

Statement of the Case.

vides that if the transaction was intended only as security for indebtedness and against contingent liabilities, only such portion of the proceeds should be awarded to the petitioner as would satisfy the debts and claims of the testator, to secure which the assignment, as it is termed in the act, was made.

The case, therefore, will be

Reversed, and sent back to the Court of Claims, with instructions to pass upon the question whether the transaction was an absolute sale or merely a mortgage or pledge; and according to the view adopted the amount of the proceeds due and payable to the petitioner should be ascertained, and it is so ordered.

NEBRASKA v. IOWA.

ORIGINAL.

No. 4. Original. Argued January 29, 1892. — Decided February 29, 1892.

When grants of land border on running water, and the banks are changed by the gradual process known as accretion, the riparian owner's boundary line still remains the stream; but when the boundary stream suddenly abandons its old bed and seeks a new course by the process known as avulsion, the boundary remains as it was, in the centre of the old channel: and this rule applies to a State when a river forms one of its boundary lines.

The law of accretion controls on the Missouri River, as elsewhere; but the change in the course of that river in 1877 between Omaha and Council Bluffs does not come within the law of accretion, but within that of avulsion.

THE court stated the case as follows:

This is an original suit brought in this court by the State of Nebraska against the State of Iowa, the object of which is to have the boundary line between the two States determined. Iowa was admitted into the Union in 1846, and its western boundary as defined by the act of admission was the middle of the main channel of the Missouri River. Nebraska was ad-

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mitted in 1867, and its eastern boundary was likewise the middle of the channel of the Missouri River. Between 1851 and 1877, in the vicinity of Omaha, there were marked changes in the course of this channel, so that in the latter year it occupied a very different bed from that through which it flowed in the former year. Out of these changes has come this litigation, the respective States claiming jurisdiction over the same tract of land. To the bill filed by the State of Nebraska the State of Iowa answered, alleging that this disputed ground was part of its territory, and also filed a cross-bill, praying affirmative relief, establishing its jurisdiction thereof, to which cross-bill the State of Nebraska answered. Replications were duly filed and proofs taken.

Mr. J. M. Woolworth for the State of Nebraska. *Mr. C. J. Greene* and the *Attorney General* of that State were with him on the brief, in which were cited *Jefferis v. East Omaha Land Co.*, 134 U. S. 178; 8 *Opinions Attorneys General*, 177; *Indiana v. Kentucky*, 136 U. S. 479.

Mr. Smith McPherson for the State of Iowa. The *Attorney General* of that State and *Mr. J. J. Stewart* were with him on the brief, in which were cited *St. Louis v. Rutz*, 138 U. S. 226; *Mulry v. Norton*, 100 N. Y. 424.

MR. JUSTICE BREWER delivered the opinion of the court.

It is settled law, that when grants of land border on running water, and the banks are changed by that gradual process known as accretion, the riparian owner's boundary line still remains the stream, although, during the years, by this accretion, the actual area of his possessions may vary. In *New Orleans v. United States*, 10 Pet. 662, 717, this court said: "The question is well settled at common law, that the person whose land is bounded by a stream of water which changes its course gradually by alluvial formations, shall still hold by the same boundary, including the accumulated soil. No other rule can be applied on just principles. Every pro-

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prietor whose land is thus bounded is subject to loss by the same means which may add to his territory; and, as he is without remedy for his loss in this way, he cannot be held accountable for his gain." (See also *Jones v. Soulard*, 24 How. 41; *Banks v. Ogden*, 2 Wall. 57; *Saulet v. Shepherd*, 4 Wall. 502; *St. Clair County v. Lovington*, 23 Wall. 46; *Jeff-eris v. East Omaha Land Co.*, 134 U. S. 178.)

It is equally well settled, that where a stream, which is a boundary, from any cause suddenly abandons its old and seeks a new bed, such change of channel works no change of boundary; and that the boundary remains as it was, in the centre of the old channel, although no water may be flowing therein. This sudden and rapid change of channel is termed, in the law, avulsion. In Gould on Waters, sec. 159, it is said: "But if the change is violent and visible, and arises from a known cause, such as a freshet, or a cut through which a new channel is formed, the original thread of the stream continues to mark the limits of the two estates." 2 Bl. Com. 262; Angell on Water Courses, § 60; *Trustees of Hopkins' Academy v. Dickinson*, 9 Cush. 544; *Buttenth v. St. Louis Bridge Co.*, 123 Illinois, 535; *Hagan v. Campbell*, 8 Porter (Ala.) 9; *Murry v. Sermon*, 1 Hawks (N. C.) 56.

These propositions, which are universally recognized as correct where the boundaries of private property touch on streams, are in like manner recognized where the boundaries between States or nations are, by prescription or treaty, found in running water. Accretion, no matter to which side it adds ground, leaves the boundary still the centre of the channel. Avulsion has no effect on boundary, but leaves it in the centre of the old channel. In volume 8, Opinions of Attorneys General, 175, 177, this matter received exhaustive consideration. A dispute arose between our government and Mexico, in consequence of changes in the Rio Bravo. The matter having been referred to Attorney General Cushing, he replied at length. We quote largely from that opinion. After stating the case, he proceeds:

"With such conditions, whatever changes happen to either bank of the river by accretion on the one or degradation of the other, that is, by the gradual, and, as it were, insensible

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accession or abstraction of mere particles, the river as it runs continues to be the boundary. One country may, in process of time, lose a little of its territory, and the other gain a little, but the territorial relations cannot be reversed by such imperceptible mutations in the course of the river. The general aspect of things remains unchanged. And the convenience of allowing the river to retain its previous function, notwithstanding such insensible changes in its course, or in either of its banks, outweighs the inconveniences, even to the injured party, involved in a detriment, which, happening gradually, is inappreciable in the successive moments of its progression.

"But, on the other hand, if, deserting its original bed, the river forces for itself a new channel in another direction, then the nation, through whose territory the river thus breaks its way, suffers injury by the loss of territory greater than the benefit of retaining the natural river boundary, and that boundary remains in the middle of the deserted river bed. For, in truth, just as a stone pillar constitutes a boundary, not because it is a stone, but because of the place in which it stands, so a river is made the limit of nations, not because it is running water bearing a certain geographical name, but because it is water flowing in a given channel, and within given banks, which are the real international boundary.

"Such is the received rule of the law of nations on this point, as laid down by all the writers of authority. (See *ex. gr.* Puffend. *Jus. Nat. lib. iv, cap. 7, s. ii*; Gundling, *Jus. Nat. p. 248*; Wolff, *Jus. Gentium, s. 106-109*; Vattel, *Droit des Gens, liv. i, chap. 22, s. 268, 270*; Stypmanni, *Jus. Marit. cap. v. n. 476-552*; Rayneval, *Droit de la Nature, tom. i, p. 307*; Merlin, *Répertoire, ss. voc. alluv.*)"

Further reference is made in the opinion to the following authorities:

"Don Antonio Riquelme states the doctrine as follows:

"'When a river changes its course, directing its currents through the territory of one of the two coterminous States, the bed which it leaves dry remains the property of the State (or States) to which the river belonged, that being retained as the limit between the two nations, and the river enters so far

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into the exclusive dominion of the nation through whose territory it takes the new course. Nations must, of necessity, submit their rights to these great alterations which nature predisposes and consummates. . . . But, when the change is not total, but progressive only, that is to say, when the river does not abandon either State, but only gradually shifts its course by accretions, then it continues still to be the boundary, and the augmentation of territory, which one country gains at the expense of the other, is to be held by it as a new acquisition of property.' (*Derecho Internacional*, tom. i, p. 83.)

"Don Andres Bello and Don José Maria de Pando both enunciate the doctrine in exactly the same words, namely :

" 'When a river or lake divides two territories, whether it belong in common to the conterminous riparian States, or they possess it by halves, or one of them occupies it exclusively, the rights, which either has in the lake or river, do not undergo any change by reason of alluvion. The lands insensibly invaded by the water are lost by one of the riparian States, and those which the water abandons on the opposite bank increase the domain of the other State. But if, by any natural accident, the water, which separated the two States, enters of a sudden into the territory of the other, it will thenceforth belong to the State whose soil it occupies, and the land, including the abandoned river-channel or bed, will incur no change of master.' (Bello, *Derecho Internacional*, p. 38; Pando, *Derecho Internacional*, p. 99.)

"Almeda refers to the same point, briefly, but in decisive terms. He says:

" 'As the river belongs to the two nations, so, also, the river-bed, if by chance it become dry, is divided between them as proprietors. When the river changes its course, throwing itself on one of two conterminous states, it then comes to belong to the state through whose territory it runs, all community of right in it so far ceasing.' *Derecho Publico*, tom. i. p. 199.

"Leaving authorities of this class, then, let us come to those which discuss the question in its relation to private rights, and as a doctrine of municipal jurisprudence.

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"The doctrine is transmitted to us from the laws of Rome. (Justinian, Inst. lib. ii, tit. i, s. 20-24; Dig. lib. xii, tit. i, l. 7. See J. Voet ad Pandect. tom. i, p. 606, 607. Heinec. Recit. lib. ii, tit. 2, s. 358-369; Struvii Syntag. ex. 41, c. 33-25; Bowyers's Civil Law, ch. 14.)

"Don Alfonso transferred it from the civil law to the Partidas. (Partida iii, tit. 28, l. 31.) Thus it came to be, as it still remains, an established element of the laws of Spain and of Mexico. (Alvarez, Instituciones, lib. ii, tit. i, s. 6; Asso, Instituciones, p. 101; Gomez de la Serna, Elementos, lib. ii, tit. 4, sec 3, no. 2; Escriche, Dic. s. vocc. accession natural, alluvion, avulsion; Febrero Mexicano, tom. 1, p. 161; Sala Mexicano, ed. 1845, tom. ii, p. 62.)

"The same doctrine, starting from the same point of departure, made its way through the channel of Bracton, into the laws of England, and thence to the United States. (Bracton de Legg. Angliae, lib. 2, cap. 2, fol. 9; Blacks. Comm. vol. ii, p. 262; Woolrych on Waters, p. 34; Angell on Water Courses, ch. 2; *Lynch v. Allen*, 4 De. & Bat. N. C. R. p. 62; *Murry v. Sermon*, 1 Hawks, N. C. R. p. 56; *The King v. Lord Scarborough*, 3 B. & C. p. 91; S. C. 2 Bligh, N. S. p. 147.

"Such, beyond all possible controversy, is the public law of modern Europe and America, and such, also, is the municipal law both of the Mexican Republic and the United States."

Vattel states the rule thus (Book 1, c. 22, secs. 268, 269, 270)¹:

¹ § 268. Du droit d'alluvion.

Si le territoire qui aboutit à un fleuve limitrophe n'a point d'autres limites que le fleuve même, il est au nombre des territoires à limites naturelles, ou indéterminés (*territoria arcifinia*), et il jouit du droit; c'est-à-dire que les atterrissements qui peuvent s'y former peu à peu par le cours du fleuve, les accroissements insensibles, font des accroissements de ce territoire, qui en suivent la condition et appartiennent au même maître. Car si je m'empare d'un terrain en déclarant que je veux pour limites le fleuve qui le baigne, ou s'il m'est donné sur ce pied-là, j'occupe par cela même d'avance le droit d'alluvion, et, par conséquent, je puis seul m'approprier tout ce que le courant de l'eau ajoutera insensiblement à mon terrain. Je dis *insensiblement*, parce que dans le cas très-rare que l'on nomme *avulsion*, lorsque la violence de l'eau détache une portion considérable d'un fonds et la joint à une autre,

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"If a territory which terminates on a river has no other boundary than that river, it is one of those territories that have natural or indeterminate bounds (*territoria arcifinia*), and it enjoys the right of alluvion; that is to say, every gradual increase of soil, every addition which the current of the river may make to its bank on that side, is an addition to that territory, stands in the same predicament with it, and belongs to the same owner. For, if I take possession of a piece of land, declaring that I will have for its boundary the river which washes its side — or if it is given to me upon that footing, I thus acquired beforehand the right of alluvion; and, consequently, I alone may appropriate to myself whatever additions the current of the river may insensibly make to my

en sorte qu'elle est encore reconnaissable, cette pièce de terre demeure naturellement à son premier maître. De particulier à particulier, les lois civiles ont prévu et décidé le cas; ils doivent combiner l'équité avec le bien de l'État et le soin de prévenir les procès.

En cas de doute, tout territoire aboutissant à un fleuve est présumé n'avoir d'autres limites que le fleuve même, parce que rien n'est plus naturel que de le prendre pour bornes, quand on s'établit sur ses bords; et dans le doute, on présume toujours ce qui est plus naturel et plus profitable.

§ 269. Si l'alluvion apporte quelque changement aux droits sur le fleuve.

Dès qu'il est établi qu'un fleuve fait la séparation de deux territoires, soit qu'il demeure commun aux deux riverains opposés, soit qu'ils le partagent par moitié, soit enfin qu'il appartienne tout entier à l'un des deux, les divers droits sur le fleuve ne souffrent aucun changement par l'alluvion. S'il arrive donc que, par un effet naturel du courant, l'un des deux territoires reçoive de l'accroissement, tandis que le fleuve gagne peu à peu sur la rive opposée, le fleuve demeure la borne naturelle des deux territoires, et chacun y conserve ses mêmes droits, malgré son déplacement successif; en sorte, par exemple, que s'il est partagé par le milieu entre les deux riverains, ce milieu, quoiqu'il ait changé de place, continuera à être la ligne de séparation des deux voisins. L'un perd, il est vrai, tandis que l'autre gagne; mais la nature seule fait ce changement: elle détruit le terrain de l'un, pendant qu'elle en forme un nouveau pour l'autre. La chose ne peut pas être autrement dès qu'on a pris le fleuve seul pour limites.

§ 270. De ce qui arrive quand le fleuve change son cours.

Mais si, au lieu d'un déplacement successif, le fleuve, par un accident purement naturel, se détourne entièrement de son cours, et se jette dans l'un des deux États voisins, le lit qu'il abandonne reste alors pour limites; il demeure au maître du fleuve (§ 267). Le fleuve périt dans toute cette partie, tandis qu'il naît dans son nouveau lit, et qu'il y naît uniquement pour l'État dans lequel il coule.

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land. I say 'insensibly,' because, in the very uncommon case called avulsion, when the violence of the stream separates a considerable part from one piece of land and joins it to another, but in such manner that it can still be identified, the property of the soil so removed naturally continues vested in its former owner. The civil laws have thus provided against and decided this case, when it happens between individual and individual; they ought to unite equity with the welfare of the state, and the care of preventing litigations.

"In case of doubt, every territory terminating on a river is presumed to have no other boundary than the river itself; because nothing is more natural than to take a river for a boundary, when a settlement is made; and wherever there is a doubt, that is always to be presumed which is most natural and most probable.

"As soon as it is determined that a river constitutes the boundary line between two territories, whether it remains common to the inhabitants on each of its banks, or whether each shares half of it, or, finally, whether it belongs entirely to one of them, their rights, with respect to the river, are in nowise changed by the alluvion. If, therefore, it happens that, by a natural effect of the current, one of the two territories receives an increase, while the river gradually encroaches on the opposite bank, the river still remains the natural boundary of the two territories, and, notwithstanding the progressive changes in its course, each retains over it the same rights which it possessed before; so that, if, for instance, it be divided in the middle between the owners of the opposite banks, that middle, though it changes its place, will continue to be the line of separation between the two neighbors. The one loses, it is true, while the other gains; but nature alone produces this change; she destroys the land of the one, while she forms new land for the other. The case cannot be otherwise determined, since they have taken the river alone for their limits.

"But if, instead of a gradual and progressive change of its bed, the river, by an accident merely natural, turns entirely out of its course and runs into one of the two neighboring

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States, the bed which it has abandoned becomes thenceforward their boundary, and remains the property of the former owner of the river, (sec. 267,) the river itself is, as it were, annihilated in all that part while it is reproduced in its new bed, and there belongs only to the State in which it flows."

The result of these authorities puts it beyond doubt that accretion on an ordinary river would leave the boundary between two States the varying centre of the channel, and that avulsion would establish a fixed boundary, to wit: the centre of the abandoned channel. It is contended, however, that the doctrine of accretion has no application to the Missouri River, on account of the rapid and great changes constantly going on in respect to its banks; but the contrary has already been decided by this court in *Jefferis v. Land Company*, 134 U. S. 178, 189. A question between individuals, growing out of changes in the very place now in controversy, was then before this court; and in the opinion, after referring to the general rule, it was observed: "It is contended by the defendant that this well settled rule is not applicable to land which borders on the Missouri River, because of the peculiar character of that stream and of the soil through which it flows, the course of the river being tortuous, the current rapid, and the soil a soft, sandy loam, not protected from the action of water either by rocks or the roots of trees; the effect being that the river cuts away its banks, sometimes in a large body, and makes for itself a new course, while the earth thus removed is almost simultaneously deposited elsewhere, and new land is formed almost as rapidly as the former bank was carried away. But it has been held by this court that the general law of accretion is applicable to land on the Mississippi River; and, that being so, although the changes on the Missouri River are greater and more rapid than on the Mississippi, the difference does not constitute such a difference in principle as to render inapplicable to the Missouri River the general rule of law." It is true that that case came here on demurrer to a bill, and it was alleged in the bill that the land was formed by "imperceptible degrees," and that the process of accretion "went on so slowly that it could not be observed in its pro-

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gress; but, at intervals of not less than three or more months, it could be discerned by the eye that additions greater or less had been made to the shore." The state of facts disclosed by this averment was held not to take the case out of the law concerning accretion, and, after referring to some English authorities, it was said: "The doctrine of the English cases is, that accretion is an addition to land coterminous with the water, which is formed so slowly that its progress cannot be perceived, and does not admit of the view that in order to be accretion the formation must be one not discernible by comparison at two distant points of time." And then was quoted from the opinion in *St. Clair v. Lovington*, 23 Wall. 46, these words: "The test as to what is gradual and imperceptible in the sense of the rule is, that though the witnesses may see from time to time that progress has been made, they could not perceive it while the process was going on."

The case before us is presented on testimony, and not on allegation. But what are the facts apparent from that testimony? The Missouri River is a winding stream, coursing through a valley of varying width, the substratum of whose soil, a deposit of distant centuries, is largely of quicksand. In building the bridge of the Union Pacific Railway Company across the Missouri River, in the vicinity of the tracts in controversy, the builders went down to the solid rock, sixty-five feet below the surface, and there found a pine log a foot and a half in diameter — of course, a deposit made in the long ago. The current is rapid, far above the average of ordinary rivers; and by reason of the snows in the mountains there are two well known rises in the volume of its waters, known as the April and June rises. The large volume of water pouring down at the time of these rises, with the rapidity of its current, has great and rapid action upon the loose soil of its banks. Whenever it impinges with direct attack upon the bank at a bend of the stream, and that bank is of the loose sand obtaining in the valley of the Missouri, it is not strange that the abrasion and washing away is rapid and great. Frequently, where above the loose substratum of sand there is a deposit of comparatively solid soil, the washing out of the

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underlying sand causes an instantaneous fall of quite a length and breadth of the superstratum of soil into the river ; so that it may, in one sense of the term, be said that the diminution of the banks is not gradual and imperceptible, but sudden and visible. Notwithstanding this, two things must be borne in mind, familiar to all dwellers on the banks of the Missouri River, and disclosed by the testimony : that, while there may be an instantaneous and obvious dropping into the river of quite a portion of its banks, such portion is not carried down the stream as a solid and compact mass, but disintegrates and separates into particles of earth borne onward by the flowing water, and giving to the stream that color which, in the history of the country, has made it known as the "muddy" Missouri ; and, also, that while the disappearance, by reason of this process, of a mass of bank may be sudden and obvious, there is no transfer of such a solid body of earth to the opposite shore, or anything like an instantaneous and visible creation of a bank on that shore. The accretion, whatever may be the fact in respect to the diminution, is always gradual and by the imperceptible deposit of floating particles of earth. There is, except in such cases of avulsion as may be noticed hereafter, in all matter of increase of bank, always a mere gradual and imperceptible process. There is no heaping up at an instant, and while the eye rests upon the stream, of acres or rods on the forming side of the river. No engineering skill is sufficient to say where the earth in the bank washed away and disintegrating into the river finds its rest and abiding place. The falling bank has passed into the floating mass of earth and water, and the particles of earth may rest one or fifty miles below, and upon either shore. There is, no matter how rapid the process of subtraction or addition, no detachment of earth from the one side and deposit of the same upon the other. The only thing which distinguishes this river from other streams, in the matter of accretion, is in the rapidity of the change caused by the velocity of the current ; and this in itself, in the very nature of things, works no change in the principle underlying the rule of law in respect thereto.

Our conclusions are that, notwithstanding the rapidity of

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the changes in the course of the channel, and the washing from the one side and on to the other, the law of accretion controls on the Missouri River, as elsewhere; and that not only in respect to the rights of individual land owners, but also in respect to the boundary lines between States. The boundary, therefore, between Iowa and Nebraska is a varying line, so far as affected by these changes of diminution and accretion in the mere washing of the waters of the stream.

It appears, however, from the testimony, that in 1877 the river above Omaha, which had pursued a course in the nature of an ox-bow, suddenly cut through the neck of the bow and made for itself a new channel. This does not come within the law of accretion, but of that of avulsion. By this selection of a new channel the boundary was not changed, and it remained as it was prior to the avulsion, the centre line of the old channel; and that, unless the waters of the river returned to their former bed, became a fixed and unvarying boundary, no matter what might be the changes of the river in its new channel.

We think we have by these observations indicated as clearly as is possible the boundary between the two States, and upon these principles the parties may agree to a designation of such boundary, and such designation will pass into a final decree. If no agreement is possible, then the court will appoint a commission to survey and report in accordance with the views herein expressed.

The costs of this suit will be divided between the two States, because the matter involved is one of those governmental questions in which each party has a real and vital, and yet not a litigious, interest.