, 1986:3; Olivier *et al.*, 1992:85; Silberberg-Schoeman, 1993:68; Van der Merwe, 1979:136; Van der Walt & Pienaar, 1997:132).

One of the modes of original acquisition of ownership is accession (*accessio*), where two objects are united through human intervention or natural convergence in such a manner that one object (the accessory object) loses its physical or economic independence and becomes a component of the other, termed the principal object[9] (Carey Miller, 1986:12; Van der Merwe & De Waal, 1993:120; Van der Walt & Pienaar, 1997:136). The preferred test to determine the principle object is to establish which of the two objects gives the final entity its identity, form, name or function (Van der Merwe & De Waal, 1993:120; Van der Walt & Pienaar, 1997:137). The owner of the principal object

becomes owner of the secondary object through the law of property. There are three types of accession namely accession of immovables to movables; accession of movables to movables and accession of immovables to immovables. Alluvion is a subdivision of *accessio* and denotes the circumstance where two immovable objects are united in such a manner that they create a union, usually without human intervention (Olivier, 1992:88; Van der Walt & Pienaar, 1997:137).

5.4 **The nature of alluvion**

Silberberg-Schoeman (1993:202) defines alluvion as an imperceptible deposit of earth upon the bank of a non-navigable river so much so that no one can perceive how much is added at any one moment of time; such deposit being inseparable from the native soil of the bank.[10] The owner of the bank acquires said deposit by the right of accession. The nature of the material accruing to the river-bank includes soil, mud and sludge (Van der Merwe, 1979:150). According to Van der Merwe (1979:151) two kinds of alluvion may be distinguished. The first kind poses few problems in practice as it denotes the case where geological material accrues to a piece of property through the activity of the river, while the size of the property does not increase. The second kind, however, causes significant problems in practice as the extent of an owner's property is increased. This chapter will be restricted to the second kind of alluvion.

5.5 **Prerequisites for the occurrence of alluvion**

Three prerequisites are set in contemporary South African law for the occurrence of alluvion. In the first instance, the property must be *ager non limitatus* and bordered by a river or the sea. Property is regarded as being *ager non limitatus* when one boundary, usually the boundary adjacent to the river, is not precisely fixed, and is therefore deemed to extend to the middle of the river (*ad medium filum fluminis*)[11]. The Roman definitions of *ager limitatus* and *ager non limitatus* have been taken over by South African law as was stated in *Van Niekerk and Union Government (Minister of Lands) v Carter* (1917 AD 359)[12] as well as in *Lange v Minister of Lands* (1957 1 SA 297 (A)[13]; Silberberg-

Schoeman, 1993:202; Van der Merwe & De Waal, 1993:121). It was also echoed in a recent case *Durban City Council v Minister of Agriculture* (1982 2 SA 361 (D))[14]. The distinction between *ager limitatus* and *ager non limitatus* is significant in determining the ownership of alluvion as it only accrues to the riparian owner where the original property is *ager non limitatus* (Carey Miller, 1986:14; Hahlo & Kahn 1960:585). For where the original river-bank is regarded as a fixed boundary or one was set on transfer of the property, it is regarded as *ager limitatus* and any alluvion accrues to the state.[15] The main consideration seems to be whether the property was transferred as an unmeasured lump or precisely fixed according to measurement (Silberberg-Schoeman, 1993:202; Van der Merwe, 1979:152; Van der Merwe & De Waal, 1993:122).

Secondly, the river must be non-navigable and therefore South African law distinguishes between navigable and non-navigable rivers[16] (Carey Miller, 1986:15). The courts[17] however, have over the years taken the stance that even the Vaal and the Orange River are non-navigable (Van der Merwe and De Waal, 1993:121). It therefore seems that for present purposes, all rivers in South Africa are regarded as non-navigable with the exception of certain estuaries, included in the definition of "sea" according to the Sea Shores Act 21 of 1935 (Carey Miller, 1986:15). With regard to non-navigable rivers, alluvion is only said to have occurred when the extent of the property has been increased by a shift of the river-bank as was indicated in the *Van Niekerk* case *supra.* In the third place, alluvion should have occurred due to a gradual and imperceptible increase of soil, for when it occurs due to artificial dikes or walls, the rules of alluvion do not apply (Van der Merwe & De Waal, 1993:121). When the river violently detaches a piece of soil from one property and adds it to another, the owner of the property to which said soil is added, does not become owner of the newly acquired piece of soil until it has permanently cohered to the existing bank[18] (Hall, 1971:33). Prior to permanent cohesion, the original owner of the soil is awarded an action to reclaim said soil and plants. A similar stance is taken in English law (Jackson, 1983:419).

In the *Van Niekerk* case, Innes J.[19] also imported a maxim from English law which states that property bordering upon a non-navigable river, must be presumed to extend to the

imaginary line in the centre of the river. Solomon JA. indicated in the minority decision of said case that the maxim was also compatible with the common law as well as the opinions of common law writers (Van der Merwe, 1979:153; Van der Merwe & De Waal, 1993:122). The fact, therefore, that *ager non limitatus* is bordered by a public river, generates a presumption of law that the border of the property extends *ad medium filum fluminis*. It is a presumption of law which is refuted when it is sufficiently proven that specified boundaries have been laid down in the transfer of property and that the riparian boundary has been unequivocally fixed (Van der Merwe & De Waal, 1993:122).

The state remains the owner of the water in the river, but the bed of the river belongs to the owners of the *agri non limitati* on both sides and therefore the imaginary line in the centre of the river shifts when alluvion takes place as the owner's proprietary rights extend *ad medium filum fluminis*. This is in keeping with the nature of alluvion as an original mode of acquisition of ownership (Van der Walt & Pienaar, 1997:137). In the case of *Riverton Diamond Syndicate Ltd. v Union Government* (1918-1923 GWLD 208), the court came to the conclusion that the expression *ad medium filum fluminis* referred to the centre line running parallel to the outer banks of the river. Where no definite bank exists, a line is drawn above the usual high-water mark to denote the bank (Rosenow, 1942:274).[20]

5.6 **The influence of statutory law on alluvion**

The National Water Act 36 of 1998 implemented significant changes in South African water law. The Act replaced the term "river" in the 1956 Act with "watercourse", including in its definition a river, spring, natural channel in which water flows perennially or occasionally, wetland, lake or dam from which water flows or any convergence of water declared by the minister in the *Government Gazette* to be a watercourse. Moreover, the Act replaced the distinction of the 1956 Act between private and public water by implementing section 3(3), where it is stated that the national government, acting through the minister, has the competency to regulate the use, flow and management of all the water in the Republic.[21] Thus all water situated in the water cycle

within the Republic is regarded as public water and therefore belongs to the state. It should be remembered, however, that alluvion is a component of the law of property and that the river is only the vehicle whereby silt or mud is washed upon the property of another.

The Land Survey Act 8 of 1997 perpetuates existing common law in section 33 by stating that if a river, other than a tidal river, constitutes the boundary of a piece of land, the land shall be deemed to extend to the middle of the river (*ad medium filum fluminis*)[22]. The section also lists four exceptions where the river-bank is regarded as a fixed boundary instead of the middle of the river. The first of these exceptions describes the case where the bank of the river is fixed as the boundary of the property in the original deed of transfer (*ager limitatus*). Riparian owners will not be entitled to alluvion under these circumstances as it belongs to the state[23]. The second exception denotes the case where the river bed belongs to the property on one side of the river according to the original deed of transfer. Alluvion on either side of the river will under these circumstances accrue to said property as it encompasses the totality of the river bed. The third exclusion denotes the case where the river acts as national boundary and extending the property to the middle of the river would mean extending the territory of a country past its borders. The principles of the law of nations would be applicable under these circumstances. The fourth exclusion refers to the discretion of the surveyor-general. Section 33 also incorporates the presumption of law referred to in *Van Niekerk* case *supra*. The presumption seems to operate solely in the case of the Vaal and Orange river and the surveyor-general in consultation with the Minister of Land Affairs has to certify that no evidence has been introduced to rebut the presumption that the property extends *ad medium filum fluminis*.

Subsection 2 of section 33 of the Land Survey Act 8 of 1997 states that the owner of a riverside property has to launch a written application to the surveyor-general before the general plan of the property will be endorsed to the effect that it extends to the middle of the river. In subsection 3, the definition of river is extended to include watercourse, stream, spruit, donga or similar feature, whether the flow is perennial or not and which is

indicated as the boundary of the property on the general plan filed in the office of the surveyor-general or the registrar of deeds. The National Water Act 36 of 1998 has altered said definition to be compatible with the Act's definition of watercourse.

Alluvion is part of the South African law of property and is jointly regulated by common as well as statutory law. The common law heritage of alluvion clearly indicates that little has changed in this branch of the law since Roman times. The *Tyberiadis* is an invaluable source for legal historians wishing to retrace the origins of alluvion and also for practitioners wishing to consult an authoritative source applying Roman law to Italian and European practice. As South African law stands, alluvion occurs when a watercourse deposits geological material in a natural manner so gradually and imperceptibly to a piece of property of which the border adjacent to the watercourse is not fixed, that no one can perceive how much is added at any given moment in time. When this perceptible increase is united with the existing river-bank in such a manner that a union is formed, it becomes the property of the owner of said portion of the river-bank and the soil which has accrued, loses its physical and economic independence and becomes part of the principal object namely the property situated on the river-bank.

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[1] *Gaius in l.vij.adeo. § j.ff.de acquir.rerum dom. Quod per alluvionem, ait, agro nostro flumen adiecit, iure gentium acquiritur nobis: Per alluvionem autem id videtur adiici, quod ita paulatim adiicitur, ut itelligere non possimus quantum quoquo momento temporis adiiciatur – Bartolus, Tract. de flum.I, praefatio ad expositionem verborum legis* [5]. Gaius states in D 41 1 7 1 that what the river adds to our land by alluvion, becomes ours by the law of nations. Addition by alluvion seems to be that which is added so gradually that we cannot, at a given moment, discern how much is added (own translation).

[2] *In agris limitatis ius alluvionis locum non habere constat: idque et divus Pius constituit et Trebatius ait agrum, qui hostibus devictis ea condicione concessus sit, ut in civitatem veniret, habere alluvionem neque esse limitatum: agrum autem manu captum limitatum fuisse, ut sciretur, quid cuique datum esset, quid venisset, quid in publico relictum esset* – D 41 1 16. In the case of lands measured out, it is generally agreed that the right of alluvion has no place. The deified Pius rules to this effect and Trebatius says that land granted to defeated enemies on the condition that it becomes civic property does have the right of alluvion and is not measured out; but, in the case of land taken by force it is measured out so that it might be known what was given to whom, what was sold, and what remained public property (Mommsen *et al.* IV, 1985:492). For a complete discussion on the Roman law position regarding alluvion, see Maddalena, P. 1970. Gli Incrementi Fluviali nella Visione Giurisprudenziale Classica in Publicazioni della Facolta Giuridica dell' Universita di Napoli CXIII. Napoli : Casa Editrice Dott. Eugenio Jovene.

[3] *Fluminum quaedam publica sunt, quaedam non. Publicum flumen esse Cassius definit, quod perenne sit: haec sententia Casii, quam Celsus probat, videtur esse probabilis* – D 43 12 1 3. Some rivers are public, some not. Cassius defined a public river as a perennial one; this opinion of Cassius, which Celsus also approves, is held to be acceptable (Mommsen et al. IV, 1985:578). *De flumine publico loquor, & ista declarabimus, ut patet in ea parte legis; quam in tertio libro declarabimus; per quam exprimitur, quod*

loquitur de flumine; quod est iuris publici. Probatur: flumina publica sunt; quae perpetua sunt, ut.ff.de flum.l.i.§.fluminum – Bartolus, Tract. de flum. I, Flumen, § 1 [14]. I speak of a public river and we will clarify it in such a manner as is evident in that part of the law, which we will define in the third book. Therein it is stated that a river pertaining to public law, is meant. It is proven that rivers are public when they are perennial as in D 43 12 1 3 (own translation). The Roman law definition of a public river as one with perennial flow, has subsequently been extended by the National Water Act 36 of 1998 to include almost any water flowing between two pieces of property.

[4] *Riparum usus publicus est iuris gentium sicut ipsius fluminis. Itaque navem ad eas appellere, funes ex arboribus ibi natis religare, retia siccare et ex mare reducere, onus aliquid in his reponere cuilibet libertum est, sicuti per ipsum flumen navigare. Sed proprietas illorum est, quorum praediis haerent: qua de causa arbores quoque in his natae eorundem sunt* – D 1 8 5. The right to use river banks is public by *ius naturale* just as the use of the river itself. And everyone is at liberty to run boats aground on them, to tie ropes on to trees rooted there, to dry nets and haul them up from the sea, and to place any cargo on them, just as to sail up or down the river itself. But ownership of the banks is in those to whose estates they connect. Accordingly, trees growing in them belong to those same proprietors (Mommsen *et al.* I, 1985:25).

[5] *Inter eos, qui secundum unam ripam praedia habent, insula in flumine nata non pro indivisio communis fit, sed regionibus quoque divisis: quantum enim ante cuiusque eorum ripam est, tantum, veluti linea in directum per insulam transducta, quisque eorum in ea habebit certis regionibus* – D 41 1 29. An island arising in the river does not become the undivided property of those who hold lands on one bank of the river, but is divided according to their particular areas. For each of them will hold it in appropriate areas to the extent that each previously held the bank, as though a straight line were drawn through the island (Mommsen et al. IV, 1985:494).

[6] *Insula; que in mari nascitur (quod raro accidit) occupantis fit, nullius n. esse creditur: At in flumine nata (quod frequenter accidit) si quidem mediam partem fluminis tenet, communis sit eorum, qui ab utraq; parte fluminis prope ripam praedia possident pro modo latitudinis cuiusq; praedij; quae latitudo prope ripam sit: Quod si alteri parte proximior sit, eorum est tantum, qui ab una parte prope ripam possident praedia – Bartolus, Tract. de flum. II, praefatio ad expositionem verborum legis* [52]. An island formed in the sea, a rare occurrence, belongs to him who first occupies it, for it is indeed regarded as *res nullius*. An island formed in the river, a frequent occurrence, if it is situated in the middle of the river, is however regarded as communal property of those who own lands on both sides of the river to the extent of the frontage of the respective properties adjacent to the river. Should it be nearer to one side, then it will be the exclusive property of those who own lands on that side of the river (own translation).

[7] *Quia circa divisiones, eorum quae per alluvionem adijciuntur, quaestiones plures vidi, quarum doctrinam dare impossibilae* (sic) *arbitror, nisi res inspectione oculorum inspiciatur: Ideo figuras ad oculum demonstrantes inserui, per quas illa sola docere intendo; quae communiter ignorantur, & in hoc utar aliquibus conclusionibus geometricis – Bartolus, Tract. de flum. I, praefatio ad propositiones et figuratae demonstrationes [*26]. Since I saw many questions surrounding the divisions of alluvial accretions of which I reckon it to be impossible to supply an explanation without the matter being visually inspected, I therefore inserted illustrations as visual demonstration with the aim of teaching only those aspects commonly ignored, making use therein of various geometrical conclusions (own translation).

[8] Astuti (1964:xi) rightly indicates that the application of Euclidean principles to the problems of alluvion might give rise to various uncertainties and confusion. This does not diminish the value of the *Tyberiadis* as a successful attempt to apply seemingly unworkable Roman law principles to legal practice. In contemporary South African law, the use of global positioning systems has supplanted the use of Euclidean geometry to ensure an equitable division of alluvion amongst riparian owners.

[9] *Accessio est acquirendi dominii modus, quo res alterius sit, quia rei ipsius principaliori accedit. In qua quid principale, quid accessorium haberi debeat, non ex eo diiudicandum, quid magis aut minus pretiosum sit, sed quid alterius rei ornandae causa accedat seu adhibeatur* – Voet 41 1 14. Accession is a method of acquiring ownership by which a thing becomes another's because it accedes to a more principal thing of that other. What ought to be considered as principal, and what as accessory in accession is not to be adjudged on what is more or less valuable, but on what accedes, that is to say is added for the purpose of adorning the thing. If this matter is not clear, the greater part attracts to itself the lesser, or the more valuable the less valuable (Voet VI, 1989:192).

[10] *Alluvio quoque, quae est incrementum latens, quo quid ita paulatim agro nostro adiicitur, ut intelligi nequeat, quantum quoquo temporis momento accedat* – Voet 41 1 15. There is also alluvion, which is an unseen increase by which something is attached by slow degrees to our land, in such wise (sic) that it cannot be understood how much is added at each moment of time (Voet VI, 1989:193). For a detailed discussion of the nature of alluvion in Roman law, see Lewis, A. 1983. *Alluvio*: the meaning of Inst 2 1 20 (in Stein P.G. & Lewis A.D.E., *eds.* Studies in Justinian's Institutes in memory of J.A.C. Thomas. London : Sweet & Maxwell. P.87 – 95.)

[11] *Ac locum habet in agris non limitatis, et flumini adiacentibus; non item in limitatis, aut iis, qui adiacent lacui vel stagno* – Voet 41 1 15. It applies to lands abutting on a river which have not been strictly demarcated, but not also to those which have been strictly demarcated, nor to those which abut (sic) upon a lake or pool (Voet VI, 1989:193).

[12] At 376-378.

[13] At 303.

[14] At 369.

[15] For a practical application of this doctrine, see Voet 41 1 15 where the author discusses King Philip of Spain's and Prince Maurice of Holland's claim that alluvion situated upon *agri limitati* accrues to the sovereign.

[16] In case of navigable rivers, Roman-Dutch law is perpetuated in South African common law whereby alluvion occurring in navigable rivers accrues to the state. This rule is however of little practical value when read with recent court cases cited *supra*. On the Roman-Dutch foundation of this principle see Voet 41 1 15 and De Groot, Inleydinge 2 9 25. See further *Butgereit and Another v Transvaal Canoe Union and Another 1987 1 SA 207 AD* at 141-149.

[17] See *Van Niekerk's* case *supra* at 359, 373 as well as the *Durban City Council* case *supra* at 375 B-C.

[18] *Aenwerp van slijck ofte aenwas weird verstaen te gheschieden wanneer de stroom ofte zee onghevoelijck iet aenbracht aen het land, ende quam toe de eigenaers van 't land daer aan den aenwerp geschiede, elck nae sijn breette van 't land ter plaetse van den aenwerp: maer een stuck lands met geweld van de stroom zijnde erghens afghetrocken ende op een ander plaets aengespoelt, bleef by den ouden eigenaer, ten waer het selve by hem eenigen tijd zijnde versuimt vast groeide aen eens anders land* – De Groot, Inleydinge 2 9 13. Accumulation of silt, or alluvion, was understood to take place when the river or sea added something imperceptibly to the land; and what was so added belonged to the owners of the land where alluvion occurred, each in proportion to the breadth of his land in that place: but if a piece of land was violently torn away by the stream, and swept by the current to some other place, it remained the property of the original owner, unless he neglected it for some time and it became attached to another person's land (De Groot I, 1926:12).

[19] At 378.

[20] In the *Tyberiadis*, the determination of the precise extent of the river-bank to find the imaginary line in the middle of the river was speculative at best. In the discussion of whether river-banks and slopes should be measured, Bartolus says: "*quod praedicta non veniunt mensuranda, nisi sit dictum, sicut dicimus in limitibus fundi; quae coherent vijs publicis, ut.ff.de peri.&com.rei vend.l.vij.id quod.§.j. Ratio autem est, quia praedicta n venduntur, sed magis rei vendite accedunt, quod apparet, quia per se vendi n possunt*" – *Bartolus, Tract. de flum. I, Agro, § 4* [8]. What I have mentioned before is not measured, unless so agreed as we have said concerning measured fields cohering to public roads in D 18 6 7 1. The reason being that what was mentioned before is not sold, but rather accrues to the sold object, which is evident since it cannot be sold per se (own translation).

[21] Section 3(3) alters the common law by abolishing the legal distinction drawn between public water, which is the property of the state, and private water belonging to individuals. On the common law foundation of this distinction, see Voet 43 12 1.

[22] The principle *ad medium filum fluminis* is a product of Roman law perpetuated in D 41 1 29. See further endnotes 5 and 6.

[23] This exception corresponds with the Roman law exception whereby alluvion occurring upon *ager limitatus* accrued to the state.