

# Flooded Lands: A Question of Boundaries?

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## Abstract/Introduction

The question that this paper attempts to answer is the following: Where, in the case of an artificially flooded watercourse, is the water boundary of a riparian parcel located? In working with artificially flooded boundaries, one is inevitably led to consider the law governing the effects of natural forces on water boundaries. The natural phenomena most closely related to flooding are those of erosion, accretion, avulsion, and reliction.

For the purposes of this paper the term 'natural doctrines' will be used when referring in a general way to the doctrines of erosion, accretion, reliction, and avulsion. Natural doctrines is not a term that has been used before either in the literature or in the cases. It is introduced here for the purpose of abbreviation and in recognition of the fact that erosion, accretion, reliction and avulsion are natural phenomena that are treated in law by a closely related set of doctrines.

The doctrine of accretion and erosion recognizes the need for the movement of natural boundaries, but honours the notion of permanence, by only permitting slow, gradual and imperceptible shifts of the water's edge to register as changes in the limits of property. In contrast to the movable limits provided by the doctrine of erosion are the unchanging boundaries that form the subject of the doctrines of avulsion and reliction. Avulsion is a sudden tearing away of land from the bank of a watercourse a situation which could be caused by flood-water. The land thus removed may be deposited on a nearby shore or completely swept away. A natural boundary subject to avulsion does not change its position, the boundary remains where it was despite a movement of the water's edge. Reliction is the recession of water from a shore. Here again, when the relict land is swiftly uncovered there is no change in the property boundaries; the relict land becomes the property of the owner of the bed almost always the Crown. The key to the difference between erosion and avulsion lies in the

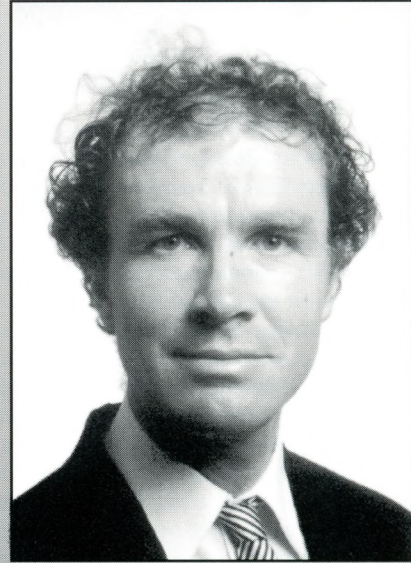
rapidity with which the changes occur. When we compare the doctrines of erosion on the one hand, and avulsion and reliction on the other, the principle that emerges is that sudden, or rapid changes in the water's edge do not affect extent of title whereas slow and imperceptible changes do.

The principle behind the natural doctrines: 'permanent protection and adjustment of property'.

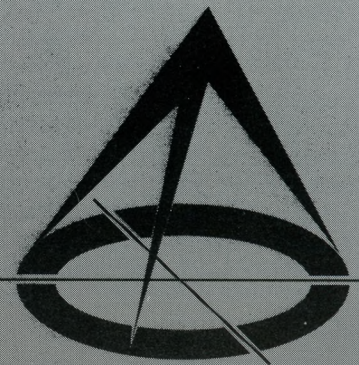
The case of *Hull v. Selby Railway Company*<sup>1</sup> concerned accretions to, and erosion from, the shores of the Humber River in England. The tidal portion of the Humber River has for centuries been subject to natural alterations of its shoreline. In *Hull v. Selby Railway* the court was required to declare the ownership of a portion of the foreshore of the river that had been subject to erosion. The area in question, then covered by water at certain stages of the tide, needed reclamation for the building of a railway bed. The railway company had been allowed to expropriate the land; the case was brought by the adjoining riparian owner who felt he had a right to the compensation money against a claim by the Crown.

The central issue at trial was whether the doctrine of accretion and erosion applies equally between the Crown and a private landholder as it does between private parties? The court answered this question in the affirmative, determining also that the erosion had benefited the Crown. As we would expect the property boundary was found to follow the eroded shoreline. In his decision, Lord Abinger, C.B., referred to the principle that forms the foundation of the doctrines of accretion and erosion.

The principle there established [in the natural doctrines: PK] is not peculiar to this country, but obtains also in others, and is founded on the necessity which exists for some such rule of law, for the *permanent protection and adjustment of property*.<sup>2</sup> [Italics my own: PK]



Mr. Knight's paper was originally presented at the CIG Conference in June 1993 in Toronto and published in the Conference's proceedings.



The force of Lord Abinger's reasoning is felt through all the major cases concerned with the natural doctrines that have followed *Hull and Selby Railway*. Hence Lord Chelmsford in his decision in *Attorney General v. Chambers*<sup>3</sup> quotes Abinger's principle directly.<sup>4</sup>

The necessity for a rule that permanently protects and adjusts property is repeated somewhat differently by Lord Shaw in *Attorney-General of Southern Nigeria v. John Holt and Company (Liverpool) Ltd.*<sup>5</sup> There Lord Shaw determines that:

The true reason for the principle of law in regard to the foreshore ... is founded upon security [of landholders] and general convenience [advantage].<sup>6</sup>

Two leading Canadian cases have confirmed the respect of the law in this country for Lord Abinger's principle behind the natural doctrines. In *Chuckry v. R*<sup>7</sup>, Justice Dickson's dissenting opinion (subsequently affirmed on appeal to the Supreme Court of Canada) quoted with approval the above statements of both Lord Shaw and Lord Abinger. Lord Abinger's statement was, moreover, quoted and affirmed in *Clarke v. City of Edmonton*<sup>8</sup>.

A modern case providing detailed analysis of the principles behind the natural doctrines is that of the *Southern Centre of Theosophy v. South Australia*<sup>9</sup>. The case was an appeal to the Privy Council to decide the ownership of approximately twenty acres of accretion. The sandy accretion was formed on an inland lake. The lake was subject to tidal influences by way of an artificial channel that linked it with the sea. Lord Wilberforce's explication of the issues brings in the lesser, though universally acknowledged, principle of fairness<sup>10</sup>, while strongly echoing the words of Lords Abinger and Shaw.

This is a doctrine which gives recognition to the fact that where land is bounded by water, the forces of nature are likely to cause changes in the boundary between the land and the water. When these changes are gradual and imperceptible, the law considers the title to the land as applicable to the land as it may be changed from time to time. This may be said to be based on grounds of convenience and fairness. ... it is

manifestly convenient to continue to regard the boundary between land and water as being where it is from day to day or year to year<sup>11</sup>.

Also:

The doctrine of accretion, in other words, is one which arises from the nature of land ownership from, in fact, the long-term ownership of property inherently subject to processes of change<sup>12</sup>.

And:

Another and perhaps more realistic, explanation is that the rule is one required for the permanent protection of property and is in recognition of the fact that a riparian property owner may lose as well as gain from changes in the water boundary or level<sup>13</sup>.

The predominantly recognized principle in the famous cases concerning the natural doctrines that are here cited is thus Lord Abinger's 'permanent protection and adjustment of property.' Before asking whether and how the principle of permanence and adjustment applies to artificially flooded boundaries, the idea of permanence needs to be clarified. Lord Abinger's principle points to the central tenet of the law of property, the umbrella under which artificial flooding necessarily falls, that of the permanence and stability of property rights.

"... boundaries are only secondary to the fundamental requirement of permanence and security."

Permanence and stability require good boundaries, but boundaries are only secondary to the fundamental requirement of permanence and security. Boundaries serve the need for permanence but do not become ends in themselves. This is why the doctrine of accretion and erosion must apply even when the former bounds are readily ascertainable<sup>14</sup>. One must be careful not to confuse permanence of the bounds of property with permanence of the **ability** to own property. It is this latter necessity that Abinger's principle upholds. Convenience; adjustment; fairness; all speak to the ability of society to be able to regulate property interests on a large scale. The ad-

ministrative impossibility of maintaining the exact extent of every property that has a natural boundary is balanced by a rule that serves the principle of permanence but is also capable of general application. In other words the need for permanence and stability of boundaries is best accomplished by the sanctioning of natural boundaries even when such boundaries are subject to gradual changes.

The natural doctrines<sup>15</sup> have assimilated three essential truths, namely:

- i) Natural boundaries are am- bulatory.
- ii) Natural boundaries are excellent boundary markers.
- iii) Society has a need for stable and permanent boundaries.

The assimilation is accomplished through the allowance of only gradual and imperceptible changes under the natural doctrines. Whether or not changes in a natural boundary have been gradual and imperceptible is often a vital point for the court to decide. The following are Lord Wilberforce's remarks on gradualness and imperceptibility:

Since there is a logical, and practical, gap or 'grey area' between what is imperceptible and what is to be considered as 'avulsion', the issue of imperceptibility or otherwise was always considered to be a jury question: see *Attorney-General v. McCarthy* [1911] 2 I.R. 260, 296 per Gibson J.<sup>16</sup>

We are now left with the problem of reconciling gradual alterations in a property boundary with the necessity that boundaries be permanent. In a famous passage from *Hull and Selby Railway* Baron Alderson devises a technique to explain how it is possible to accept gradual and imperceptible changes under the doctrines. He states:

That which cannot be perceived in its progress is taken to be as if it had never existed at all.<sup>17</sup>

This statement though slightly derided by Lord Wilberforce as appealing to the amateur of legal fictions, is affirmed by the notable water boundary case *Mercer v. Denne*.<sup>18</sup>

*Mercer v. Denne* was an English case involving a beach that was used by local fishermen for drying their nets. The owner of the beach, finding himself

restricted by the customary rights of the fishermen (he had wished to build in the area where the nets were dried) argued that the *locus in quo* was recently accreted land and that therefore no long term customary rights could possibly exist. Farwell J. dismissed the argument that the accreted land was too recent an addition to the property to be subject to the customary rights by stating:

It is sufficient for me to say (following Alderson B.) that this accretion is to be treated as though it had occurred in 1186.

Baron Alderson's rule of treating the accretion as if it has always existed was affirmed in Canada by *Clarke v. City of Edmonton*.<sup>19</sup> In summary, the security of riparian landholders depends on bridging the gap between the need for readily ascertainable boundary markers, and the threat of being deprived of their property through the operation of a moveable boundary. A tension exists between the necessity for permanence, hence security, and the necessity of allowing for natural, ambulatory boundaries. The tension is resolved in law by the natural doctrines through the mechanism of determining whether the changes in the water's edge are gradual and imperceptible or otherwise. In all the cases concerning the natural doctrines given above, the question for the court to decide has inevitably devolved to whether or not the changes in position of the water's edge have been gradual and imperceptible. The concept of gradualness becomes pre-eminent, eclipsing even the location of old boundary markers.

It is easily seen how inundation or recession, if rapidly accomplished, abrogate the principle of permanence. If the concept of parcel extent remains tied to the water's edge as defining the property limit, then considerable areas of land may suddenly change ownership depending only on the vagaries of nature. But the doctrine of avulsion, and the concept of gradualness and imperceptibility cannot alone solve the problem of flooded boundaries. There are further factors to consider before testing the doctrines against the facts of artificial flooding. One is whether *artificial* changes are accepted under the natural doctrines.

In *Attorney General v. Chambers* we find the words of Lord Chelmsford, quoted in Hall's essay, in which the following important point is made:

... [the] rule [of slow and imperceptible accretions attaching to the riparian owner] applies to the result and not to the manner of its production.<sup>20</sup>

This statement is of importance because in focusing on the result rather than the cause, it opens the possibility of allowing artificially induced accretion to be covered by the doctrine; it is of interest in the case of artificial flooding for it would seem also to operate in reverse. If land can be gained due to artificial processes could it not also be lost? Lord Chelmsford goes on to qualify his statement in the following manner,

Of course, an exception must always be made of cases when the operations upon the party's own land are not only calculated, but can be shown to have been intended to produce this gradual acquisition of the seashore, however difficult such proof of intention may be.<sup>21</sup>

The intent to produce a gradual acquisition of shoreline is directly contrary to the stability and permanence of property rights. The same is true of the reverse situation in which a gradual acquisition of the bed occurs. In the case of flooding, it would be negligent indeed for the builders of a dam to be unaware of the consequences of their actions. Lord Chelmsford's statement which disallows an intentional alteration of the shoreline, would thus seem to close the door on the possibility of artificial flooding moving back a property boundary.

*"... the question for the court to decide has inevitably devolved to whether or not the changes in position of the water's edge have been gradual and imperceptible."*

In approaching the subject of artificial flooding, I have chosen to examine at some length the principles that support the natural doctrines. It has been my purpose to form a proper understanding of how and why the natural

doctrines have relevance to artificial flooding. Because artificial flooding is neither natural nor gradual, one is tempted to state flatly that the natural doctrines do not apply, and to look elsewhere for clues to the boundary question. However, the natural doctrines are applicable to artificial flooding, but not in the positive sense of allowing change. The encroachment of water through flooding cannot accomplish the active pushing back of the boundary that is possible with erosion, but the natural doctrines can provide the reasons why a landholder is protected from a sudden or intentional inundation of his property. The reasons are provided first by the doctrine of avulsion that states that sudden and considerable changes in a watercourse do not result in changes of the property boundary; and secondly by the rule inherent in the doctrine of erosion that only allows gradual and imperceptible change. The natural doctrines thus operate in the negative sense of providing reasons to prevent application of the ambulatory boundary that is allowed under the doctrine of erosion.

Again, in summary, the two important principles that we need to carry forward to apply in the case of artificial flooding are Lord Abinger's 'permanent protection and adjustment of property' that only allows for gradual and imperceptible changes to alter a property boundary, and Lord Chelmsford's disallowance of the possibility that calculated alterations of the shoreline can produce a shift in water boundaries.

Let us now attempt to apply the principles to an example of artificial flooding. Take, for example, the case of the flooding of Lake of the Woods in northwestern Ontario. The water level of Lake of the Woods was, in its natural state, subject to fluctuations of as much as eight feet over a period of approximately fifty years. Through the construction of various waterworks over a period of thirty or forty years, the water level was stabilized at a level at which it would seldom if ever have remained in its natural state. The result is that considerable areas of the shore of Lake of the Woods are now artificially flooded.<sup>22</sup>

If one attempts to solve the problem of boundaries on the basis of gradualness and imperceptibility one immediately runs into problems. Systematic changes in the water level brought about by the damming of the outlet of Lake of the Woods would vary with the

heights of the many dams built over the years. Moreover, the great size of Lake of the Woods would render changes in water level very slow. In the case of the *Southern Centre of Theosophy v. South Australia*, lateral changes of the water's edge of up to 7.5 metres per year were judged to be gradual and imperceptible. It is possible that in considering physical changes in the water level alone, changes to the shoreline of Lake of the Woods due to artificial flooding would be deemed gradual and imperceptible and therefore subject to the doctrine of erosion. We can, however, eliminate this possibility through the knowledge that the flooding was intentional and calculated.

Before leaving the example of Lake of the Woods the question of lengthy submergence needs to be answered. Does submergence for a great length of time alter the principles by which we work? There is also legislation, and American and Commonwealth case law to consider. Finally there are many questions regarding aboriginal entitlement that may be important factors in a water boundary determination.

While the answer to the original question of where the water boundary of an artificially flooded parcel lies is still elusive, I hope to have shown how we begin to answer such a problem. Some answers to the questions I have posed are already available and the work continues at the University of Toronto's department of surveying science. Interested parties can contact myself or Professor David Lambden at the Centre for Surveying Science, Erindale College for currently available research.



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## REFERENCES

- Hull v. Selby Railway Company* (1839), 5 M. & W. 327; 151 E.R. 139.
- Hull v. Selby Railway Company* (1839), 5 M. & W. 327; 151 E.R. 139, at 140.
- Attorney-General v. Chambers* (1859), 4 De G. & J. 55; 45 E.R.3.
- Lord Chelmsford's decision reiterating Lord Abinger's principle is found at p. 109 of *Hall's Essay on the Rights of the Crown and the Privileges of the Subject In the Sea Shores of the Realm*, 2nd edition by Richard Loveland (London: Stevens and Haynes, 1875).
- Attorney-General of Southern Nigeria v. John Holt and Company (Liverpool) Ltd.*, [1915] A.C. 599.
- Attorney-General of Southern Nigeria v. John Holt and Company (Liverpool) Ltd.*, [1915] A.C. 599, at 613. Square brackets are my own addition which I draw from Lord Shaw's additional comments on p. 612.
- Chucky v. R.*, [1973] S.C.R. 694, [1973] 5 W.W.R. 339, 35 D.L.R. (3d) 607, 4 L.C.R. 61, reversing [1972] 3 W.W.R. 561, 27 D.L.R. (3d) 164, 2 L.C.R. 249 (Man. C.A.).
- Clarke v. City of Edmonton*, [1930] S.C.R. 137, [1929] 4 D.L.R. 1010 (S.C.C.), reversing [1928] 1 W.W.R. 553, [1928] 2 D.L.R. 154, 23 Alta. L.R. 233.
- Southern Centre of Theosophy v. South Australia*, [1982] A.C. 706.
- See Ballantyne, B.A. *Water Encroaching Over a Monumented Boundary: Erosion, Submergence and Flooding or The Inevitability of Gradualness*. M.A.Sc. Thesis. University of Toronto. 1991  
There are in addition to the reason of fairness, which states that when a property is subject to loss through erosion it ought also to be able to gain through accretion, other reasons that have received comment in the case law. There is: de minimus non curat lex (the law takes no notice of trifles), or differently stated, "an addition may be too minute and valueless to appear worthy of legal dispute or separate ownership" (See *Hall's Essay* (note 4 above) p. 117). There is also the reason that the doctrines provide a means of preventing litigation.  
A more archaic reason for the doctrine of accretion, having to do with improvement of the soil, is given in *R. v. Yarborough* (1828) 2 Bligh N.S. 147; 4 E.R. 1087. In the early 19th century it was thought that accreted land ought to belong to the neighbouring farmer because he was the only one that might, practically, cultivate the land and hence prevent its waste. The idea was formally laid to rest in *British Columbia (Attorney General) v. Neilson* (1954), 13 W.W.R. 241 (*sub nom* Quieting Titles Act and Neilson, Re) (B.C. S.C.). Affirmed (1955), 16 W.W.R. 625; [1955] 5 D.L.R. 56 (B.C. C.A.). Reversed [1956] S.C.R. 819, 5 D.L.R. (2d) 449. In the appeal to the Supreme Court of Canada Kerwin C.J.C. stated that the ideas of justice and injustice relating to the manoriableness of the accreted lands are not vital to the rule regarding accretion.
- Southern Centre of Theosophy v. South Australia*, [1982] A.C. 706 at p. 716.
- Southern Centre of Theosophy v. South Australia*, [1982] A.C. 706 at p. 716.
- Southern Centre of Theosophy v. South Australia*, [1982] A.C. 706 at p. 721.
- The application of the natural doctrines in cases where the former bounds are known is illustrated and affirmed by the cases of *R. v. Yarborough* (1828) 4 E.R. 1087; and *Brighton and Hove General Gas Company v. Hove Bungalows Ltd.* [1924] 1 Ch. 372. This latter authoritative case is cited by D.W. Lambden and Izaak de Rijcke in *Boundaries and Surveys, Canadian Encyclopedic Digest* (Ont. 3rd.), title 19. (Toronto: Carswell, 1985), para 37.
- See the introduction for a definition of this term.
- Southern Centre of Theosophy v. South Australia*, [1982] A.C. 706 at p. 721.
- Hull v. Selby Railway Company* (1839) 5 M. & W. 327. See also *Southern Centre of Theosophy v. South Australia*, [1982] A.C. 706 at p. 721.
- Mercer v. Denne* [1904] 2 Ch. 534.
- Clarke v. City of Edmonton*, [1930] S.C.R. 137, [1929] 4 D.L.R. 1010 (S.C.C.) at p. 1021.
- Attorney-General v. Chambers* (1859), 4 De G. & J. 55; 45 E.R. 22 at 27. See also *Hall's Essay* (note 4 above, p. 117), and *Brighton and Hove General Gas Co. v. Hove Bungalows Ltd.*, [1924] 1 Ch. 372.
- Attorney-General v. Chambers* (1859), 4 De G. & J. 55; 45 E.R. 22 at 27.
- White A. and Meyer A. *Report to International Joint Commission relating to official Reference Re Lake of the Woods Level, Text.* (Washington, D.C. and Ottawa 1916: US Govt. Printing Office, 1917).