COMPUTERISED LAND TITLE AND LAND INFORMATION

A. G. LANG*

THE IMPETUS FOR REFORM

The community's involvement and interest in computerisation has been reflected in an increasing interest in that topic by government departments, law reformers and the legal profession at large.[1] In 1981, Mr Justice M. D. Kirby wrote that "the system of Torrens title . . . and the specially rapid computerisation of the records of local and other land use authorities, makes the penetration of land title conveyancing by computers inevitable. The controversy is one about timing". Since 1980 a great deal has been achieved in Australia in the computerisation of land title and land information. There is a social demand and a community need for comprehensive, integrated, accurate and guaranteed title and land information systems. Computerisation is having and will continue to have a dramatic and lasting role in both spheres, with considerable impact on political, social and economic decisions and planning, in both the public and private sectors.

It is intended to consider the original rationale for the introduction of the Torrens system, to reveal a pressing need to reform that system in order to restore or to substantially improve and maintain the integrity of the register, and to outline some current Australian developments[3] which suggest that revolutionary changes are imminent in title registration and conveyancing practice through computerisation. It is most encouraging that Australian initiatives and demonstrable achievements are at the forefront of world developments in both computerised title and land information systems.

* Associate Professor of Law, Macquarie University.

[1] There have been several articles in the Journals on the impact of computers for lawyers, e.g. by J. W. K. Burnside in (1981) 55 *A.L.J.* 79 and by G. M. Cohen in (1982) 56 *A.L.J.* 219.

[2] (1981) 55 *A.L.J.* 443, 455.

[3] The author must acknowledge the financial assistance derived from the Australian Research Grants Commission for research in Australia and overseas for a project entitled "Simplified conveyancing in Australia".

SOME OBJECTIVES AND FEATURES OF THE TORRENS TITLE SYSTEM

Sir Robert Torrens listed[4] five "principal grievances" resulting from the English law of real property that the *Real Property Act* 1857 (S.A.)[5] sought to eliminate: its complexity, its heavy costs, "losses and perplexity" for purchasers and mortgagees because of the uncertainty relating to the validity of titles, the slowness of the conveyancing process which was unsuited to the requirements of a progressing community, and the diminution of the value of land as a secure and convenient basis of credit. Torrens pointed out[6] that the title to land held under old system title was "no stronger than its weakest link . . . each transaction add[ing] a fresh link increasing the perplexity and the risk of loss". The preamble to the *Real Property Act* 1857 (S.A.) indicated the rationale for reform:

> "Whereas the inhabitants of the Province of South Australia are subjected to losses, heavy costs, and much perplexity, by reason that the laws relating to the transfer and encumbrance of freehold and other interests in land are complex, cumbrous, and unsuited to the requirements of the said inhabitants, it is therefore expedient to amend the said laws."

Torrens promised[7] that the new title system would have four "grand characteristics": certainty, economy, simplicity and facility. The new title system was a reasonably effective and efficient response to the conveyancing and community needs of the 19th century. It established a system of title by registration, in which title vested by the act of the State at the point of registration (rather than by the act of the parties when executing instruments), using the parcel of land as the basic unit to record title (rather than the persons holding interests in land). In legal theory, the title system and the quality of indefeasibility accorded to a proprietor of a registered interest enabled persons to undertake transactions without the need to investigate the history of the registered proprietor's title and to rely on the accuracy of the Torrens register.

One of the features claimed for the Torrens title system was that the register "is like a mirror which reflects fully, accurately and authoritatively all facts material to the owners's title".[8] The Privy Council pronounced that "the cardinal principle of the statute is that the register is everything".[9] However, even superficial analysis reveals that the register has never been perfect or entirely accurate at all times during the devolution of title.[10] For example, the measurement of title boundaries as stated in

[4] R. R. Torrens, *The South Australian System of Conveyancing by Registration* (Register & Observer General Printing Offices, Adelaide 1859) 8.
[5] 21 Vict. 15. (1857).
[6] R. R. Torrens, op.cit. 9.
[7] Election speech in 1857.
[8] T. B. F. Ruoff, *An Englishman looks at the Torrens System* (The Law Book Co. Ltd, Sydney 1957), 74.
[9] *Waimiha Sawmilling Co.* v. *Waione Timber Co.* [1926] A.C. 101, 106.
[10] Ruoff op. cit. 17.

the register is not guaranteed nor is it absolutely accurate.[11] When the proprietor of a registered interest dies, that fact will not appear on the register for some considerable period, until the title shall have been transmitted to the deceased person's personal legal representative, beneficiaries or next of kin. Even after the transfer of a registered interest or after the creation of a new interest, by executing a dealing which requires registration, the existence of that alteration will only appear on the register after the dealing has been lodged and registered. Accordingly, it is more accurate to regard the Torrens register as containing "almost everything".[12]

Some deficiencies of the Torrens system are inevitable and are almost impossible to eliminate, although the system could be improved by the adoption of better and faster systems of updating the register, such as will be achieved through automation. However some features of the system have greatly weakened the integrity of the Torrens register. It is proposed to consider the nature and scope of overriding interests, i.e. those interests in land which exist independently of the Torrens register and which to that extent can override the indefeasibility of the registered proprietor.[13] It will be suggested that the imperfections of the Torrens system, particularly through the existence of overriding interests, have reached such proportions that reforms should be considered and urgently implemented, so as to restore substantially the integrity of the Torrens register. The general thrust of those reforms and the means of attaining them are discussed in this article.

OVERRIDING INTERESTS WITHIN THE TORRENS STATUTES

In each Australian jurisdiction there are several exceptions specified in the Torrens title legislation to the indefeasibility of the title conferred on the registered proprietor. These exceptions are similar, although not uniform, in all jurisdictions. Only those of the exceptions are considered which pose an unnecessary or undue threat to the integrity of the Torrens register and which should be eliminated or altered.

(a) Exceptions and Reservations in Crown Grant

This exception to indefeasibility is found in some of the Torrens statutes.[14] In all Australian Torrens statutes the title of the registered proprietor is subject to encumbrances notified in the register. The practice has evolved to record as an encumbrance or notification in the register the existence of conditions, exceptions and reservations in the Crown Grant, without specifying them in detail. Although this practice and the existence of this

[11] Ruoff op. cit. 17, D. J. Whalan, *The Torrens System in Australia* 319-320.
[12] I. Head, "The Torrens System in Alberta: A Dream in Operation" (1957) 35 *Can. Bar Rev.* 1, 5.
[13] This topic is covered, with reference to New Zealand, by L. Esterman and J. A. B. O'Keefe, in "The impact of other statutes on the Land Transfer System", published in the *New Zealand Torrens System Centennial Essays*, 210-257 and in Whalan 317-342.
[14] J. Baalman, *The Torrens System in New South Wales* (2nd ed The Law Book Co. Ltd, Sydney 1974) at 194.

exception to indefeasibility have not been criticised by commentators, it is a most unsatisfactory means of dealing with the problem. The practice could have been justified during the early decades of the operation of the Torrens system, as the Crown Grants generally specified in concise terms the reservations and conditions to which the Grant was subject. However, in time these reservations and conditions have become more detailed, comprehensive and significant, and some of them have been imposed by legislation, including retrospective legislation.[14A] It should no longer be adequate or acceptable for the State to indicate in general terms that the title to a parcel of land is subject to reservations, conditions or exceptions, without specifying them in the register. There are at least two ways of dealing with this problem. The first, which may be adopted in a manual register, is to record in the register as dealings all the general types of grant conditions and then to record on individual certificates of title the relevant dealings, specifying in detail the conditions, reservations or exceptions relating to the particular parcel. In New South Wales such a procedure has been adopted when bringing land held under Crown land tenure under Torrens title.[15] An alternative method, using computerisation, would be to include the detailed conditions in the register as part of the information contained in the computer file held for each parcel of land. Persons searching the title should be able to ascertain from the register, without having to search outside the register, the limitations on the registered proprietor's title, in order to adhere to one of the underlying concepts of the Torrens system.[16]

(b) Omitted and Misdescribed Easements

The courts have encountered difficulties in construing and applying this exception.[16A] As its ambit has been restricted by that construction, one may question whether it is necessary at all. In Baalman it is pointed out[17] that "there appears to be no good reason why easements should merit preferential treatment not available to other interests". Professor T. W. Mapp was unable to locate any policy reasons justifying the continuation of this overriding interest for private easements, although he thought that it was justified for public easements, such as an easement over an existing surfaced public highway in favour of the Crown.[18] It is suggested that the elimination of the exception for those public easements which have been erroneously omitted from the register should not pose insuperable or even undue difficulties. It is reasonable that a bona fide purchaser or mortgagee for value should not be bound by easements which are not recorded in

[14A] A. Lang and M. Crommelin, *Australian Mining and Petroleum Laws* (Butterworths, Sydney, 1979) at paras [207] and [209].
[15] *New South Wales Conveyancing Law and Practice* (CCH), paras 21-500 — 21-534.
[16] T. W. Mapp, "Torrens' Elusive Title" (1978), published as Volume 1 of *Alberta Law Review Book Series*, 187-190.
[16A] Baalman op. cit 182-186, Whalan, op. cit. 321-324.
[17] Baalman, op. cit. 186.
[18] Mapp, op. cit. 191.

the register. The public authority whose rights are thus rendered nugatory should be able to obtain compensation from the assurance fund and, to the extent that compensation may be presently unavailable, the legislation should be amended. Most public authorities whose interest might be defeated in this way have adequate powers to enable them to acquire the required easement either by negotiation or compulsorily. That will compel the authority to pay adequate compensation in current value to the deprived proprietor. That appears to be a more consistent and rational solution to this problem than the one adopted and it would eliminate one of the exceptions to the integrity of the Torrens register.

(c) Short Term Leases

The protection afforded under the Australian Torrens statutes to unregistered leases ranges from leases for periods not exceeding one year[19] to periods not exceeding five years,[20] and in Victoria without any time limitation when the tenant is in possession of the land.[21] In most jurisdictions only the lease term is protected, but in some jurisdictions options for renewal of limited duration are also protected.[22] There is an inconsistency in New South Wales between the provision permitting leases for terms of up to three years, with any option, to be validly created although unregistered and the indefeasibility provisions,[23] which has given rise to serious practical difficulties. Leases for three years with a further three year option are frequently granted in New South Wales in respect of commercial premises, often under unregistered leases. Such leases and options are rendered ineffective on the sale of the freehold, even to a purchaser who has notice of the lessee's entitlement. There are good policy reasons for keeping short term leases off the Torrens register. An exception to indefeasibility covering leases with terms not exceeding one year will exclude from registration most residential leases. However, it is suggested that there should be greater consistency between jurisdictions and that those leases which need not be registered should be incapable of being registered. The Law Reform Commission of the Australian Capital Territory, after some hesitation, recommended[24] the retention of three years as the maximum term for unregistered leases, having rejected the suggestion to reduce that period to one year. This author has found the view of Professor T. W. Mapp more compelling,[25] that "most leases for a term in excess of one year have sufficient economic value to justify the time and expense of protecting them by entry in the register".

[19] In South Australia and Northern Territory
[20] In Western Australia, this topic is discussed by Whalan, op. cit. 188-190.
[21] *Transfer of Land Act* 1958 (Vic.) 42 (2) (e).
[22] E.g. in New South Wales, 42 (d), *Real Property Act* 1900.
[23] s.42 (d) and 53, *Real Property Act* 1900, *Mock* v. *Thomson and Mel Studios Pty Ltd* (1982) NSW. Conv. R. paras 55-092.
[24] *Report on the Law Relating to Conveyancing* (1976), paras 4.72-4.78.
[25] Mapp op. cit. 187.

(d) Trusts

Although the initial South Australian Act permitted the registration of trusts,[26] the modern Torrens legislation of each Australian jurisdiction forbids the entry of trusts on the register.[27] The legislative policy has been to show on the register the legal title and to exclude merely equitable rights. Even that firm policy has not been executed with consistency, as some equitable interests can be recorded on the register (e.g. restrictive covenants), and caveats can be lodged to give notice of the existence of and to preserve equitable interests. There are good practical reasons for not compelling the registration of equitable interests in every case. Although this author is not advocating reform in this area, there appears to be no apparent objection to Professor Whalan's compromise suggestion[28] that it should be possible to record trusts in the register, without making it mandatory to do so.

(e) Miscellaneous Exceptions Relating to Rates and Statutory Charges

Some of the Australian Torrens statutes expressly specify that some rates or statutory charges constitute an effective charge against the land notwithstanding that they are not recorded in the register.[29] In Victoria and the Australian Capital Territory that applies to some unpaid rates, taxes and other charges imposed by statute,[30] in South Australia and the Northern Territory it applies only to succession duty,[31] and in Tasmania it extends to any money charged on land under any Act.[32] The Tasmanian provision is particularly unfortunate, as it is contained in a modern statute which is the result of exhaustive reforms aimed at producing the most up to date Torrens statute in Australia. The insertion of this additional general exception to indefeasibility, which was not imposed in the previous Tasmanian legislation,[33] is considered by this author to constitute a retrograde step. The entire topic of rates and statutory charges requires a more comprehensive and rational solution, which is discussed later in this article.

OVERRIDING INTERESTS OUTSIDE THE TORRENS LEGISLATION

It is considered that the more serious overriding interests are those which are not specified expressly in the Torrens statutes. Some of these are inevitable and it is reasonable that the title of a registered proprietor should be subject to them, e.g. contracts or personal equities binding the regis-

[26] *Real Property Act*, 1857 56-58.
[27] Whalan, op. cit. 119-120.
[28] Whalan, op. cit. 122 and "Partial Restoration of the Integrity of the Torrens System Register" (1970) 4 N.Z.U.L.R.1
[29] Whalan, op.cit. 331; there is a good analysis of the types of statutory charges applicable in New South Wales in (1954) 28 A.L.J. 335, 336-339.
[30] *Transfer of Land Act* 1958 s. 58 (f) (Vic.). *Real Property Ordinance* 1925 s.58 (f) (A.C.T.).
[31] *Real Property Act* 1886 s. 69 (ix) (S.A.). *Real Property Act* 1886 s. 69 (ix) (N.T).
[32] *Land Titles Act* 1980 s. 40 (3) (g) (Tas.).
[33] *Real Property Act* 1862 s.40 (Tas.).

tered proprietor, either at the point of acquisition of the interest, or created after its registration.[34] It is proposed to discuss the nature and practical significance of several other overriding interests, which pose a serious threat to the integrity of the register and to consider the means of eliminating or very substantially curtailing their application, by requiring them to be recorded in the register.

Most of the commentators on the Torrens system have been critical of the serious impact of overriding interests, particularly those created by subsequent legislation, on the integrity of the register and the concept of indefeasibility reflected in the register. The following is a representative sample of those comments. Theodore Ruoff said[35] that "no one thing has undermined the attempt to achieve indefeasibility more than inconsistent legislation". Professor G. W. Hinde considered[36] such statutes "a grave threat to the reliability and efficiency of the Land Transfer system". Professor D. J. Whalan pointed out[37] that "The integrity of the Torrens system is being undermined by the ever-increasing number and variety of statutes which derogate from the completeness of the protection given by registration under the system". Peter Butt wrote[38] that "so great are the inroads into indefeasibility of title made by such statutes that it is now impossible to rely upon the Register as an accurate indication of the title of the registered proprietor". Even more picturesque language was used by Esterman and O'Keefe, in pointing out[39] that "lurking outside the register, and beyond the ambit of the *Land Transfer Act,* 1952 [New Zealand], is a zone whose boundaries are delineated by opinion alone, which are perilous regions in the law of real property, and are areas in which even the Torrens search is unreliable and misleading". Conceptually it is almost impossible for the Torrens title legislation to overcome the operation of subsequent legislation, since Parliament cannot bind itself prospectively by ordinary legislation. Subsequent legislation which has the legal consequence of overriding some provisions or the effect of the Torrens legislation can embrace particular topics by constituting an express or implied repeal of the earlier Torrens statute.

The solution does not lie in attempting to muzzle the legislature, but rather in creating a legislative and administrative framework for such overriding interests to become integrated into the Torrens system and to be recorded in the register. It will be indicated how that may be achieved through technology and computerisation. Professor T. W. Mapp rationalised that the current problems with the integrity of the register have occurred, because[40] "most grand strategies fail, at least in part, because

[34] Whalan op.cit. 332-342.
[35] Ruoff op. cit. 18.
[36] *The New Zealand Torrens System Centennial Essays*, op. cit. 39.
[37] Whalan, op. cit. 338.
[38] *Introduction to Land Law* (The Law Book Co. Ltd, 1980) 305.
[39] *The New Zealand Torrens System Centennial Essays*, op. cit. 211-212.
[40] Mapp op. cit. 63.

they are grandiose; they require too much government commitment to the solution of one problem relative to the other problems also vying for attention''. It will be suggested that whilst in the past the problems which have arisen were too difficult and costly to solve efficiently under a manual system of records and recording, they are capable of solution under an automated system, particularly when combined with a comprehensive and computerised land information system. The time is ripe for further major reforms to be conceived and implemented to the Torrens system, to adapt it to the title and conveyancing needs of the twentieth century and beyond. The following are the most significant overriding interests which should be eliminated or substantially curtailed.

(a) Alternative Title and Registration Systems

In order to create a rational and comprehensive land title system in any jurisdiction, it is necessary to eliminate title and registration systems which operate outside the Torrens register and to require the title to all land in the State, whether publicly or privately owned, to be held under the Torrens system. This is also a necessary prerequisite to efficient and integrated computerised land title and land information systems. Any proposal to eliminate alternative title and registration systems requires legislative and administrative action in three distinct areas.

First, to convert all parcels of land held under the general law (called old system title) to the Torrens title system. The remaining old system parcels are those granted by the Crown in fee simple before the introduction of the Torrens system which have not subsequently been brought under that system. The quantity of old system title land is difficult to estimate accurately, but it varies from about 1000 parcels in Queensland, and some land within a radius of about 20 km around Adelaide in South Australia, to around two to three per cent of the total area of the States of New South Wales and Victoria. In each State the process of conversion from old system to Torrens title is encouraged and is proceeding, utilising some compulsory and some voluntary methods. Ultimately all remaining parcels held under old system title will be brought under the Torrens system, a process which is expected to be substantially completed within the next twenty years.

Secondly, in each Australian jurisdiction there is a fairly complex Crown lands title system,[41] which is largely distinct from, and has not been integrated into, the Torrens system. This includes unalienated Crown land (including mountains, forests, reserves, and rivers) and Crown land tenures, such as uncompleted purchases, leases and licences. This problem has finally been tackled, but not fully resolved, in New South Wales, where Crown land constitutes around 45% of the entire State. The legislative and administrative framework has been created to bring all Crown

[41] For example, *Crown Lands Consolidation Act* 1913 (N.S.W); *Land Act* 1958 and *Soldiers Settlement Act* 1958 (Vic); *Land Act* 1962 (Qld).

land under the Torrens system.[42] In respect of land held by the Crown, the Registrar-General may issue folios of the Register recording "The State of New South Wales" as the proprietor of the land.[43] Folios can be created recording purchasers under uncompleted purchases from the Crown as the registered proprietors, as they hold an estate in fee simple, subject to a charge in favour of the Crown for the outstanding purchase price.[44] Folios of the Register can also be created for Crown land held under lease.[45] The process of conversion of land held under Crown land title to Torrens title will take considerable time and effort and will be achieved over a number of years. It is being implemented initially for uncompleted purchases, followed by perpetual leases and finally other leases. It is understood that there are no similar initiatives in the other Australian States.

Thirdly, there are several systems of land disposal which are outside the Torrens system. These systems largely affect Crown land, but have some application to private land, even when the land is held under the Torrens title system. The most wide-ranging of these title systems covers mineral resources. Mining tenures over Crown land and over private land are granted pursuant to the mining legislation applicable in each jurisdiction.[46] Those tenures embrace mining leases, prospecting and exploration licences, including tenures granted over Torrens title land. The grant and registration of these tenures occurs outside the Torrens system, through the particular government department administering mineral resources.[47] Effective interests in land are created which bind present and future holders of registered interests in Torrens title land, although not recorded in the register. The existence of such interests is only discoverable by search conducted outside the Torrens register. In New South Wales there is separate legislation relating to coal mining.[48] In most of the other States there is separate legislation relating to petroleum exploration and production[49] and relating to pipelines.[50] Most of these land interests are effective over Torrens title land by force of statutes which override the Torrens system. Similarly, there are separate legislative and administrative regimes relating to forestry tenures[51] and for tenures relating to water resources and the foreshores.[52] Numerous leases, licences and other entitlements in land may be acquired under those statutes without most of them appearing in the Torrens register.

[42] *Real Property Act* 1900 Part III (N.S.W).
[43] *Real Property Act* 1900 13D (1), 13J.
[44] *Real Property Act* 1900 ss. 13 (2), 13A; *Crown Lands Consolidation Act* 1913 s. 6.
[45] *Real Property Act* 1900 ss. 13 (2), 13B, 13C, 13D (3).
[46] Lang and Crommelin, op. cit. paras [1028]-[1035].
[47] Lang and Crommelin, op.cit. para [907]; *Miller* v. *Minister of Mines* [1963] A.C. 484.
[48] Lang and Crommelin, op. cit. Ch. 12.
[49] Lang and Crommelin, op. cit. Ch. 14.
[50] Lang and Crommelin, op. cit. Ch. 17.
[51] For example, *Forestry Act* 1916 (N.S.W); *Forests Act* 1958 (Vic).
[52] For example, *Water Act* 1912 and *Maritime Services Act* 1935, 13L (N.S.W); *Water Act* 1958 (Vic); *Water Act* 1926 (Qld).

Undoubtedly, there should be firm government initiatives to bring all land in each jurisdiction under the Torrens title system, eliminating competing title and registration systems, and requiring all interests in land, however created, to be recorded in the Torrens title register.[53] Until that is achieved through the use of existing recources and technology, it is not possible to have integrated and relatively complete and accurate systems of land title and land information.

(b) Federal Legislation

Valid Commonwealth statutes can prevail over conflicting State laws, including the Torrens legislation.[54] There are such Commonwealth statutes dealing with mining of uranium and other prescribed substances which are capable of being used for the production of atomic energy,[55] and also some statutes dealing with other aspects of mineral exploration and production[56] and with land acquisition.[57] Compulsory acquisition takes place upon the publication of the notice of acquisition in the Government Gazette, and not when the acquisition has been recorded in the Torrens register.[58] There have also been inconsistencies between Commonwealth legislation relating to matrimonial property and State land title legislation[59]. In all those situations the Torrens statutes yield to the overriding Commonwealth laws. In some situations this inconsistency has been avoided, when the Commonwealth statute expressly renders its provisions subject to State property laws.[60]

(c) Excising Land or Creating Interests Without Recording in the Register

In all Australian jurisdictions there are local government statutes permitting interests such as statutory easements or licences to be created, or parts of land to be excised from the title and vested in some local government authority, without being recorded on the certificate of title or shown in any way in the Register.[61] Esterman and O'Keefe referred[62] to "paper roads", i.e. land intended for a future road whose title is vested in the Crown or some local authority, without having been constructed or sealed, and without that vesting having been recorded in the Torrens

[53] Ruoff op.cit. 69; *The New Zealand Torrens System Centennial Essays* 227-232; 236-240; MacCallum (1978) "Registration of Mining Titles in Western Australia" 13 U.W.A.L.R. 305, 323.
[54] *Commonwealth Constitution* s. 109.
[55] *Atomic Energy Act* 1953 (Cth), whose scope and constitutional validity are considered in Lang and Crommelin, op. cit., 221-224.
[56] *Petroleum (Submerged Lands) Act* 1967 (Cth).
[57] *Lands Acquisition Act* 1955 (Cth).
[58] *Land Acquisition Act* 1955 s. 10 (4) (Cth).
[59] *Jones* v. *Jones* (1961) 2 F.L.R. 448; *Lank* v. *Lank* (1973) 21 F.L.R. 384.
[60] *Bankruptcy Act*, 1966, ss. 58 (2), 132 (3) (Cth).
[61] Illustrated by s. 32 (1) (e), *Metropolitan Water, Sewerage and Drainage Act* 1924 (N.S.W.); *Micos* v. *Diamond* (1970) 92 W.N. (N.S.W) 513; s. 21, *Pipelines Act* 1967 (N.S.W.); *Trieste Investments Pty Ltd* v. *Watson* (1963) 64 S.R. (N.S.W) 98; *Pratten* v. *Warringah Shire Council* (1969) 90 W.N (Pt 1) (N.S.W) 134.
[62] *The New Zealand Torrens System Centennial Essays*, op. cit. 222.

register. The vesting of title has occurred by force of statute and may only be located through some oblique reference on a plan (which may have been superseded) or in some old Government Gazette. That is vividly illustrated by *Pratten* v. *Warringah Shire Council*[63]. In 1920, on registration of a deposited plan, the area of a road and a drainage reserve were excised from the subdivided parcel of land. On that plan there was also noted the words "Drge Res 10' " with reference to a strip of land 130' by 10'. As a consequence of section 398 of the *Local Government Act* 1919 (N.S.W.), the fee simple in respect of that strip vested in the local Council on registration of the plan of subdivision, by force of statute. There was at first no requirement to record that vesting in the Torrens register, and although later on it was possible to have it recorded, that was not done. In 1925 the whole land was transferred to a bona fide purchaser for value. In 1967 an intending purchaser inquired from the Council and from the Registrar-General regarding the ownership of the strip. The Council first stated that "it is of no use to council for drainage purposes" and, after the purchase was completed in 1968, the council confirmed that it "has no interest in the easement". Nevertheless, Street J held that "the Council's statutory title will prevail".[64] A purchaser misled by the state of the register, deprived of whole or part of the land pursuant to an overriding statute, who failed to discover the true situation relating to the title by a failure to make inquiries outside the register, has been held not to be entitled to compensation against the assurance fund.[65]

(d) Resumption

The *Lands Acquisition Act* 1955 (Cth) has been mentioned as an illustration of overriding Federal legislation. In each jurisdiction there is a general statute which covers the resumption procedure for that State and some of the general principles relating to compensation.[66] In addition, there are numerous statutes conferring on the Crown, its instrumentalities, some statutory corporations and local government authorities,[67] powers of resumption, usually by following the procedure specified in the general statute. The standard procedure in those statutes is that in a compulsory acquisition title vests in the resuming authority upon publication of notification of the resumption in the Government Gazette.[68] John Baalman

[63] (1969) 90 W.N. (Pt 1) (N.S.W) 134.
[64] Id. 142.
[65] *Trieste Investments Pty Ltd* v. *Watson* (1963) 64 S.R. (N.S.W.) 98, but *quere* in light of *Registrar of Titles (Western Australia)* v. *Franzon* (1975) 132 C.L.R. 611, see Baalman op. cit. 411-412, and Whalan op. cit. 350-351.
[66] *Public Works Act* 1912 (N.S.W); *Lands Compensation Act* 1958 (Vic); *Acquisition of Land Act* 1967 (Qld).
[67] For example, the more important resumption statutes for conveyancing in New South Wales are listed in *New South Wales Conveyancing Law and Practice* (CCH) para 84-000 – 84-400; there are numerous other such statutes. The same applies in the other jurisdictions.
[68] *Public Works Act* 1912 s. 43 (N.S.W); *Lands Compensation Act* 1958 s. 49 (Vic); *Acquisition of Land Act* 1967 s. 12 (Qld).

wrote[69] that "there is a widespread assumption that the title to land under the *Real Property Act* taken upon a resumption by the Crown will, without registration, prevail over the title taken by a purchaser from the registered proprietor." Although in each Torrens statute there is provision for the recording of resumptions or acquisitions in the register, that merely perfects the resuming authority's title, rendering it indefeasible even when the resumption has been invalid.[70] It appears that title vests in the resuming authority by force of statute at an earlier point of time, when the Gazette notification has been published. All those statutes override the Torrens statute, without providing a convenient and accurate recording of impending or concluded resumption.

(e) Statutory Charges

There are a large number of statutes in each Australian jurisdiction which create statutory charges on Torrens title land, without there being any requirement (or provision) to record in the register the existence of most of those charges. Such charges exist in respect of rates,[71] taxes[72] and notices affecting land,[73] frequently constituting a first charge on the land, having priority over registered mortgages. That is the consequence of those statutes overriding the provisions of the Torrens statute. The *Real Property Act* 1886 (S.A.) attempted to cope with the possible future proliferation of overriding statutes, by providing in section 6 that "no law, so far as inconsistent with this Act, shall apply to land subject to the provisions of this Act nor shall any future law, so far as inconsistent with this Act, so apply unless it shall be expressly enacted that it shall so apply 'notwithstanding the provisions of the *Real Property Act* 1886'". *The South-Eastern Drainage Acts* of 1931 and 1933 provided that certain drainage charges, rates and interest due to the South-Eastern Drainage Board shall constitute a first charge on land in priority to registered mortgages. Although those provisions in the statutes were not expressed to be "notwithstanding the provisions of the *Real Property Act* 1886", the charge was effective. The statutes expressed a clear legislative intention and operated to override the Torrens statute, inter alia because Parliament cannot bind itself prospectively in general legislation (*The South-Eastern Drainage Board (South Australia)* v. *The Savings Bank of South Australia*).[74] Theodore Ruoff described the position reached in the *South-Eastern Drainage Case* as "alarming".[75] Messrs L. W. Taylor, John Baal-

[69] Baalman op. cit. 136.
[70] *Real Property Act* 1900 s. 31A (N.S.W); *Transfer of Land Act* 1958 ss.53, 57 (Vic); *Real Property (Commonwealth Titles) Act* 1924 ss. 4, 6 (Qld).
[71] For example, for New South Wales, the more important rates which create charges on the land are discussed in *New South Wales Conveyancing Law and Practice* (CCH) para 10-420 — 10-580; see also discussion in (1954) 28 A.L.J. 335, 336-339.
[72] *New South Wales Conveyancing Law and Practice* (CCH), paras 10-600 — 10-640.
[73] Id. paras 10-700 — 10-780 and paras 10-910 — 11-000.
[74] (1939) 62 C.L.R. 603.
[75] Ruoff op. cit. 81 fn. 81.

man and C. D. Monahan, constituting the Property Law Revision Committee of New South Wales, expressed the opinion in their Report on statutory obligations affecting land[76] that:

> "The time has arrived for a review of the legislative policy under which the Crown or a governmental body must always be placed in the most impregnable financial position *vis-à-vis* members of the public. The continuance of that policy to date is possibly due to the fact that legislation is nearly always prepared by officers of the Crown, who naturally incline towards partiality for their employer."

They were critical of the legislative sanction employed by rating authorities, without there being any obligation to record the existence of the charges on the Torrens register. In New South Wales an attempt was made to require statutory charges (and other interests affecting land) to be registered in the Register of Causes, Writs and Orders.[77] That Register has proved ineffective and its application to Torrens title land remains doubtful[78]. In 1953, the Property Law Revision Committee of New South Wales recommended draft legislation that would have required statutory obligations affecting land to be recorded in the Torrens register.[79] The term "statutory obligation" was defined[80] to mean "any charge on land, or any order, award, determination, notification, resolution or proclamation affecting the title to or restricting or otherwise affecting the user of land, or prescribing or authorising any act or thing to be done on land, under the provisions of any Act or of any regulation made thereunder, and which binds or is intended to bind successive owners of the land". The suggested legislation was not enacted and the proliferation of statutory charges keeps increasing in all jurisdictions. These statutory charges present a great and unjustified threat to users of the Torrens system. There is a general lack of public knowledge, including by the legal profession, of the existence and wide ranging scope of statutory charges, beyond those few which are the subject of separate conveyancing inquiries. The time has arrived to restore some order and uniformity in land title and conveyancing procedures, for the benefit of the community at large. The recording of statutory charges affecting each parcel of land would present major obstacles in a manual register. However, it is suggested that it should be possible in an automated (i.e. computerised) land title and land information system, as will be outlined in this article. This author agrees with Professor T. W. Mapp that the main issue is one of cost-benefit analysis, whether the total cost of searches relating to statutory charges (and other overriding interests) will be more or less than the cost of recording those interests in the Register for users of the system.[81] In

[76] (1954) 28 A.L.J. 335, 336-337.
[77] *Conveyancing Act* 1919 ss. 185-194 (N.S.W).
[78] (1954) 28 A.L.J. 258, 260-264.
[79] (1954) 28 A.L.J. 366.
[80] Id. 367.
[81] Mapp op. cit., 180.

addition, introducing greater accuracy in the title register must have benefits beyond those measurable in mere monetary terms. Whether it will be practically and technically feasible to record in the register not only the existence of particular statutory charges, but also their quantum, will require evaluation when a fully integrated and automated land title and land information system is operating. It is suggested that it will be possible to do so, even in respect of rates payable by quarterly instalments, as the storage capacity of computer systems is potentially almost limitless and the current Ausatralian initiatives which are described in this article certainly indicate the feasibility of such proposals.

BROADENING THE RANGE OF THE TORRENS REGISTER

When making proposals aimed at restoring the integrity of the Torrens register it is also necessary to consider whether some additional matters or interests should be recorded in the register. Land law and the land title system should not be rigid or inflexible and should serve the current and prospective needs of the community. Land law in particular has been affected by the historical evolution of society and of the English legal system. One of the central concepts of land law has been to concentrate on land, ignoring structures on or under the land, as under the general law the owner had unlimited title from the centre of the earth to the sky.[82] Up to the latter part of the 19th century there were minimal restrictions on an owner's ability to use and develop his land. The need to control land use by private arrangements resulted in the emergence of restrictive covenants during the 19th century.[83] During the 20th century a myriad of controls emerged, limiting an owner's right to use and develop land.[84] That was accompanied by an increasing number and diversity of land transactions, the greater mobility of people and the more sophisticated utilisation of land. The Torrens system has been adapted to some of the social needs of the 20th century. This enabled the concepts of strata and cluster titles to be incorporated into the Torrens system, which involves recording the position and nature of improvements in the Torrens register. It is suggested that the range of matters recorded in the Register should be broadened in two respects in order to adapt the Torrens system to the land law and conveyancing needs of the 20th century.

First, it should be broadened to indicate structures on the land, and ultimately also the existence and position of pipes and services. In conveyancing litigation one of the preliminary issues is "what is the subject matter of the sale". The answer to that question determines the vendor's principal obligation and the purchaser's entitlement either to rescind or

[82] Represented by the maxim "*cujus est solum, ejus est usque ad coelum*", which is discussed in Woodman, *The Law of Real Property in New South Wales*, Vol 1, 23-25.
[83] Emerging in 1848, from *Tulk* v. *Moxhay* (1848) 2 Ph 774; 41 ER 1143.
[84] Described by K. E. Lindgren in "Restrictions on the Use of Land in New South Wales: An Ogre of Bureaucracy?" (1970), a paper delivered at the Second State Convention of the Law Society of NSW.

to seek compensation, depending on the extent of the discrepancy between what the vendor has contracted to sell and is able to convey.[85] The purchaser is entitled to raise objections to title in respect of sewer mains, pipes and structures of supply authorities situated under the land, at least when the authority is legally entitled to keep them there.[86] Those are instances of latent defects in title. Another species of latent defect of title arises when title to the improvements erected on land is defeasible, because of the potential liability of those improvements to demolition in the event of the exercise by local authorities of their statutory powers.[87] It is true that theoretically land has unlimited life, whilst improvements have only limited temporal existence and are subject to periodical alterations. However, if the structures form part of the subject-matter of the sale, as they almost invariably do, it is strange, to say the least, that there can be latent defects in title in conveyancing law in respect of matters which are considered irrelevant for recording as matters of title for the purposes of land law and title registration. The principles of these two fields of law need to be co-ordinated and rationalised. Matters affecting the legality of improvements, which may also constitute charges on the land, include notices which bind the land and the structures, or require work to be done or the demolition of the whole or part of the structures. This may be expanded further, as Rath J. has held that the purchaser could rescind a contract when there was a defect in the vendor's title in that he did not have a "good title to the property lawfully capable of being used as a block of six residential flats".[88] Clearly, local authorities cannot be expected to record in the Register information of which they are unaware. However, it is not too much to expect, in a computerised land information service and/or in a computerised title system, to have recorded the existence of orders, notices and charges affecting a parcel of land and the structures on it. It is also not unreasonable in a computerised information service and/or register, with digitised plans, to record the existence, availability and position of water, sewerage, drainage, gas, electricity, telephone services and transmission lines.

Secondly, the register should be broadened to record those restrictions on land use which presently affect the particular parcel. There has been opposition to such a suggestion from authors and from Registrars of Titles, who regard land use as being conceptually different from title and therefore inappropriate for recording in a title register. In addition, there is solid authority for the proposition that environmental planning proposals and

[85] *Flight* v. *Booth* [1834] All ER 43; 1 Bing N.C. 370; *Liverpool Holdings Ltd* v. *Gordon Lynton Car Sales Pty Ltd* [1979] Qd R 103.

[86] *Drummoyne Municipal Council* v. *Beard* [1970] 1 N.S.W.R. 432.

[87] The position in New South Wales was discussed in (1972) 46 A.L.J. 245, (1973) 47 A.L.J. 617, [1980] ANZ.Conv.R 350, 474. The problem is emerging in the other Australian States, but has not become as troublesome in conveyancing transactions as it has in New South Wales.

[88] *Tambel Pty Ltd* v. *Field* [1982] N.S.W.Conv.R. para 55-077.

restrictions on land use are public laws affecting the enjoyment of land and not its title.[89]

In 1954 the Property Law Revision Committee of New South Wales recommended against recording such planning proposals or restrictions on land use in the Torrens register.[90] However, there is growing support for including those proposals and restrictions in the register. In 1970 Professor Whalan expressed the rationale for that view as follows:[91]

"The aim of planning control is to ensure that development occurs in such a way as to maximise the value of the land to the community in a utilitarian as well as an aesthetic manner; incidentally the individual landholder may be expected to benefit from the advance of the community good, but basically planning imposes a social control that may conflict with and override the projected or potential use of his land by a landholder. It is submitted that precise notification to members of the community of the extent to which the community generally claims this advantage over each parcel of land is a small price to pay for the advantage gained; it is also submitted that the place where this information should be recorded is on the certificate of title to the land affected, along with all other information relating to that parcel of land."

Another commentator, L. J. Newhook supported Professor Whalan's views:[92]

> "Town and Country Planning zonings could usefully be included, both for ease of reference for searching before a transaction takes place, and also to utilise more fully all available computer operation time as suggested previously. Similarly, compulsorily taken land could be noted to this effect, as could drainage easements; nuisance, Health Act, noxious weeds and animal controls. All these things affect the value of land, and as such should be able to be conveniently searched along with matters of title which also affect values. A computer would be ideal for combining all these types of information together in automated-reference form, and could do the job much faster than any manual conversion of all existing sources and registries."

It needs to be emphasised that town planning restrictions and proposals were effectively non-existent when the Torrens statutes were conceived. They have arisen over the past 40 years and most of them even more recently. If the common law is unable to bridge the gap between title, use and enjoyment and value, then it can be achieved by legislation. It was not unreasonable for statutory authorities to baulk at having to furnish details of proposals under a manual system. Those objections will not be valid under a computerised system, when all parcels are readily identifiable by geocode and parcel identifier. Again it is necessary to co-ordinate conveyancing law and land law. In conveyancing transactions restrictions

[89] *Royal Sydney Golf Club* v. *F. C. of T.* (1954-1955) 91 C.L.R 610, at p. 624.
[90] (1954) 28 A.L.J 335, 339-340.
[91] (1970) 4 N.Z.U.L.R. 1, 6. Professor Whalan repeated that view in *The New Zealand Torrens System Centennial Essays* op. cit. 290.
[92] (1971) 1 *Auck. U.L.R.* 1, 25.

on land use assume considerable importance and may in some situations enable the purchaser to rescind for defect in title.[93] There is a growing mass of Federal and State legislation imposing restrictions on land use, covering mainly (but not exclusively) local government regulations, environmental planning and resumption. There is no single convenient register or source for obtaining all the information that affects a particular parcel of land. In some of the land data bank proposals it is intended to record these restrictions.[94] In the *Queensland Land Data Bank Project Report* (1982) it is pointed out:

> "It is conceivable that these 'Administrative Restrictions' on land use could be recorded and made readily accessible in a Land Data Bank. The responsible Departments and Authorities may be prepared to notify the Land Data Bank of their interests. This could be a simple step in the functional process but with considerable advantage and/or protection to purchasers, the legal profession and the Authorities themselves."

However, all or at least some of these restrictions should be notified in the Register. There are alternative methods of doing that, e.g. by recording them, or at least noting the legislation and authority involved in a separate schedule or part of the computer folio. This would assist in a material way in ensuring the comprehensiveness and accuracy of the Register, in reflecting restrictions affecting the parcel of land, and would benefit the community, collectively and individually, in being able to readily ascertain and make informed decisions regarding land. However, many difficult technological, legal and practical problems will need to be resolved before reaching that stage. One of these issues is "when does a proposal require registration or notification" or (expressed tautologically) when is a proposal a proposal?[95] This was referred to in an interim report of the Steering Committee constituted by the Minister for Lands[96] to investigate suggestions designed to simplify conveyancing:

> "7. If a record of this nature is to be established there will be the need for each authority to determine the point in the investigation and planning process where notice of the proposal will be made public and entered in the record. Under the present system, this decision is made by each individual authority upon receipt of an inquiry regarding land which may be affected by some proposal. Practice varies from authority to authority: some give an affirmative answer to an inquiry if a parcel of land may be affected (even though the scheme may be in the very early stages of planning, for example, while alternative routes are still under consideration) whereas other authorities give an affirmative answer only when planning is well advanced and most doubts have been

[93] *Harris* v. *Weaver* [1981] A.N.Z. Conv. R. 52, 54-55; *Tambel Pty Ltd* v. *Field* [1982] N.S.W. Conv. R. para 55-077.

[94] Seminar paper by Mr Justice M. D. Kirby "Computers: Who is concerned?" (1982) at Annual Conference URPIS 10, 14-18.

[95] *Jones* v. *Assef* [1976] 1 N.S.W.L.R. 467, 470, 477; *Alusta Pty Ltd* v. *Duncan* [1973] 2 N.S.W.L.R. 182; *Raphael Investments Pty Ltd* v. *Girdham* (1976) 33 L.G.R.A. 347, 348-352.

[96] New South Wales, the report was published in November 1977.

resolved. Wherever the line is to be drawn, some inquirers will be dissatisfied — either an intending purchaser if he buys and then learns of a proposed scheme or a vendor if a sale falls through merely because the land *may* be affected by a proposed scheme."

COMPUTERISING LAND TITLE

In 1974, Mr J. A. Griffith pointed out[97] that there was a world-wide movement towards the computerisation of land titles and the construction of land data banks. Several characteristics of computers render them highly suitable for land title:

> "First, it has the ability to perform certain simple operations at extremely high speeds; secondly, through its stored programmes it can carry out automatically a specified sequence of those simple operations; and thirdly, there can be stored within the system vast quantities of information which can be dealt with, added to, subtracted from, varied, searched or analysed in any manner specified."[98]

The Torrens Register Automation Project (T.R.A.P.) was initiated in N.S.W. in 1969.[99] It is believed that the New South Wales experiments in computerised land title were a world initiative. It has proved difficult to make the "jump" from using computers for various functions of the Land Titles Office to a computerised system of land registration and land title.

In order to computerise land title, each parcel of land must have its own computer file to which information can be added or subtracted. In New South Wales, a legislative scheme has been implemented for computerisation of the title register. The Registrar-General is authorised to create a computer folio of the Register (defined rather unhelpfully as not being a manual folio, in section 3 *Real Property Act* 1900 (N.S.W)) and to issue searches and final searches of the computer folio (sections 96D, 96F). The contents of the Register are specified in sections 31B, 32, and the Registrar-General has the option of issuing a computer folio of the Register (sections 31B (3), 31B (4)). A computer folio certificate constitutes (in effect) conclusive evidence of its contents and accuracy (see sections 40 (1A), 40A). This relatively simple legislative scheme does not reveal the enormous technological and practical difficulties of capturing the data base of well over two million titles in New South Wales and in maintaining its accuracy. The complexity of that task and the chaos which might occur in the daily operations of the Land Titles Office, has caused the T.R.A.P. proposals to be simplified and implemented gradually. In New South Wales automation commenced in November 1983 in respect of newly registered deposited plans. This is expected to be extended fairly rapidly to new strata plans and gradually to embrace the entire range of

[97] (1974) 48 A.L.J. 43.
[98] Whalan (1967) 40 A.L.J. 413, 413.
[99] Described in 48 A.L.J. at p. 44 and in "Land Registration in the 1980's and Beyond" (Seminar paper by J. A. Glaves and M. J. Hancock, Lecture III, Conveyancing V, postgraduate lecture at Department of Law, University of Sydney in 1980.)

existing strata plans. The system should then be sufficiently buoyant to enable a start to be made on the data capture of the entire Torrens register.

As is outlined in the next section of this article, in South Australia, for land information purposes, a computer file has been developed, which records each individual parcel of land in the State, aligning the information content with the details on the certificate of title.[100] The Western Australian Land Information Service (L.I.S.) is moving in a similar direction.[101] However, neither of these is a land title or registration system and they have been developed for integrated land information.

In a computer-based land title or land information system, the central concept or unit to which title and information must be related is the individual parcel of land. It must be capable of being identified by a parcel identifier, which in New South Wales is the lot and the Deposited Plan (shown as 7/702,203) or the lot in the Strata Plan (shown as 7/SP 20346). Some of the problems which must be adequately covered with a computerised title system are improved methods of entering data, validating data, preventing destruction of records and computer fraud. Undoubtedly there will be much improvement once the system has been in operation, partially through advances in technology. For example, documents when lodged for registration are currently read manually by computer operators. There is scope for the use of sophisticated optical scanners for data entry, coupled with changes in the regulations dealing with the preparation of instruments relating to Torrens title land, requiring the use of typing and typefaces which the particular scanning device can recognise and record.

CREATING A GRAPHIC CADASTRE

An important technological and legal landmark in computerising land title will be to capture on computer an accurate State-wide graphic cadastre, covering the position of lot boundaries and other physical information relating to land parcels, represented in graphic form.

Traditional mapping and survey techniques are inadequate and not sufficiently accurate for a computerised land title and land information system (particularly the latter).[102] At the outset it is necessary to define some terms.[103] *Digitising* refers to the process of recording, on computer file, of numerical representations of geographical points on a map. *Geocode* refers to a unique identifier of a point, parcel or unit of land based on its position. *Geodetic* refers to the shape of the earth and is generally expressed in terms of latitude and longitude. Future developments in obtaining a more accurate graphic cadastre are likely to occur by creating uniform survey standards in Australia and by preparing geodetic control surveys, with the aid of aerial mapping.

[100] Land Ownership and Tenure System (LOTS).
[101] *Management Summary*, November, 1982.
[102] Described in detail in the *Queensland Land Data Bank Project Report* (1982).
[103] Adopted from Appendix K to the *Queensland Land Data Bank Project Report*.

In addition to the problem of accuracy at any point of time there is also the need to cope with changes of boundaries over a period of time. As K. J. Blume pointed out in an article entitled "Survey Errors and Doubtful Boundaries"[104]:

> "The surface of the earth is not a stable medium and all structures, including survey marks, are subject to movement. This is further accentuated by man-made interference caused by road construction, clearing, excavation for services etc."

An accurate graphic cadastre is essential for any sophisticated land information system. The process of creating a graphic cadastre, which is being implemented in Western Australia, has been described as follows:[105]

> "Graphic recording, or digitising, involves the recording of individual land parcels, by manually pointing a device (like an electronic pen) at the lot corners already drawn on the standard map. The computer then automatically calculates the lot's position on the earth's surface.
>
> While digitising could not be considered as accurate as the numerical data capture, it is nevertheless a great deal faster and hence, cost justifiable."

The ultimate objective is to hold on computer a digital map of the entire State or Territory, and to be able to supply a copy of the current cadastre for any geographic area.

In the Northern Territory, a computer mapping system called "Mapnet" is in the "final stages of a pilot project"[106] and will be linked with the Land Information System data.

Whilst it is possible to commence computerisation of land title without digitising the survey information, it is a desirable aim to be achieved. Each parcel will require a parcel identifier for legal cadastre purposes and a geocode identifier for graphic cadastre purposes. The potential of such a graphic cadastre, for the purposes of land information, is described in the *Queensland Land Data Project Report* as follows:

> "The land data bank in its sophisticated form embodies a highly developed 'shape and position component'. Co-ordinates would be captured for every vertex (corner) of every land parcel, and co-ordinates would also be made available to define the location and extent of all buildings and installations (manholes, hydrants, postboxes etc), and to define the routes of all aboveground and belowground service wires and pipes (water, electricity, telephone, gas, sewerage, storm water, etc.) It might also contain co-ordinates to define the boundaries of vegetation types, soil types, and geological types. (It seems unlikely that even the most reckless theorist would advocate storage 'on-line' of the myriad of co-ordinates necessary to define the contours of height.)
>
> Such a bank would have an impressive diagrammatic display capability. It could, for example, provide a display (probably in several colours), either on a graphics screen, or drawn on paper, showing the

[104] (1981) 19 *Law Soc. J.* 593, 595.
[105] *Management Summary*, November 1982 of Land Information Service of Western Australia.
[106] Land Information System in the Northern Territory (April 1983).

cadastre with all buildings (types indicated), and all service wires and pipes superimposed."[107]

A SURVEYOR'S PERSPECTIVE

It is useful to consider how the notions described above are perceived by a surveyor. Mr I. P. Williamson[108] examined the relationship of land registration, cadastral surveying and large-scale cadastral mapping, to a statewide land information system based on land parcels. He summarised the essential elements of modern cadastres as follows:[109]

"1. A series of large-scale maps showing property boundaries, all buildings and structures on the land and the major natural features . . .
2. A register or number of registers containing information on ownership, valuation and any other matters dealt with by the cadastre, for every land parcel. Of prime importance is the concept that the cadastre is based on land parcels: not buildings, people or any other criteria. Even though most modern cadastres maintain information on fiscal matters alongside legal matters, it is the legal component of the cadastre which has prime importance . . .
3. The cadastre must be complete, that is, every parcel of land in the state or jurisdiction must be displayed on the maps and included in the respective registers. Ideally, this would include all state owned parcels including reserves, parks, roads and unalienated land, if applicable.
4. Each parcel in the cadastre must have a unique common identifier to be used by all authorities dealing with parcel based information. Ideally, the use of this identifier by all authorities should be enforceable at law. Common identifiers include one or more of the following:
   a. volume and folio number derived from title registration;
   b. recorded survey plan number and parcel number;
   c. rectangular land survey system descriptions . . .
   d. municipal, village or regional unit and parcel number;
   e. map number and parcel number;
   f. municipality, suburb or region and street address, and
   g. geographic co-ordinates . . .
5. The cadastre must be dynamic, that is, it must be continually updated. There must be legally enforceable procedures which require that all changes to the information in the cadastre must automatically and immediately update the registers.
6. The information in the registers must be correct and preferably have legal status and be guaranteed by the state. This aspect particularly applies to title registration but equally could apply to all encumbrances or matters affecting title.
7. The contents of the registers should be public and freely available, within reasonable limits.
8. The large-scale mapping system must be supported by a permanently marked and well-maintained co-ordinated survey system. Such a system is mandatory so as to enable integration of all forms of spatial information.

[107] Appendix F to the *Report*.
[108] Senior Lecturer, School of Surveying, University of New South Wales.
[109] In a paper entitled "The Role of the Cadastre in a Statewide Land Information System".

9. The cadastre must include an unambiguous definition of the parcel, both in map form and on the ground — this is usually as a result of cadastral surveys . . ."

Mr Williamson formulated his "ideal cadastral model" for New South Wales:

> "The basis of the model is a cadastral data base which comprises a cadastral map in digital form, connected by a unique identifier to an automated title register. The cadastral data base forms the foundation for a broader, state-wide land information system."

It appears that several Australian jurisdictions are moving in the direction indicated by Mr Williamson, except that New South Wales is moving from automated title to computerised land information,[110] whilst South Australia, Western Australia and Northern Territory are moving in the opposite direction.

THE CONCEPT OF LAND INFORMATION SERVICE

Land information may cover a wide variety of data concerning a parcel or geographical unit. It may embrace "all the physical, technical and legal aspects of the particular parcel or spatial entity — as well as every structure, event or work in, on, over, under or connected with that piece of land".[111] A land information system provides facilities for the collection, storage, analysis and recall of land information. The Western Australian Land Information Service pointed out:[112]

> "A Land Information Service is fundamentally concerned with land tenure, ownership, valuations, land use, inventories of natural resources including soil, flora, fauna, forestry, geology, water resources, etc. and many forms of statistical tabulations such as the distribution of the population and of the economic wealth of a region, all of which may be depicted on maps."

Ideally such a system should be computer-based and not manual. The social need for land information has been emphasised, particularly by American commentators:[113]

> "The picture which emerges is the urgent need for social and political innovation. Modern governments do not govern effectively anymore. The modern metropolis needs new government forms. There is an urgent need to conserve the world's dwindling resources. Man needs to re-examine and restructure the relationship between himself and his environment. The problem has been described as a paradigm in crisis. The need for land information is essential to social and political innovation."

The point has been made, particularly in U.S.A., during a continuing dialogue relating to this topic that data held in government files which has

[110] *Newsletter* No. 1 (June 1983) of New South Wales Inter-Departmental Committee on Land Information.
[111] *Queensland Land Data Bank Project Report* (1982).
[112] *Management Summary*, November 1982.
[113] [1980] *Real Property, Probate and Trust Journal* 890, 890-891.

not been processed is not useful information. Land information, as any other service, is a property right and can be owned. However, the information itself is vital to the public and private sectors and both have a legitimate interest in ensuring that it is supplied and is available. The need is for a multipurpose land information service, relying on the parcel of land as the common unit to which a variety of information should be linked. A recent Australian study[114] identified the "total hierarchy of land information availability and needs" as comprising three tiers: an administrative tier (covering organisations concerned with the registration of title, facilities for searching, taxing and rating), a mapping tier (including facilities for automatic capture of survey co-ordinate data, automated mapping) and a resources/environment tier.

At the heart of the discussion of multi-purpose land information systems overseas and in Australia is the need to integrate data held by numerous government departments and statutory authorities. In Australia it was found that a very good start can be made by relying on the detailed valuation and rating records of the Valuer-General, water supply authorities, and data held by mineral resources and forestry departments. The direction in which land information services should move was described by Griffith[115] in 1974 in a way which is similar to the current practical approach in Australia:

> "A comprehensive land data bank can be envisaged as one large file in one large computer or as more than one file in more than one computer as long as the files are interrelated and the computers have the facility to communicate data between files when access is made to the bank. As no one government department or authority can administer all of the government activities in all the areas mentioned, the need for many departments to provide information for such a bank and to be responsible for its constant updating and accuracy and the security problems that arise as a result, in my view almost insures that any such bank developed, if it is to be successful, useful, accurate and secure, will be based on the interconnection of a number of files in a number of computers."

The availability of such information on computer, related to individual parcels of land, capable of analysis and recall, will be of enormous benefit for a variety of purposes. Apart from enabling both lawyers and non-lawyers to obtain from one source all (or almost all) information relating to a parcel of land, the availability of the data will have an important impact on making political and planning decisions. For example, it will assist in locating the best (or several alternative) position(s) for proposed public utilities, such as playgrounds, schools, libraries, hospitals or fire stations.

[114] *Queensland Land Data Bank Project Report* (1982).
[115] (1974) 48 A.L.J. 46.

AUSTRALIAN LAND INFORMATION SERVICES

Currently there are viable land information services operating in South Australia, Western Australia and the Northern Territory. The first of these services, the Land Ownership and Tenure System (LOTS) was officially opened in November 1980. It is a computer based system which gathers information from various sources, centralises it in a single recording system and enables all or part of the information to be made available very rapidly for searching. A computer file has been created for every parcel of land in South Australia, the information content of which has been aligned with that contained in the certificate of title. A variety of title, valuation and other information is programmed into the system.

Data entry for LOTS relating to all land in South Australia is centralised at the Registrar-General's office. The vast majority of data entry is keyed directly from the source documents, e.g. from the transfer when lodged for registration. The Manager of LOTS wrote, in a Departmental report, that "the capabilities of the data base are as yet virtually untapped, both in terms of terminal network capacity and information content . . . In theory almost any item of information can be added to the data base as long as it can be related to a land parcel".

An important development is a "file of administrative interests". During 1981 there were added to the LOTS files heritage items and details of mining leases affecting parcels. Other items are being considered for addition, such as proposed resumptions, whether the property is below the flight paths of aeroplanes and sufficient information to cover enquiries under section 90 of the *Land and Business Agents Act* 1973 (S.A.). (required for disclosure by vendors in transactions involving the sale of land). The potential exists for such a file to contain the entire range of information regarding a property which is required by purchasers or by mortgagees in conveyancing transactions.

The Western Australian Land Information Service has been guided in its development and direction by L.I.S.A.C. (Land Information Service Advisory Committee) which has wide representation of the public and private sectors. The following four main criteria have been identified as the "development strategy":

1. To keep the system simple, to ensure step by step success while maintaining both broad and long term perspectives.
2. To gain an early return and to keep the project buoyant.
3. To contain costs by developing and utilising existing expertise and facilities.
4. To make a strategic impact by concentrating on land tenure and base maps as a foundation for long term development.

To capture on computer the legal cadastre, a nominal index of land ownership was completed. This involved photocopying 800,000 certificates of title and listing the names of owners and the title references of land

owned by them. This is available for public searching on microfiche and is updated weekly. Secondly, a lot/plan index was prepared, recording the lots contained in plans and their title references. That involved about 80,000 plans relating to 700,000 parcels of land. These two indexes immediately improved the searching procedures at the Office of Titles. Much work has been completed in computerising lot boundaries for a graphic cadastre. Some of the relatively recent developments or initiatives of the Western Australian Land Information System have been (i) a dealings control system to monitor the movement of unregistered dealings in the Office of Titles; (ii) a Government property register, to list Government owned land, including the assets on each property; (iii) a Crown Reserves Register, covering about 35,000 parcels vested for special uses such as recreation, forest, travelling stock, fauna, flora, hospitals, schools; (iv) mining tenement information service, using computer graphics, to assist the Mines Department in processing new mining aplications, to ensure that the geographic area of a new lease application does not conflict with any existing lease.

The latest system, the Northern Territory Land Information System, implemented in March 1981, is understood to be the most comprehensive system currently in Australia. It is owned by the Department of Lands. 356 pieces of data can be stored against a parcel of land, including matters relating to title, survey, valuation, planning and environment, land allocation, Crown lease and building approval.

Each of these land information services is being developed and expanded, so as to contain more information, guided by the commercial demand, and is being aligned with the title registration system. Currently one unsatisfactory feature of these systems is that the information supplied is not guaranteed and the searches carry a disclaimer.

There are now in operation in Australia workable prototypes of automated title and computerised land information services. The multi-purpose cadastral model, advocated by Mr I. P. Williamson and supported by this author, is looming as a reality. Clearly major initiatives will be implemented during the next decade in all Australian jurisdictions. These should facilitate, improve the security of, and reduce the cost of, conveyancing. However, the legislators and the administrators should not lose the opportunity to rationalise the Torrens system, whilst utilising technology to revolutionise title registration and conveyancing procedures.