The past and the future coexist in the present. Our institutions are largely the result of our past experience, and play an important role in shaping the future. If, therefore, we seek to chart the future from our knowledge of the present we need to know something of the past.

The general structure of our water law was devised by the courts in settling disputes arising before them. Water, in the eyes of the common law, is a common resource not susceptible of private ownership. Consistent with this approach are doctrines giving the public generally certain rights to use water for the purposes of trade, the public right of navigation and in Canada (in most provinces with the assistance of the legislature) the public right of floating lumber and other goods on streams. A further public right at common law (and in Quebec by pre-Confederation statute) is that of fishing in tidal waters, which was perhaps the most reasonable way of developing and sharing a resource that might well have seemed inexhaustible.

But if water was a common resource, most rights to use it were private rights. In an age when administrative organization was rudimentary, the institution of private property was perhaps the most convenient method of making use of, and allocating resources, including water flowing in streams and other bodies of water. Accordingly the owners of land through or along which water flows were given the exclusive right to use the water, subject, however, to the duty of returning it to the stream substantially undiminished in quantity and quality (except where the use was for relatively limited domestic purposes). Thus the maximum use of water could be obtained while assuring its preservation and quality by imposing responsibility for doing so on those who had access to it. Flexibility was given by the law of prescription which permitted the use of water contrary to the general rule when this had been done for a reasonably long period.

Other rules were aimed at developing resources closely associated with the stream. Thus a landowner's right of access to

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water adjoining his land ensured the fullest use of his land, and the right of accretion gave new-formed land to the only person who could conveniently use it—the adjoining owner. The same is true of the doctrine extending the land of a riparian owner to the middle of the stream.

These various doctrines were, in simpler times, admirably suited to the development and sharing of this resource, and had the further advantage that they could easily be administered by the courts, virtually the sole general administrative units in the land. But the law regarding water not contained in defined channels or basins was never as well developed. Indeed the courts never seriously attempted to develop rules for allocating uses of ground and surface water. Thus a person who sinks a well may exhaust not only the water on or under his land, but also under that of his neighbour’s. In part this rule resulted from ignorance of hydrography when the law was being developed. The courts simply did not know much about the flow of water except that in visible and defined channels. This can be seen, for example, in their treatment of water flowing in underground streams. Courts would not characterize waters as flowing in underground streams without proof that this was known, and in the formative years of the law the ascertainment of this fact depended more on common sense than scientific skill. On the other hand, the courts have obviously been willing to categorize certain fairly undefined surface flows as being within defined channels when economic considerations militated in favour of this result. There may have been other reasons for the failure of the courts to allocate rights to the use of surface and ground waters. In the formative stage of the law, these rights were relatively unimportant, and over time there may have been a realization that its use was essential to the whole community and should not be confined to a select few. If, however, the law failed to regulate surface and ground water as a resource, damage to others from the use of water could easily be perceived and the law in this context was well developed through the torts of nuisance, the rule in *Rylands v. Fletcher*, negligence and others.

Though the courts were in general able to adapt the law to meet the requirements of the early industrial period, later development required major adaptations, for technological advances made irrelevant many of the underlying policies on which the doctrines of water law were based. Maximum use of water resources now requires projects substantially altering the flow and quality of streams and the use of such huge quantities of water that doctrines like riparian rights no longer serve. Again the effects of developments of both bodies of water and ground waters can no longer

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be ignored. Thus a use of ground waters by a municipality in such quantities that an adjacent municipality's water supply is polluted by water from the sea taking its place (as has happened in Prince Edward Island) cannot long be left uncontrolled by law. In sum, the common law alone has long ceased to provide an adequate balance between the competing interests in water.

When a readaptation of the law had to be made, it was the legislatures—in this country usually the provincial legislatures—that did so. Though large, water developments could until the middle of the twentieth century reasonably be looked upon as local matters. At first the legislatures confined themselves largely to ad hoc measures, such as enacting empowering legislation as occasion required when industrial and other projects were desired. The result, however, was an erosion of common law doctrine. If a pulp mill, for example, was permitted by statute to pollute the waters of a river, it made irrelevant the landowner's rights against others who might pollute the water, and such uses would over time ripen into rights by prescription.

In more recent years there has been a tendency to transfer to administrative bodies, such as water authorities, power to prevent pollution and to make allocations of water resources. This has profoundly altered the shape of water law and secured a better balance between public and private interests. Statutes in most provinces now give to water authorities power to control water, be it in streams, coastal water or surface or ground waters; in some cases all rights relating to the resource are vested in the province. Thus the traditional distinction between surface and ground waters, and waters in streams or other defined bodies, is beginning to vanish and will continue to do so as these administrative bodies exercise increasing controls resulting not only from greater powers and experience, but from a more exact knowledge of hydrography. This, of course, will involve the disappearance, already well under way, of the riparian rights of an owner who owns land along a stream. When, however, one says that riparian rights will disappear, certain qualifications must be made. Some riparian rights, regarding the flow of water, for example, are related to the water itself as a resource. It is this type of riparian right that will disappear. Others are more closely related to the use of the adjoining land. Such, for example, are the rights of access and accretion, and of drainage (though the latter will largely be regulated by administrative agencies). These are likely to be retained for they will be of continuing relevance. Yet while riparian rights devised for the more convenient use of adjacent land will probably continue, other developments will make them less important for the ordinary citizen. For the practice, extending in some provinces for nearly a century, of governments retaining property in lands
adjacent to water will be continued and expanded. This will permit provincial governments to have greater control of water resources, as well as allocation of the benefits to be derived from them. For example, it will allow for a more widespread sharing of the recreational uses of water, not only by ensuring governments a free hand in constructing public facilities, but by enabling them to plan these in such a way that more people are assured the benefits of private facilities near them.

Also slated for disappearance is the rule that adjoining lands in non-tidal waters extend *ad medium filum aquae*. The major purpose of the rule was to assure continuing use of the bed, particularly for water power development. With the control of such development now vested in water authorities, the utility of the rule is fading, and indeed in most provinces inroads, of varying degrees have been made on it for many years.

Existing and developing doctrines will have to be adapted to changing demands relating to uses of water. Of the public rights, navigation and fishing will continue to meet the demands of both commerce and recreation, but the right to float is already being phased out for both economic and environmental reasons. Increasing demands for clean and potable water supplies will result in other means being found to dispose of human and industrial waste. Economic alternative means of developing power, coupled with conflicting demands for uses of water, will result in diminishing uses of flowing water for hydro-electric power. This, however, may coincide with developments on our coasts to harness tidal power. Finally, significantly more weight will have to be given to recreational, aesthetic and environmental concerns.

More comprehensive resource planning will also require closer co-ordination of the law and administration of water with the law and administration of other resources. This process is already under way so far as land-based resources are concerned. This can be seen from the expansion in the last few years of the water authorities in several provinces into environmental control commissions. Similarly, a more co-ordinated administration will develop in relation to the uses of the resources of the sea. Until recently the major uses of the sea, navigation and fishing, have easily coexisted, with relatively minor conflicts. But the exploitation of the resources of the bed of the sea and other bodies of water have already shown that some balance must be achieved between this activity and navigation and fishing. So, too, exploitation, development and transportation of resources will have to be balanced against environmental concerns. For example, when tidal power developments get under way, the effect on fisheries and the environment will have to be given due consideration.

As must be evident from the foregoing, the general structure
of the water law of tomorrow will largely be shaped by administrative bodies. Considerable rationalization of these bodies is certain to occur. The general pattern has been for a plethora of administrative bodies having control of various aspects of water, making it most difficult for members of the public seeking various approvals for uses of water. This has recently begun to change, as can be seen by the creation of departments of the environment at the federal and provincial levels. The Canada Water Act\(^2\) foreshadows the existence of federal-provincial administrative structures to regulate water in the future, as does the International Joint Commission on the international plane. The manner in which these administrative bodies are likely to regulate the use of water will certainly be vastly different from that existing at common law. Because of the lack of administrative devices in earlier times the courts allocated uses of water by giving property rights to use water to the owner of land through which the water flowed. But while this was then the best way to use this common resource, it had the disadvantage that no authoritative body formed any judgment on the most advantageous use of water—leaving this to be determined as well as it might by economic forces. Moreover, even when a water right was not used or was obsolete, it could not be interfered with except by the legislature. Administrative decision can, of course, take account of economic considerations, selecting from among a group of applicants for the use of water those who will put it to the most beneficial use. At the same time, it can take into account expectations based on past use. But future permissions given by administrative bodies for the use of water will certainly not often give permanent rights to an individual or corporation to use water. The right to use water, at least when allocated to the private sector, will probably be given for a fixed time only. In this way, a period can be chosen that takes into account the necessary capital required for a project, but makes it possible when the right becomes obsolete to allocate the use to another. It can also, unlike most property rights, be made sufficiently flexible to allow for change and other developments by attaching conditions to a grant.

Administrative structures will, in the future, be the major initiators of development. At one time private individuals and corporations were the principal moving force behind the development of water resources. As the exploitation of water proceeds, and water thereby becomes a relatively scarce commodity, governmental agencies will be commissioned to study whole river basins (such as has been done for some time in respect of the more important international rivers by the International Joint Commission),

and indeed whole regions and in time the whole of the country. Development can then proceed according to a more comprehensive plan. This will be assisted by vesting power to determine the use of water and other resources in a single or very few administrative units. The conflict or overlap between the powers given to water authorities and provincial hydro-electric power commissions and other bodies, now existing in certain jurisdictions, is not conducive to rational development of water resources.

The water law of the future as exercised by administrative organs will also see greater weight attached to values other than short term economic considerations. Environmental concern is here to stay and will become more sophisticated over time. Thus consideration will not be limited to local ecological consequences but will encompass the impact of the development on the environment in the widest sense, including such matters as urban and industrial growth generated by the development. This will need to be mirrored in administrative responses. In particular, those most closely affected by environmental changes, as well as bodies charged with the protection of the environment, will have to be given a voice in the formulation of policy and specific schemes. For example, where large scale schemes are proposed, approvals will be delayed pending public hearings following disclosure of the plans to the public in sufficient detail to permit counsel and experts representing the affected public and paid out of government funds to give them sufficient study. The greater weight attached to environmental concerns will probably be assisted by technological advances. Thus hydro-electric power development will diminish in importance as a method of developing power, leaving more scope for the use of water for domestic, recreational and aesthetic purposes.

Thus far the exercise of legislative power and administrative jurisdiction have been looked at without regard to the division of legislative power. The British North America Act, 1867, did not deal with the subject of water resources in any general way. Most uses of water—domestic uses, uses for mills and the like—were naturally looked upon as essentially local, and so legislative intervention was for many years largely limited to the provinces, which could find justification under such rubrics as property and civil rights, local or private matters, local works and undertakings, and municipalities. The provinces could, as well, exercise considerable jurisdiction as owners of the public domain. Two matters relating to water were by the British North America Act placed under the jurisdiction of the federal Parliament, navigation and shipping, and fisheries. Navigation is obviously closely related to the trade and commerce of the country as a whole, and fisheries, like navigation, have international implications that are not easy
to ignore. Federal powers are, of course, paramount and they may give a veto to the federal Parliament in water power development. In any event, a power exercised in relation to one use of water may have significant effects on other uses. For example, the federal Parliament may legislate to prevent pollution for the protection of the fisheries, but this has a most important bearing on industrial development and pollution of waters generally. Again, the refusal of the federal authorities to permit structures from interfering with navigation may prevent the building of bridges or industrial development in a river.

The powers dealing specifically with water resources are, of course, not the only ones through which the federal Parliament may affect the development of water resources. First of all the federal government owns vast tracts of lands in all the provinces, including the national parks, and the territories. Over these it has all the rights of the ordinary landowner and full legislative capacity. Indeed the courts have said that provincial law cannot even affect federal property, though this doctrine will probably become somewhat muted over time. It is inconceivable, for example, that a court would declare invalid a provincial statute authorizing a large hydro-electric power development on a river because the riparian rights on a small piece of federal land along a river are affected. Similarly the federal power to administer lands reserved for the Indians permits a wide degree of jurisdiction over the waters on these lands. Again the defence power, the criminal power, the agricultural power, and even the declaratory power are sources of federal legislation relating to water. And it is by virtue of the Empire treaty clause, section 132 of the British North America Act, that the treaty of 1909 giving the federal government jurisdiction over international boundary and transboundary waters is implemented. As these powers become increasingly exercised, closer federal-provincial co-operation will develop in water management.

The application of a number of federal powers is likely to expand. Thus the power over works and undertakings connecting or extending beyond the limits of a province is likely to come into play more often. Not only will this occur where some specific work, such as a water pipeline, is in question, but where a work forms part of a more general undertaking that is itself, in essence, an undertaking extending beyond a province. Under certain circumstances, systems for developing and distributing electric power may come entirely under federal jurisdiction because some part extends beyond the province. The distribution system may be interprovincial or international, though the producing plants may be wholly situate in a province. Generally, the courts will not be

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assiduous in finding that a slight connection of an industry with two or more provinces makes it an interprovincial work. But the physical expansion and interconnection of such works will at times impose such a solution.

Water developments having interprovincial effects will bring constitutional development in other ways. It must surely be a matter of time only, unless (as seems doubtful) interprovincial arrangements can find adequate solutions to the problems, before the courts hold that federal power under the Peace, Order and Good Government clause extends to problems, for instance, pollution or decreased water flows, resulting in one province from developments in another. The courts (with or without legislative assistance) will also surely reinterpret the archaic rules respecting the court where one can bring suit where activity in one province causes damage in another, probably by permitting the injured party to sue in either province.

Thus far emphasis has been laid on administrative development. But the courts will continue their subsidiary but essential role. Doctrines such as riparian rights aimed at the protection of rights to adjoining land rather than water flow, though of decreasing importance, will continue. So will actions for nuisance. Some areas of the common law will see important new developments. To date virtually all cases relating to water in streams have involved invasions of riparian rights, the rule in *Rylands v. Fletcher* or other doctrines of strict liability, and nuisances. Little use has been made of negligence even though this is a generalized tort. Lawyers have naturally preferred to follow well-worn paths. But as situations not coming within the more usual remedies arise, claims in negligence—a process already just begun—will increasingly be made and recognized.

A more extensive role for the common law may be ensured by liberalizing the rules of standing and by permitting class actions. Such a development would go some way towards eliminating difficulties that arise from lax enforcement of rules by administrative bodies. A change in the rules of standing would permit private environmental groups, for example, more access to court procedures. A modification in the rules of court to permit class actions would provide more effective enforcement of laws. In many situations an individual will have a cause of action for a wrong that affects many others, but no one suffers sufficient damage to warrant bringing an action, or seeking an injunction. If, however, an individual were permitted to bring an action covering not only his claim but those of persons similarly affected, the threat of such actions would play a much larger sanctioning role. At present it may be worth breaking the law and risking an occasional action; a developer thereby pays only a small fraction of the damages he
causes. The situation might change markedly if a person suffering damage were permitted to bring action for all who were detrimentally affected. It is true that the courts might, in some cases, then have to devise means for distributing damages—possibly by developing a type of cy prèsi doctrine.

The combination of private remedy and administrative function will be developed at different levels. On the one hand, administrative law remedies, such as mandamus, will more frequently be used to compel administrative action. The courts have it in their power as well to make the injunction a more flexible instrument to prevent harmful action from being taken or pursued. There are also likely to be more calls for action to be taken by the Attorney General for public nuisances, and the number of situations falling within the ambit of this remedy may grow. Indeed, consistently with the development of class actions, resort to the Attorney General may well be dispensed with. On the other hand, remedies available to private individuals will increasingly be consolidated in governmental authorities. New compensation funds will be created for individuals suffering damage from large scale development, but with provisions for the government to recoup itself by taking assignments of private actions against the developers. These various remedies will, of course, not be limited to water law. Rather, other areas of environmental, as well as urban and consumer, concerns will accelerate their development.

Thus the broad structure of the water law of the future will largely be defined in administrative terms, but the system will be reinforced by private remedies to ensure its proper functioning.