Privy Council Appeal No. 38 of 1980

Southern Centre of Theosophy Incorporated – – – *Appellant*

v.

The State of South Australia – – – – – *Respondent*

FROM

THE FULL COURT OF THE SUPREME COURT OF SOUTH AUSTRALIA

JUDGMENT OF THE LORDS OF THE JUDICIAL COMMITTEE OF THE PRIVY COUNCIL, DELIVERED THE 15TH DECEMBER 1981

Present at the Hearing:

LORD WILBERFORCE
LORD RUSSELL OF KILLOWEN
LORD BRIDGE OF HARWICH
SIR DAVID CAIRNS
SIR ROBIN COOKE

[*Delivered by* LORD WILBERFORCE]

The appellant is the registered proprietor of a perpetual lease from the Crown of some 500 acres of land lying to the west of Lake George in South Australia. Its claim in this action was for a declaration that the high-water mark of the lake forms the eastern boundary of its land, and for consequential relief. In 1911, when the perpetual lease was granted, the appellant's land at its eastern boundary adjoined the lake, but since then the high-water mark has receded over the years, exposing, by the date of the writ, an area of about 20 acres previously covered by water. The purpose of the action was to vindicate the appellant's title to this area, and to establish that its land still has a water frontage. It succeeded before Walters J., but in the Full Court the State of South Australia's appeal was upheld and the trial judge's judgment reversed.

The relevant history goes back to 1879. It was necessary at that time to divide up the Lake George Hundred into sections. The Government Surveyor, Mr. Stephen King, made a survey for this purpose. The Hundred Plan, a public plan, which is in evidence and which their Lordships have examined, had sections marked out on it. That which became the appellant's land was marked 16 S.W. The eastern boundary of this section was marked by a thick wavy line which manifestly corresponded with the margin of the lake. In Mr. King's field notes and diagrams it was described as the high-water mark of Lake George. There is no doubt that Mr. King had surveyed the high-water mark. If it was necessary now to plot the precise eastern boundary of Section 16 S.W. as existing in 1889 (the date of the lease next mentioned) this could not be done by reference to the Plan alone. It would be necessary to go to the field notes and diagrams of Mr. King, which, as stated, show that he based this boundary on his ascertainment of the then high-water mark.

By an Indenture dated 9 December 1889 the Crown granted Right of Purchase Lease No. 198. The parcels are important: they were:

> " all that piece or parcel of land containing by admeasurement 500 acres or thereabouts being Section No. 16 S.W. situate in the Hundred of Lake George County of Grey in the Province aforesaid as the same is delineated in the public maps deposited in the Land Office in the City of Adelaide. "

In 1906 a new Hundred Plan was certified and this Plan was also in evidence. As it existed in 1910 the Hundred Plan was, so far as is relevant, identical with that existing in 1889. Section No. 16 S.W. was designated in the same way.

On 27 September 1911 the 1889 Right of Purchase Lease was surrendered, and a grant was made to the appellant's predecessor in title of Perpetual Crown Lease No. 11887, as from 1 April 1910. The description of the land leased is the same as that appearing in the Right of Purchase Lease of 1889. The appellant became the registered proprietor of the Perpetual Lease in 1972.

Lake George is a large inland lake. Its water is salt or brackish and is navigable by small boats. In 1913 a channel was made connecting it with the sea, since when, while not being strictly tidal, it has been subject to tidal influences. There are also currents in the lake. There has been a gradual accretion to the land to the east of the original eastern boundary of the appellant's land. Accretion has taken place partly by the deposit of sand or soil caused by longshore drift, and partly, and in particular in the southern sector, where the land to the west of the lake consists of sand dunes, through windswept sand extending the dunes. No precise dividing line has been fixed between the " northern sector " and the " southern sector " but this would only be necessary if a different result as regards accretion were to be reached as between the two. The judge also found that a partial cause of the accretion was the retreat of waters from the body of the lake resulting from the construction of channels from the lake to the shores of Rivoli Bay (which lies to the South of Lake George).

The trial judge decided in the appellant's favour that the doctrine of accretion applied, and that on the facts accretion had taken place to the east of the appellant's property from the causes above mentioned.

The principal ground on which this decision was reversed by the Full Court was one which, it appears, emerged during the argument. This was that the doctrine of accretion was excluded from application by the express terms of the two leases. In both the subject land was described " as the same is delineated in the public maps " (*i.e.* the maps already referred to). As it was put by King C.J., the doctrine of accretion could not apply to property whose boundary is delineated by a line on a plan which is not expressed to be the water's edge. Zelling J. similarly held that since the appellant's predecessor in title was granted a lease of land " as delineated in the public maps " and since it was possible to identify the original boundary at the time of the delineation, the doctrine of accretion did not apply. Wells J. also considered that the case turned on conveyancing issues and that the word " delineated " was crucial. Whether this approach was correct was the main issue before the Board.

Before attempting to deal with the issue, their Lordships will dispose of two subsidiary arguments.

The first is that the doctrine of accretion does not apply to land formed on the edge of an inland lake. There is no statutory provision to this effect in South Australia as there is, as to non-tidal lakes, in New South Wales—see Crown Lands Consolidation Act 1913 s.235A(6); so that the question is one of common law. In the United States of America there

is ample authority, including that of the Supreme Court, that the doctrine does so apply: see *Banks v. Ogden* (1864) 69 US.57, *Lamprey v. Metcalf* (1893) 53 N.W. Rep. 1139 (Supreme Court of Minnesota). In *Banks v. Ogden* the Chief Justice, in giving the opinion of the Court, stated that the application of the rule was based on principles which applied equally to land bounded by a river, lake or sea. In England, it is true, a decision to the contrary was given by Eve J. in *Trafford v. Thrower* (1929) 45 T.L.R. 502. That case was concerned with one of the Norfolk Broads, a series of lakes inter-connected by rivers: in fact the learned judge held that the alleged natural accretion had been liberally assisted by the insertion into the lake of boughs, tins, sticks, lumber, glass and other filling-in material. But he added that the doctrine of accretion had no application to a non-tidal sheet of " more or less stagnant water " (sic) such as the Broad. It was limited to the sea-shore and land abutting on rivers of running water and did not extend to canals, lakes or ponds. Lake George, as a lake tidally influenced, and subject to currents of water, would be distinguishable on the facts from the subject of the decision, even if right. But no authority or reason based on principle is given for the proposition stated, and their Lordships cannot agree with it. The doctrine is in their opinion clearly capable of being applied to lakes.

The second subsidiary point is based upon the fact that both land to which the accretion is claimed and that covered by the waters of Lake George are allodial property of the Crown. In the Full Court Wells J., while accepting that argument had not been closely focussed on the point, expressed the provisional view that the doctrine of accretion could not apply. Having heard argument, their Lordships are of opinion that there is no room for doubt on this issue. In *Tilbury v. Silva* (1890) 45 Ch.D. 98 Kay J. held that the doctrine whereby a grant of riparian land passes the soil *ad medium filum* of the river applies whether the land is copyhold, freehold or leasehold. The general law is one by which one ascertains the parcel of a grant. By analogy, a lease of riparian land must pass a leasehold interest in land added by accretion. In *Mercer v. Denne* [1904] 2 Ch. 534 land added by accretion was held to be subject to the same custom (sc. for fishermen to dry their nets) as affected the land to which the accretion took place. Farwell J. quoted with approval textbook authority from two authors to the effect that land which has accreted to the land as freehold is subject to the copyhold interest of the tenant of the land to which it has been added (l.c. page 560). The same must be true if the tenant holds on a leasehold interest. No reason was suggested why this doctrine should not apply to land leased by the Crown. Indeed there is, in England, authority to the contrary—see *In re Hull and Selby Railway* (1839) 5 M. & W. 327, particularly per Alderson B. at pages 332–3.

Their Lordships hold that these subsidiary arguments do not assist the respondent and proceed now to consideration of the main conveyancing issue.

Before examining the authorities, which are copious and in their result clear, their Lordships find it advisable to consider briefly the nature of the doctrine of accretion. 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. Where these changes are gradual and imperceptible (a phrase considered further below), the law considers the title to the land as applicable to the land as it may be so changed from time to time. This may be said to be based on grounds of convenience and fairness. Except in cases where a substantial and recognisable change in boundary has suddenly taken place (to which the doctrine of accretion does not apply), 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. To do so is also fair. If part of

an owner's land is taken from him by erosion, or diluvion (*i.e.* advance of the water) it would be most inconvenient to regard the boundary as extending into the water; the landowner is treated as losing a portion of his land. So, if an addition is made to the land from what was previously water, it is only fair that the landowner's title should extend to it. 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 gradual processes of change. When land is conveyed, it is conveyed subject to and with the benefit of such subtractions and additions (within the limits of the doctrine) as may take place over the years. It may of course be excluded in any particular case, if such is the intention of the parties. But if a rule so firmly founded in justice and convenience is to be excluded, it is to be expected that the intention to do so should be plainly shown.

The authorities have given recognition to this principle. They have firmly laid down that where land is granted with a water boundary, the title of the grantee extends to that land as added to or detracted from by accretion, or diluvion, and that this is so whether or not the grant is accompanied by a map showing the boundary, or contains a parcels clause stating the area of the land, and whether or not the original boundary can be identified.

It is true that in *Williams v. Booth* (1910) 10 C.L.R. 341 the High Court of Australia left this point open. In his judgment, Isaacs J. quoted from a previous decision of the Board and said that a doubt still exists to what extent the rules on accretion would be carried if there were existing certain means of identifying the original bounds of the property by land-marks by maps . . . or by other means of that kind (pages 361–2). But this doubt, hardly justified in the face of earlier authority, has certainly been dispelled by later decisions.

In *Attorney-General v. M'Carthy* [1911] 2 I.R. 260, it was said that a surveyor could ascertain the original boundary, before accretion had taken place. And it was argued that " because there are metes and bounds showing a former line of ordinary high water which can be ascertained, the doctrine of accretion does not apply " (page 275). But this was in terms rejected by the Court. The judgment of Palles C.B. contains a comprehensive discussion of previous authority which shows the nature of the doctrine to be as their Lordships have attempted to state it, and he rejects the argument quoted above. Gibson J. explicitly considers the case where the original boundaries are ascertainable by natural features or by documentary proofs, maps, etc., and holds that, where the movement of water is sudden or temporary, the presence or ascertainability of the original coast-line or boundary marks may be important. " But, where the process of change is gradual and imperceptible, the importance of the original limits or measures is by no means the same, the accretion being a ' perquisite ' or an ' incident ' or ' accessory ', attached to and added to the original territory of the owner " (page 295). And later (at page 298) he says that it makes no difference whether the original boundaries are fixed by natural objects, or by constructions, or by measurements and maps. The principle governing the ownership of alluvion growing by imperceptible process of nature is the same. Finally, he says, " The Ordnance Survey, in determining boundaries, can hardly be supposed to have had the effect of depriving the subject of alluvial rights as against the Crown " (ibid). No more, it can be added, should the public maps at Adelaide have this effect.

But there are even stronger authorities. There is first the decision of this Board in *Attorney-General of Southern Nigeria v. John Holt & Co. (Liverpool) Ltd.* [1915] A.C. 599. The point now under consideration was there dealt with in the most explicit terms:

> " To suppose that lands which, although of specific measurement in the title deeds, were *de facto* fronted and bounded by the sea were to be in the situation that their frontage to the sea was to disappear by the action of nature to the effect of setting up a strip of land (it might be yards, feet, or inches) between the receded foreshore and the actual measured boundary of the adjoining lands, which strip was to be the property of the Crown, and was to have the effect of converting land so held into inland property, would be followed by grotesque and well-nigh impossible results, and violate the doctrine which is founded upon the general security of landholders and upon the general advantage. " (page 612.)

It is true that in that case the properties were described, in one way and another, as bounded by the sea, and the respondent invoked this as a relevant distinction. But there is no logic or reason, in their Lordships' opinion, in distinguishing a case where property is described as bounded by water from one where the relevant map shows beyond doubt that a water boundary is intended. The same " grotesque and well-nigh impossible results " follow in either case if it is said that the original boundaries are to remain in spite of alluvial changes. Moreover, though authority is hardly needed against drawing this distinction, it is provided by the decision of this Board in *Secretary of State for India in Council v. Foucar & Co. Ltd.* (1933) 50 T.L.R. 240. It may be mentioned that the judgment in *Attorney-General of Southern Nigeria v. Holt* made references to a case before the House of Lords, *City of London Land Tax Commissioners v. Central London Railway* [1913] A.C. 364. That case was concerned with the parallel doctrine of ownership *ad medium filum*. In the course of his speech Lord Shaw of Dunfermline said this:

> " The presumption [of ownership *ad medium filum*] operates not only in cases where the boundary is expressed to be by the highway or street but also in the cases where the properties are delineated by plan or colour or measurement ". (ib. page 379.)

Two further authorities must be referred to, the first again a decision of this Board.

In *Government of the State of Penang v. Beng Hong Oon* [1972] A.C. 425 it was argued, as here, that the boundary was not a fluctuating boundary along the line of high tide but a fixed one along the line on the plan. But this argument was rejected: it was most unlikely, so their Lordships held, that the Crown was intending to retain any land between the land conveyed and the foreshore. Certainly the land there, as well as being described by reference to delineation on a plan, was also described as bounded " by the sea beach ", but, as already explained, their Lordships are unable to find that this makes a valid distinction from the present case. Here, although no explicit reference to high-water mark appears on the public maps, the notes of Mr. King do refer to high-water mark, and show that the boundary on the maps was in fact drawn with reference thereto.

The second decision was recently given by Sir Robert Megarry V.C.— *Baxendale v. Instow Parish Council* [1981] 2 W.L.R. 1055. This case exemplifies the possibility, to which attention has previously been drawn, that applicability of the doctrine of accretion may be excluded by the use of clear words. It was concerned with a strip of foreshore, the question being whether what was conveyed was a moving strip—moving with changes in the level of tides—or a fixed strip, a different type of question from that now before the Board. The learned judge held, relying on the plan which gave a considerable amount of topographical detail in the shape of roads, railways or buildings with an appearance of some precision, that the grant was of a fixed strip. It is not necessary for their Lordships to agree or disagree with this decision, the facts in which were clearly very different from those of the present case.

Before reaching a conclusion on this part of the case, their Lordships must deal with three special arguments. First, the respondent drew attention to, and placed most reliance on, a series of South Australian Statutes from 1842 onwards up to the Crown Lands Act of 1903, the statute current at the date of the grant of the Perpetual Lease, all of which required delineation in the public maps of land dealt with under those Acts. But these are no support for the State's argument. It cannot be said that by requiring delineation in a map the Crown manifested an intention to exclude in all cases the possibility of applying the doctrine of accretion. If anything, the argument seems to tell against the respondent, since the reference to delineation is to be seen as the result of a general administrative requirement rather than as indicating a particular intention.

Secondly, reliance was placed by Zelling J., and by the respondent in argument, upon the fact that the Perpetual Lease contained a covenant to fence: this was said to show an intention in favour of a fixed rather than an ambulatory boundary. Their Lordships regard the presence of this covenant as neutral, or possibly even against the respondent. If the land were to increase, there could be no objection to the fence being maintained in its original position, if the tenant so desired: it would be just as effective to keep the tenant's cattle in. Alternatively, the tenant could extend the fence to the water's edge. If on the other hand the land were to shrink, it is absurd to suppose that the tenant was obliged to maintain the fence in the water of the lake.

Thirdly, some reliance was placed on a supposed practice of the Government of South Australia to insist on a strip of land being left between parcels of land granted and the water's edge. But there is not the slightest suggestion in the public maps, the surveying records or any other evidence that any such practice was followed in this instance. It is not, for example, a case where a public reserve has been created between the lake shore and the appellant's property.

None of these special points then, in their Lordships' opinion, have any weight and, on the general argument, principle and overwhelming authority lead their Lordships to conclude that the doctrine of accretion was not excluded by the terms of the Perpetual Lease.

If the doctrine of accretion applies, there is no difficulty as regards such accretion as has taken place by gradual deposit of sand or soil by the waters of the lake. This has occurred in the northern or beach area, and the respondent does not, as a matter of fact, dispute it. It does however maintain that the position is different in the southern sector.

The question here is whether the appellant can make good its claim to such portion of the accretion as has been caused, or mainly caused, by windswept sand. This question is divisible into two sub-questions, (i) whether the legal doctrine of accretion is, in principle, capable of application to the case of windswept sand and (ii) whether the evidence satisfactorily establishes that extension of the appellant's land has been brought about by accretion caused by windswept sand.

As to (i) their Lordships know of no authority for or against the proposition that the doctrine is capable of applying to such a case.

Accretion is however a doctrine of the common law and is therefore capable of adjustment and expansion by the use of analogy. In the first place it is necessary to limit the question to a case such as the present where what is involved is the alteration of a land/water boundary: other cases where alterations of boundaries may occur through windswept sand may give rise to different issues which their Lordships do not wish to pre-empt. In relation to such an alteration there seems to be no reason in principle why the doctrine should be confined to such changes as are effected solely

through fluvial action: a logical category would be that of natural causes which would embrace additions to (or detractions from) land brought about by the action of either or both elements, water and air. It is common ground that changes caused by human action (other than deliberate action of the claimant) are within the doctrine of accretion, *Brighton and Hove General Gas Co. v. Hove Bungalows Ltd.* [1924] 1 Ch. 372; *Attorney-General v. Chambers* (1859) 4 De G. & J. 55; *Clarke v. City of Edmonton* [1929] 4 D.L.R. 1010; a fact which is inconsistent with the proposition that accretion is confined to the natural action of water. Indeed in *Attorney-General v. Chambers*, Lord Chelmsford L.C. said that the rule applies " to a result and not to the manner of its production " (at page 68, 9). Further, as the present case well shows, it may be impossible in practice to ascertain to which cause (by air or by water) a given accretion is to be attributed or to apportion it between contributory causes—viz. the fluvial action by the waters of the lake, the wind and the man-made operations. It is obvious that some drifting sand will enter the water directly and so be available to be added to the land by water deposit. This is mainly what happened in the northern, beach, sector of the appellant's land where by the action of longshore drift, water-carried sand brought about an accretion of the traditional kind. Why then distinguish between this accretion and such accretion as occurred in the southern section largely by direct addition to the land brought about by wind force, but presumably to a minor extent by water? In such a case, then, as the present (and their Lordships repeat that they confine their observations to it), their Lordships are of opinion that the doctrine of accretion is capable of application.

(ii) The doctrine of accretion must be applied according to established principle. One of these is that the accretion must take place by gradual and imperceptible means. At one time Mr. Gleeson Q.C., for the appellant, seemed tempted to rely upon the first only of these adjectives, but apart from one passage in a judgment concerned with Indian rivers (*Secretary of State for India v. Raja of Vizianagaram* (1921) L.R. 49 Ind. App. 67) which their Lordships consider should be related to the facts of that case, authority is firmly against him.

The requirement of imperceptibility has been in the English common law from the time of Bracton who derived it from Justinian. It is for " *latens incrementum . . quod ita paulatim adjicitur, quod intelligere non possis, quo momento temporis adjiciatur* " (see the learned discussion by Palles C.B. in *Attorney-General v. M'Carthy* [1911] 2 I.R. 260 at page 277).

Since Bracton, the requirement of imperceptibility has been affirmed by the highest authority, *R. v. Lord Yarborough* (1828) 2 Bligh N.S. 147; *Attorney-General v. M'Carthy* (1.c.).

The word, of course, has to be interpreted.

In *R. v. Lord Yarborough*, Abbott C.J., giving the judgment of the King's Bench ((1824) 3 B. and C. 91 at page 107), said that it must be understood as " expressive only of the manner of accretion . . . . and as meaning imperceptible in its progress, not imperceptible after a long lapse of time ". The gain to the land in that case, by recession of the sea, was said to have been on average, over 26-27 years, of about 5½ yards in a year, or (according to other witnesses) greater and it was held that the jury could properly hold this to be imperceptible. In the opinion which Best C.J., on behalf of the judges, later gave to the House of Lords there is this passage: " Land formed by alluvion must become useful soil by degrees, too slow to be perceived. What is deposited by one tide will not be so transient as to be removed by the next. An embankment of a sufficient consistency and height to keep out the sea must be formed imperceptibly ". (2 Bligh N.S. 147, 158.)

One naturally searches for a reason or rationale for the requirement that the process be gradual and imperceptible, but this proves elusive. Blackstone (Vol. 2, page 262) puts it on the ground " *de minimis non curat lex* " a theory exposed to the objection that the result may turn out to be far from minimal. It has also been suggested that an addition to land may be too minute and valueless to appear worthy of legal dispute or separate ownership: Hall's Essay on the Sea Shore, 2nd edn. 117, cited in *Williams v. Booth* (1910) 10 C.L.R. 341, 356. Alderson B. in *Re Hull and Selby Railway* (l.c., page 333) gave as the reason " that which cannot be perceived in its progress is taken to be as if it never had existed at all ", an explanation which may appeal to the amateur of legal fictions; it was preferred to Blackstone's by Lord Chelmsford in *Attorney-General v. Chambers* (l.c., page 68). Another, and perhaps more realistic, explanation is (as already suggested) 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. But whatever is the true explanation of the rule—and there may well be more than one reason for it—what is certain is that it requires a distinction to be made between such progression as may justly be considered to belong to the riparian owner, and such large changes or avulsions as should more properly be allocated to his neighbour. 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. M'Carthy* l.c., page 296 per Gibson J.).

How then is this test of imperceptibility to be applied to the facts—in particular to the movement of sand dunes in the southern portion?

Walters J., in a passage naturally much relied on by the appellant, found that the test was satisfied:

> " On the balance of probability I find that the alluvion on the eastern boundary of Section No. 16 S.W. has become subject to the doctrine of accretion, and that that land has been gained, gradually, insensibly, and imperceptibly, from Lake George, not at any particular moment, but in the same way ' as the motion of the palm of a horologe is insensible at any instant, though it be very perceivable when put together in less than the quarter of an hour ' (quoting from Lord Stair's Institutions of the Law of Scotland)."

The respondent's criticism of this passage was that it did not properly distinguish between what occurred in the northern, beach, section, which was admitted to be accretion, and the dune movement in the southern section, as to which there was evidence of " jump " and perceptible movement.

In the Full Court, Zelling J., who alone dealt explicitly with this point, took the view that the movement in the southern section was not " imperceptible ". The evidence, he said, was all one way. He quoted at length from the evidence of Professor van der Borch, a marine geologist called by the appellant, and more briefly from the evidence of Mr. D. Armstrong, senior geologist in the Department of Mines, South Australia, who presented a valuable written report and gave oral evidence. Their Lordships do not find it easy to appraise the rival views taken in the courts below. The difficulty is increased by the fact that the evidence called was almost entirely expert evidence consisting mainly of calculations and extrapolations. Only one local inhabitant was called—a Mr. Chambers—who was not asked to testify as to the movement of the dunes. As to the experts, the relevant issue does not seem to have been fully or precisely explored with either witness. The evidence certainly shows, and their Lordships would accept, that in certain conditions of wind and weather (their Lordships do not know how frequently these occurred) movement could be detected by an observer—not

at a great rate but still detectable. Professor van der Borch said variously: " noticeable " in the course of a day with a yard as an upper figure—" you would notice it (the movement of a drift) within a day in some exceptional cases with certain wind directions and velocities "—" you may certainly see sand moving in a slip face within an hour which means if slowly moving they would move a millimetre or centimetre or something like that " [one may compare this with the movement of the hour hand of a clock].

Their Lordships find this lacking in the vital precision. Movement of parts of the dunes, or of drifts of sand upon the dunes, is not the same thing as movement of the land boundary out into the sea. The one may be observable but does not, of its nature, constitute the other. The real question is how long it takes for a consolidation to take place bringing about a stable advance of the land. And the evidence takes the form " I would expect that " rather than " I saw and measured ".

Mr. Armstrong, too, in the passage quoted by Zelling J. again speaks of the forward movement of the leading-edge of a dune in conditions of strong winds putting this as, at its upper limit, at one or two inches in an hour (not *per* hour) or " two to three feet perhaps " in a one-day period " when strong winds were blowing continually ". This evidence has the same weakness and is based on estimation rather than actual perception.

As contrasted with this, their Lordships find that evidence as to the long term sand movements is comparatively clear. Mr. Armstrong made use of a series of six air photographs covering a period from 1945 to 1975. He found that it was possible to measure from these photographs the amount of movement of sand. This varied to some extent in the intervals between the photographs but over the whole 30 years came to an average, *down the dune slope*, of 15.16m/year. The line of the dune slope however is at an angle of 40° to the line of advance into the lake, so that in order to obtain the advance along the latter line, he multiplied the figure of 15.16 by Cos 40°, thus obtaining a rate of 7.41 m/year. This agreed well with an estimate he had made on another basis, and with the advance along the lake of 9.68m/year. Extrapolation of these figures back to 1888 gave a figure corresponding well with Mr. King's field notes.

Their Lordships are far from confident that the evidence taken as a whole gives a complete and reliable picture of the movement of sand between 1888 and 1975, but they are of opinion that the figures arrived at by Mr. Armstrong, based as they are upon actual observations by air photograph, over 30 years, give reasonably acceptable evidence as to the long term rate of advance. This is not inconsistent with this advance having taken place unevenly, and at times by perceptible jumps, but it was for the trial judge (who in fact viewed the location) to consider together the two indications as to long term and short term movement. Taken together they provide material on which, in their Lordships' opinion, his Honour was entitled to come to the conclusion that the movement was imperceptible within the meaning of the authorities. The case was finely balanced but the evidence was not such that he was bound to draw an inference that any sudden movements of the dunes were necessarily accompanied by consolidated intrusions of the shoreline into the lake. On this point therefore their Lordships uphold the finding of the trial judge.

The result is that both in fact and in law their Lordships would uphold the decision of Walters J. and, with all respect, differ from the conclusions of the Full Court. They will humbly advise Her Majesty that this appeal be allowed and the judgment of Walters J. restored. The respondent must pay the costs before the Board and the Full Court.

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